

# Type 300/301 –55 °C to 105 °C Long-Life, Switching Power Grade Radial

## High Capacitance and Ultra-Low ESR



The Types 300 and 301 are the wide-temperature, low-ESR capacitors for power-supply outputs and UPS battery stiffening. The exceptionally low ESRs enable high ripple-current capability. With series inductance of 12 to 16 nH and ripple currents to 16 amps one of these capacitors can save by replacing three or four of the 12.5 mm diameter capacitors routinely at the output of switching power supplies. Type 300 has three leads for rugged, reverse-proof mounting, and Type 301 has two leads. Types 300R and 301R deliver even lower ESR and higher ripple.

### Highlights

- 4000 hour load life
- Ripple Current to 16 amps
- ESRs to 6 mΩ
- > 90% capacitance at –40 °C
- Replaces multiple capacitors

[RoHS Certificate](#)

### Specifications

|                            |                                                     |       |        |        |       |       |             |
|----------------------------|-----------------------------------------------------|-------|--------|--------|-------|-------|-------------|
| Temperature Range          | –55 °C to +105 °C                                   |       |        |        |       |       |             |
| Rated Voltage Range        | 6.3 to 250 Vdc                                      |       |        |        |       |       |             |
| Capacitance Range          | 8.2 μF to 33,000 μF                                 |       |        |        |       |       |             |
| Capacitance Tolerance      | 6.3 to 100 Vdc; –10 + 75%, 160 to 250 Vdc; –10 +50% |       |        |        |       |       |             |
| Leakage Current            | ≤0.5 $\sqrt{CV}$ μA, 4 mA max, 5 minutes            |       |        |        |       |       |             |
| Ripple Current Multipliers | Ambient Temperature                                 |       |        |        |       |       |             |
|                            | 45 °C                                               | 55 °C | 65 °C  | 75 °C  | 85 °C | 95 °C | 105 °C      |
|                            | 1.66                                                | 1.52  | 1.37   | 1.20   | 1.00  | 0.75  | 0.36        |
|                            | Frequency                                           |       |        |        |       |       |             |
|                            | 50 Hz                                               | 60 Hz | 120 Hz | 360 Hz | 1 kHz | 5 kHz | 10 kHz & up |
|                            | <b>Less than .77" Diameter</b>                      |       |        |        |       |       |             |
|                            | 6.3 & 7.5 V                                         | 0.76  | 0.81   | 1.00   | 1.23  | 1.35  | 1.41        |
|                            | 10 to 40 V                                          | 0.74  | 0.79   | 1.00   | 1.29  | 1.46  | 1.55        |
|                            | 50V                                                 | 0.72  | 0.78   | 1.00   | 1.33  | 1.54  | 1.67        |
|                            | 63 & 75 V                                           | 0.71  | 0.76   | 1.00   | 1.38  | 1.64  | 1.82        |
|                            | 100 to 250 V                                        | 0.68  | 0.74   | 1.00   | 1.51  | 2.00  | 2.51        |
|                            | <b>.77" Diameter</b>                                |       |        |        |       |       |             |
|                            | 6.3 & 7.5 V                                         | 0.82  | 0.86   | 1.00   | 1.15  | 1.21  | 1.24        |
|                            | 10 to 40 V                                          | 0.78  | 0.83   | 1.00   | 1.20  | 1.30  | 1.35        |
|                            | 50V                                                 | 0.76  | 0.81   | 1.00   | 1.25  | 1.38  | 1.45        |
|                            | 63 & 75 V                                           | 0.74  | 0.80   | 1.00   | 1.28  | 1.43  | 1.52        |
|                            | 100 to 250 V                                        | 0.76  | 0.81   | 1.00   | 1.24  | 1.37  | 1.44        |
|                            | <b>.895" Diameter</b>                               |       |        |        |       |       |             |
|                            | 6.3 & 7.5 V                                         | 0.82  | 0.86   | 1.00   | 1.14  | 1.20  | 1.23        |
|                            | 10 to 40 V                                          | 0.80  | 0.84   | 1.00   | 1.17  | 1.25  | 1.29        |
|                            | 50V                                                 | 0.75  | 0.80   | 1.00   | 1.27  | 1.42  | 1.50        |
|                            | 63 & 75 V                                           | 0.75  | 0.80   | 1.00   | 1.26  | 1.40  | 1.48        |
|                            | 100 to 250 V                                        | 0.76  | 0.81   | 1.00   | 1.25  | 1.38  | 1.46        |
|                            | <b>1.02" Diameter</b>                               |       |        |        |       |       |             |
|                            | 6.3 & 7.5 V                                         | 0.84  | 0.88   | 1.00   | 1.12  | 1.17  | 1.19        |
|                            | 10 to 40 V                                          | 0.81  | 0.86   | 1.00   | 1.15  | 1.22  | 1.25        |
|                            | 50V                                                 | 0.76  | 0.81   | 1.00   | 1.23  | 1.35  | 1.42        |
|                            | 63 & 75 V                                           | 0.77  | 0.81   | 1.00   | 1.23  | 1.35  | 1.42        |
|                            | 100 to 250 V                                        | 0.76  | 0.81   | 1.00   | 1.24  | 1.37  | 1.44        |

# Type 300/301 –55 °C to 105 °C Long-Life, Switching Power Grade Radial

## High Capacitance and Ultra-Low ESR

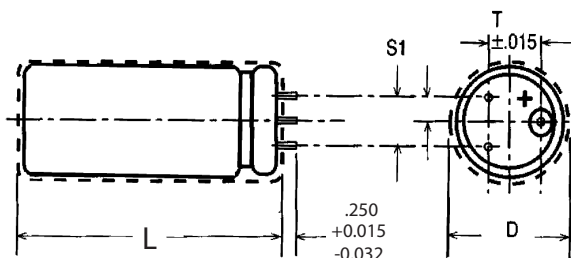
|                                                                        |                                                                                                                                                                           |
|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Load Life<br>RoHS, $\geq .77"$<br>RoHS, $< .77"$<br>Non-RoHS, $< .77"$ | 4000 h at full load at 85 °C<br>2000 h at full load at 85 °C<br>4000 h at full load at 85 °C<br>$\Delta$ Capacitance $\pm 20\%$<br>ESR 200% of limit<br>DCL 100% of limit |
| Shelf Life Test                                                        | 500 h at 105 °C, capacitance, ESR and DCL, initial requirements                                                                                                           |
| Vibration                                                              | 10 to 55 Hz, 0.06" and 10 g max, 2 h each plane                                                                                                                           |

## Part Numbering System

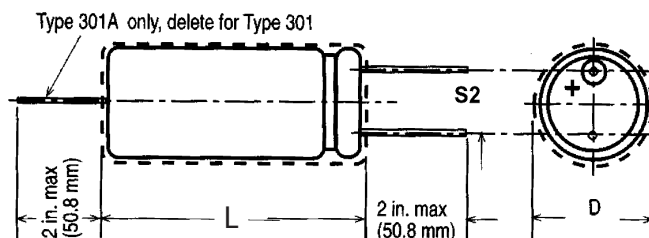
| NR                | 301R                                                                                                           | 333                                      | U                                            | 6R3                                          | JS               | 2                                                                                                                                 | E                             |
|-------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------------------|----------------------------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| <b>RoHS</b>       | <b>Type</b>                                                                                                    | <b>Capacitance</b>                       | <b>Tolerance</b>                             | <b>Voltage</b>                               | <b>Case Code</b> | <b>Insulation</b>                                                                                                                 | <b>Epoxy</b>                  |
| Blank = Compliant | 300 - 3 leads<br>300R - 3 leads, low ESR<br>301 - 2 leads<br>301R - 2 leads, low ESR<br>301A - Laydown 3 leads | 152 = 1500 $\mu$ F<br>102 = 1000 $\mu$ F | M = $\pm 20$<br>T = 10% +50%<br>U = -10 +75% | 6R3 = 6.3 V<br>063 = 63 Vdc<br>100 = 100 Vdc |                  | 0 = bare can<br>1 = Polyester<br>2 = PVC<br>8 = PVC w/standoffs*<br>9 = Polyester w/standoffs*<br>*Not available in .77" diameter | E = epoxy<br>Blank = no epoxy |

## Outline Drawing

0.77", 0.895" and 1.02" Diameters



Type  
300/300R  
Three  
Leads



Type  
301/301R  
Two  
Leads

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## High Capacitance and Ultra-Low ESR

### Case Dimensions

| Case Code                      | Insulated<br>D ± 0.015 (0.4 mm)<br>L ± 0.062 (1.6 mm)<br>D x L | Epoxy endseal<br>L Max | Bare Can<br>D ± 0.015 (0.4 mm)<br>L ± 0.030 (0.8 mm)<br>D x L | Lead Spacing                     |                     |                                  | Lead Diameter |     |
|--------------------------------|----------------------------------------------------------------|------------------------|---------------------------------------------------------------|----------------------------------|---------------------|----------------------------------|---------------|-----|
|                                |                                                                |                        |                                                               | Type 300<br>S1<br>±0.020(0.5 mm) | T<br>±0.020(0.5 mm) | Type 301<br>S2<br>±0.020(0.5 mm) | dia.          | AWG |
| Case Dimensions in Inches      |                                                                |                        |                                                               |                                  |                     |                                  |               |     |
| GE                             | .765 x 1.150                                                   | 1.212                  | 0.750 x 1.125                                                 | 0.200                            | 0.300               | 0.300                            | 0.040         | 18  |
| GJ                             | .765 x 1.650                                                   | 1.712                  | 0.750 x 1.625                                                 | 0.200                            | 0.300               | 0.300                            | 0.040         | 18  |
| GL                             | .765 x 2.150                                                   | 2.212                  | 0.750 x 2.125                                                 | 0.200                            | 0.300               | 0.300                            | 0.040         | 18  |
| GP                             | .765 x 2.650                                                   | 2.712                  | 0.750 x 2.625                                                 | 0.200                            | 0.300               | 0.300                            | 0.040         | 18  |
| GS                             | .765 x 3.150                                                   | 3.212                  | 0.750 x 3.125                                                 | 0.200                            | 0.300               | 0.300                            | 0.040         | 18  |
| GT                             | .765 x 3.650                                                   | 3.712                  | 0.750 x 3.625                                                 | 0.200                            | 0.300               | 0.300                            | 0.040         | 18  |
| HE                             | .890 x 1.150                                                   | 1.212                  | 0.875 x 1.125                                                 | 0.300                            | 0.400               | 0.300                            | 0.040         | 18  |
| HJ                             | .890 x 1.650                                                   | 1.712                  | 0.875 x 1.625                                                 | 0.300                            | 0.400               | 0.300                            | 0.040         | 18  |
| HL                             | .890 x 2.150                                                   | 2.212                  | 0.875 x 2.125                                                 | 0.300                            | 0.400               | 0.300                            | 0.040         | 18  |
| HP                             | .890 x 2.650                                                   | 2.712                  | 0.875 x 2.625                                                 | 0.300                            | 0.400               | 0.300                            | 0.040         | 18  |
| HS                             | .890 x 3.150                                                   | 3.212                  | 0.875 x 3.125                                                 | 0.300                            | 0.400               | 0.300                            | 0.040         | 18  |
| HT                             | .890 x 3.650                                                   | 3.712                  | 0.875 x 3.625                                                 | 0.300                            | 0.400               | 0.300                            | 0.040         | 18  |
| JE                             | 1.015 x 1.150                                                  | 1.212                  | 1.000 x 1.125                                                 | 0.300                            | 0.400               | 0.400                            | 0.040         | 18  |
| JJ                             | 1.015 x 1.650                                                  | 1.712                  | 1.000 x 1.625                                                 | 0.300                            | 0.400               | 0.400                            | 0.040         | 18  |
| JL                             | 1.015 x 2.150                                                  | 2.212                  | 1.000 x 2.125                                                 | 0.300                            | 0.400               | 0.400                            | 0.040         | 18  |
| JP                             | 1.015 x 2.650                                                  | 2.712                  | 1.000 x 2.625                                                 | 0.300                            | 0.400               | 0.400                            | 0.040         | 18  |
| JS                             | 1.015 x 3.150                                                  | 3.212                  | 1.000 x 3.125                                                 | 0.300                            | 0.400               | 0.400                            | 0.040         | 18  |
| JT                             | 1.015 x 3.650                                                  | 3.712                  | 1.000 x 3.625                                                 | 0.300                            | 0.400               | 0.400                            | 0.040         | 18  |
| Case Dimensions in Millimeters |                                                                |                        |                                                               |                                  |                     |                                  |               |     |
| EG                             | 13.0 x 21.5                                                    | 23                     | 12.5 x 20.0                                                   | 5.00                             | 2.50                | 5.00                             | 0.81          | 20  |
| EK                             | 13.0 x 26.5                                                    | 29.0                   | 12.5 x 25.0                                                   | 5.00                             | 2.50                | 5.00                             | 0.81          | 20  |
| EM                             | 13.0 x 28.0                                                    | 29.5                   | 12.5 x 26.5                                                   | 5.00                             | 2.50                | 5.00                             | 0.81          | 20  |
| EN                             | 13.0 x 35.0                                                    | 36.0                   | 12.5 x 33.5                                                   | 5.00                             | 2.50                | 5.00                             | 0.81          | 20  |
| ER                             | 13.0 x 44.0                                                    | 45.5                   | 12.5 x 42.5                                                   | 5.00                             | 2.50                | 5.00                             | 0.81          | 20  |
| FK                             | 16.5 x 26.5                                                    | 27.9                   | 16.0 x 25.0                                                   | 7.50                             | 3.75                | 7.50                             | 0.81          | 20  |
| FF                             | 16.5 x 33.5                                                    | 36.0                   | 16.0 x 32.0                                                   | 7.50                             | 3.75                | 7.50                             | 0.81          | 20  |
| FQ                             | 16.5 x 37.5                                                    | 40.0                   | 16.0 x 36.0                                                   | 7.50                             | 3.75                | 7.50                             | 0.81          | 20  |
| FV                             | 16.5 x 41.5                                                    | 42.4                   | 16.0 x 40.0                                                   | 7.50                             | 3.75                | 7.50                             | 0.81          | 20  |
| LQ                             | 18.5 x 37.5                                                    | 40.0                   | 18.0 x 36.0                                                   | 7.50                             | 3.75                | 7.50                             | 0.81          | 20  |
| LV                             | 18.5 x 41.5                                                    | 43.0                   | 18.0 x 40.0                                                   | 7.50                             | 3.75                | 7.50                             | 0.81          | 20  |
| GE                             | 19.4 x 29.2                                                    | 30.8                   | 19.1 x 28.6                                                   | 5.08                             | 7.62                | 7.62                             | 1.02          | 18  |
| GJ                             | 19.4 x 41.9                                                    | 43.5                   | 19.1 x 41.3                                                   | 5.08                             | 7.62                | 7.62                             | 1.02          | 18  |
| GL                             | 19.4 x 54.6                                                    | 56.2                   | 19.1 x 54.0                                                   | 5.08                             | 7.62                | 7.62                             | 1.02          | 18  |
| GP                             | 19.4 x 67.3                                                    | 68.9                   | 19.1 x 66.7                                                   | 5.08                             | 7.62                | 7.62                             | 1.02          | 18  |
| GS                             | 19.4 x 80.0                                                    | 81.6                   | 19.1 x 79.4                                                   | 5.08                             | 7.62                | 7.62                             | 1.02          | 18  |
| GT                             | 19.4 x 92.7                                                    | 94.3                   | 19.1 x 92.1                                                   | 5.08                             | 7.62                | 7.62                             | 1.02          | 18  |
| HE                             | 22.6 x 29.2                                                    | 30.8                   | 22.2 x 28.6                                                   | 7.62                             | 10.16               | 7.62                             | 1.02          | 18  |
| HJ                             | 22.6 x 41.9                                                    | 43.5                   | 22.2 x 41.3                                                   | 7.62                             | 10.16               | 7.62                             | 1.02          | 18  |
| HL                             | 22.6 x 54.6                                                    | 56.2                   | 22.2 x 54.0                                                   | 7.62                             | 10.16               | 7.62                             | 1.02          | 18  |
| HP                             | 22.6 x 67.3                                                    | 68.9                   | 22.2 x 66.7                                                   | 7.62                             | 10.16               | 7.62                             | 1.02          | 18  |
| HS                             | 22.6 x 80.0                                                    | 81.6                   | 22.2 x 79.4                                                   | 7.62                             | 10.16               | 7.62                             | 1.02          | 18  |
| HT                             | 22.6 x 92.7                                                    | 94.3                   | 22.2 x 92.1                                                   | 7.62                             | 10.16               | 7.62                             | 1.02          | 18  |
| JE                             | 25.8 x 29.2                                                    | 30.8                   | 25.4 x 28.6                                                   | 7.62                             | 10.16               | 10.16                            | 1.02          | 18  |
| JJ                             | 25.8 x 41.9                                                    | 43.5                   | 25.4 x 41.3                                                   | 7.62                             | 10.16               | 10.16                            | 1.02          | 18  |
| HL                             | 25.8 x 54.6                                                    | 56.2                   | 25.4 x 54.0                                                   | 7.62                             | 10.16               | 10.16                            | 1.02          | 18  |
| JP                             | 25.8 x 67.3                                                    | 68.9                   | 25.4 x 66.7                                                   | 7.62                             | 10.16               | 10.16                            | 1.02          | 18  |
| JS                             | 25.8 x 80.0                                                    | 81.6                   | 25.4 x 79.4                                                   | 7.62                             | 10.16               | 10.16                            | 1.02          | 18  |
| JT                             | 25.8 x 92.7                                                    | 94.3                   | 25.4 x 92.1                                                   | 7.62                             | 10.16               | 10.16                            | 1.02          | 18  |

# Type 300/301 –55 °C to 105 °C Long-Life, Switching Power Grade Radial

## High Capacitance and Ultra-Low ESR Ratings

| Cap.<br>(μF)          | Catalog<br>Part Number | ESR MAX<br>@ 25°C<br>120 Hz 20 kHz<br>(mΩ) |      | Ripple MAX<br>@ 85°C<br>120 Hz 20 kHz<br>(mΩ) |       | Nom Size<br>Insulated<br>D x L<br>(in) |
|-----------------------|------------------------|--------------------------------------------|------|-----------------------------------------------|-------|----------------------------------------|
| 6.3 Vdc (9 Vdc Surge) |                        |                                            |      |                                               |       |                                        |
| 2700                  | 301272U6R3GE2          | 143.0                                      | 81.5 | 1.71                                          | 2.13  | .77 x 1.15                             |
| 2700                  | 301R272U6R3GE2         | 124.0                                      | 70.6 | 1.84                                          | 2.29  | .77 x 1.15                             |
| 3900                  | 301392U6R3HE2          | 100.0                                      | 61.1 | 2.24                                          | 2.71  | .895 x 1.15                            |
| 3900                  | 301R392U6R3HE2         | 86.8                                       | 50.3 | 2.41                                          | 2.98  | .895 x 1.15                            |
| 4700                  | 301472U6R3GJ2          | 72.5                                       | 41.3 | 2.65                                          | 3.30  | .77 x 1.65                             |
| 4700                  | 301R472U6R3GJ2         | 62.8                                       | 35.8 | 2.84                                          | 3.55  | .77 x 1.65                             |
| 5600                  | 301562U6R3JE2          | 83.8                                       | 57.0 | 2.56                                          | 2.92  | 1.02 x 1.15                            |
| 5600                  | 301R562U6R3JE2         | 72.7                                       | 41.4 | 2.75                                          | 3.43  | 1.02 x 1.15                            |
| 8200                  | 301822U6R3GL2          | 49.2                                       | 28.1 | 4.02                                          | 5.02  | .77 x 2.15                             |
| 8200                  | 301R822U6R3GL2         | 42.7                                       | 24.3 | 4.32                                          | 5.40  | .77 x 2.15                             |
| 8200                  | 301822U6R3HJ2          | 51.1                                       | 31.2 | 3.71                                          | 4.48  | .895 x 1.65                            |
| 8200                  | 301R822U6R3HJ2         | 44.3                                       | 25.7 | 3.99                                          | 4.93  | .895 x 1.65                            |
| 10000                 | 301103U6R3GP2          | 37.8                                       | 21.5 | 5.12                                          | 6.39  | .77 x 2.65                             |
| 10000                 | 301R103U6R3GP2         | 32.7                                       | 18.7 | 5.50                                          | 6.86  | .77 x 2.65                             |
| 12000                 | 301123U6R3GS2          | 31.0                                       | 17.7 | 6.17                                          | 7.70  | .77 x 3.15                             |
| 12000                 | 301R123U6R3GS2         | 26.8                                       | 15.3 | 6.62                                          | 8.27  | .77 x 3.15                             |
| 12000                 | 301123U6R3HL2          | 35.0                                       | 21.3 | 5.20                                          | 6.27  | .895 x 2.15                            |
| 12000                 | 301R123U6R3HL2         | 25.5                                       | 14.8 | 6.09                                          | 7.54  | .895 x 2.15                            |
| 12000                 | 301123U6R3JJ2          | 43.0                                       | 29.2 | 4.39                                          | 5.02  | 1.02 x 1.65                            |
| 12000                 | 301R123U6R3JJ2         | 37.2                                       | 21.2 | 4.72                                          | 5.89  | 1.02 x 1.65                            |
| 15000                 | 301153U6R3GT2          | 26.6                                       | 15.1 | 7.10                                          | 8.86  | .77 x 3.65                             |
| 15000                 | 301R153U6R3GT2         | 23.0                                       | 13.1 | 7.62                                          | 9.52  | .77 x 3.65                             |
| 15000                 | 301153U6R3HP2          | 27.1                                       | 16.5 | 6.57                                          | 7.93  | .895 x 2.65                            |
| 15000                 | 301R153U6R3HP2         | 19.5                                       | 11.3 | 7.75                                          | 9.60  | .895 x 2.65                            |
| 18000                 | 301183U6R3JL2          | 29.6                                       | 20.1 | 6.08                                          | 6.95  | 1.02 x 2.15                            |
| 18000                 | 301R183U6R3JL2         | 19.1                                       | 10.9 | 7.57                                          | 9.45  | 1.02 x 2.15                            |
| 22000                 | 301223U6R3HS2          | 22.4                                       | 13.7 | 7.88                                          | 9.51  | .895 x 3.15                            |
| 22000                 | 301R223U6R3HS2         | 15.9                                       | 9.2  | 9.35                                          | 11.60 | .895 x 3.15                            |
| 22000                 | 301223U6R3JP2          | 23.0                                       | 15.6 | 7.66                                          | 8.75  | 1.02 x 2.65                            |
| 22000                 | 301R223U6R3JP2         | 14.7                                       | 8.4  | 9.59                                          | 12.00 | 1.02 x 2.65                            |
| 27000                 | 301273U6R3HT2          | 19.4                                       | 11.9 | 9.04                                          | 10.90 | .895 x 3.65                            |
| 27000                 | 301R273U6R3HT2         | 13.6                                       | 7.9  | 10.80                                         | 13.40 | .895 x 3.65                            |
| 27000                 | 301273U6R3JS2          | 19.2                                       | 13.0 | 9.11                                          | 10.40 | 1.02 x 3.15                            |
| 27000                 | 301R273U6R3JS2         | 15.1                                       | 8.6  | 10.30                                         | 12.80 | 1.02 x 3.15                            |
| 33000                 | 301333U6R3JT2          | 16.7                                       | 11.4 | 10.50                                         | 12.00 | 1.02 x 3.65                            |
| 33000                 | 301R333U6R3JT2         | 10.4                                       | 5.9  | 13.30                                         | 16.60 | 1.02 x 3.65                            |

| Cap.<br>(μF)           | Catalog<br>Part Number | ESR MAX<br>@ 25°C<br>120 Hz 20 kHz<br>(mΩ) |      | Ripple MAX<br>@ 85°C<br>120 Hz 20 kHz<br>(mΩ) |       | Nom Size<br>Insulated<br>D x L<br>(in) |
|------------------------|------------------------|--------------------------------------------|------|-----------------------------------------------|-------|----------------------------------------|
| 7.5 Vdc (10 Vdc Surge) |                        |                                            |      |                                               |       |                                        |
| 2200                   | 301222U7R5GE2          | 147.0                                      | 80.8 | 1.69                                          | 2.14  | .77 x 1.15                             |
| 2200                   | 301R222U7R5GE2         | 127.0                                      | 70.0 | 1.81                                          | 2.30  | .77 x 1.15                             |
| 3900                   | 301392U7R5HE2          | 103.0                                      | 61.6 | 2.21                                          | 2.69  | .895 x 1.15                            |
| 3900                   | 301R392U7R5HE2         | 88.9                                       | 48.9 | 2.38                                          | 3.02  | .895 x 1.15                            |
| 4700                   | 301472U7R5GJ2          | 74.5                                       | 41.0 | 2.61                                          | 3.32  | .77 x 1.65                             |
| 4700                   | 301R472U7R5GJ2         | 64.5                                       | 35.5 | 2.80                                          | 3.56  | .77 x 1.65                             |
| 5600                   | 301562U7R5JE2          | 85.5                                       | 56.5 | 2.53                                          | 2.94  | 1.02 x 1.15                            |
| 5600                   | 301R562U7R5JE2         | 74.1                                       | 41.5 | 2.72                                          | 3.42  | 1.02 x 1.15                            |
| 6800                   | 301682U7R5GL2          | 50.6                                       | 27.8 | 3.97                                          | 5.05  | .77 x 2.15                             |
| 6800                   | 301R682U7R5GL2         | 43.8                                       | 24.1 | 4.26                                          | 5.42  | .77 x 2.15                             |
| 6800                   | 301682U7R5HJ2          | 52.4                                       | 31.4 | 3.67                                          | 4.46  | .895 x 1.65                            |
| 6800                   | 301R682U7R5HJ2         | 45.4                                       | 25.0 | 3.94                                          | 5.01  | .895 x 1.65                            |
| 8200                   | 301822U7R5GP2          | 38.7                                       | 21.3 | 5.05                                          | 6.42  | .77 x 2.65                             |
| 8200                   | 301R822U7R5GP2         | 33.6                                       | 18.5 | 5.43                                          | 6.90  | .77 x 2.65                             |
| 10000                  | 301103U7R5HL2          | 35.8                                       | 21.5 | 5.14                                          | 6.25  | .895 x 2.15                            |
| 10000                  | 301R103U7R5HL2         | 26.2                                       | 14.4 | 6.01                                          | 7.64  | .895 x 2.15                            |
| 10000                  | 301103U7R5JJ2          | 43.8                                       | 28.9 | 4.35                                          | 5.05  | 1.02 x 1.65                            |
| 10000                  | 301R103U7R5JJ2         | 38.0                                       | 21.3 | 4.67                                          | 5.89  | 1.02 x 1.65                            |
| 12000                  | 301123U7R5GS2          | 31.8                                       | 17.5 | 6.09                                          | 7.74  | .77 x 3.15                             |
| 12000                  | 301R123U7R5GS2         | 27.5                                       | 15.1 | 6.54                                          | 8.31  | .77 x 3.15                             |
| 12000                  | 301123U7R5GT2          | 27.2                                       | 15.0 | 7.01                                          | 8.91  | .77 x 3.65                             |
| 12000                  | 301R123U7R5GT2         | 23.6                                       | 13.0 | 7.53                                          | 9.57  | .77 x 3.65                             |
| 15000                  | 301153U7R5HP2          | 27.7                                       | 16.6 | 6.50                                          | 7.91  | .895 x 2.65                            |
| 15000                  | 301R153U7R5HP2         | 20.0                                       | 11.0 | 7.65                                          | 9.73  | .895 x 2.65                            |
| 15000                  | 301153U7R5JL2          | 30.1                                       | 19.9 | 6.02                                          | 6.99  | 1.02 x 2.15                            |
| 15000                  | 301R153U7R5JL2         | 19.6                                       | 10.9 | 7.47                                          | 9.41  | 1.02 x 2.15                            |
| 18000                  | 301183U7R5HS2          | 22.9                                       | 13.8 | 7.79                                          | 9.48  | .895 x 3.15                            |
| 18000                  | 301R183U7R5HS2         | 16.3                                       | 9.0  | 9.23                                          | 11.70 | .895 x 3.15                            |
| 22000                  | 301223U7R5HT2          | 19.8                                       | 11.9 | 8.95                                          | 10.90 | .895 x 3.65                            |
| 22000                  | 301R223U7R5HT2         | 13.9                                       | 7.7  | 10.70                                         | 13.60 | .895 x 3.65                            |
| 22000                  | 301223U7R5JP2          | 23.4                                       | 15.5 | 7.59                                          | 8.80  | 1.02 x 2.65                            |
| 22000                  | 301R223U7R5JP2         | 15.0                                       | 8.4  | 9.47                                          | 11.90 | 1.02 x 2.65                            |
| 27000                  | 301273U7R5JS2          | 19.5                                       | 12.9 | 9.03                                          | 10.50 | 1.02 x 3.15                            |
| 27000                  | 301R273U7R5JS2         | 15.5                                       | 8.7  | 10.10                                         | 12.80 | 1.02 x 3.15                            |
| 33000                  | 301333U7R5JT2          | 17.0                                       | 11.2 | 10.40                                         | 12.10 | 1.02 x 3.65                            |
| 33000                  | 301R333U7R5JT2         | 10.6                                       | 5.9  | 13.10                                         | 16.60 | 1.02 x 3.65                            |

# Type 300/301 –55 °C to 105 °C Long-Life, Switching Power Grade Radial

## High Capacitance and Ultra-Low ESR

| Cap.<br>(µF)          | Catalog<br>Part Number | ESR MAX<br>@ 25°C<br>120 Hz 20 kHz<br>(mΩ) |      | Ripple MAX<br>@ 85°C<br>120 Hz 20 kHz<br>(mΩ) |       | Nom Size<br>Insulated<br>D x L<br>(in) |
|-----------------------|------------------------|--------------------------------------------|------|-----------------------------------------------|-------|----------------------------------------|
| 10 Vdc (15 Vdc Surge) |                        |                                            |      |                                               |       |                                        |
| 1800                  | 301182U010GE2          | 153.0                                      | 81.2 | 1.65                                          | 2.14  | .77 x 1.15                             |
| 1800                  | 301R182U010GE2         | 133.0                                      | 70.3 | 1.77                                          | 2.30  | .77 x 1.15                             |
| 3300                  | 301R332U010HE2         | 106.0                                      | 61.8 | 2.17                                          | 2.69  | .895 x 1.15                            |
| 3300                  | 301332U010HE2          | 92.3                                       | 50.8 | 2.33                                          | 2.97  | .895 x 1.15                            |
| 3900                  | 301392U010GJ2          | 77.6                                       | 41.1 | 2.56                                          | 3.31  | .77 x 1.65                             |
| 3900                  | 301R392U010GJ2         | 67.3                                       | 35.7 | 2.75                                          | 3.56  | .77 x 1.65                             |
| 4700                  | 301472U010JE2          | 88.3                                       | 56.5 | 2.49                                          | 2.94  | 1.02 x 1.15                            |
| 4700                  | 301R472U010JE2         | 76.5                                       | 42.8 | 2.68                                          | 3.37  | 1.02 x 1.15                            |
| 5600                  | 301562U010GL2          | 52.7                                       | 27.9 | 3.89                                          | 5.04  | .77 x 2.15                             |
| 5600                  | 301R562U010GL2         | 45.6                                       | 24.2 | 4.18                                          | 5.41  | .77 x 2.15                             |
| 6800                  | 301682U010HJ2          | 54.3                                       | 31.5 | 3.60                                          | 4.46  | .895 x 1.65                            |
| 6800                  | 301R682U010HJ2         | 47.1                                       | 25.9 | 3.87                                          | 4.92  | .895 x 1.65                            |
| 8200                  | 301822U010GP2          | 40.3                                       | 21.4 | 4.95                                          | 6.41  | .77 x 2.65                             |
| 8200                  | 301R822U010GP2         | 34.9                                       | 18.5 | 5.32                                          | 6.89  | .77 x 2.65                             |
| 8200                  | 301822U010JJ2          | 45.2                                       | 28.9 | 4.28                                          | 5.05  | 1.02 x 1.65                            |
| 8200                  | 301R822U010JJ2         | 39.2                                       | 21.9 | 4.60                                          | 5.80  | 1.02 x 1.65                            |
| 10000                 | 301103U010GS2          | 33.0                                       | 17.5 | 5.97                                          | 7.73  | .77 x 3.15                             |
| 10000                 | 301R103U010GS2         | 28.6                                       | 15.2 | 6.41                                          | 8.31  | .77 x 3.15                             |
| 10000                 | 301103U010HL2          | 37.1                                       | 21.5 | 5.05                                          | 6.25  | .895 x 2.15                            |
| 10000                 | 301R103U010HL2         | 27.3                                       | 15.0 | 5.88                                          | 7.48  | .895 x 2.15                            |
| 12000                 | 301123U010GT2          | 28.3                                       | 15.0 | 6.88                                          | 8.91  | .77 x 3.65                             |
| 12000                 | 301R123U010GT2         | 24.5                                       | 13.0 | 7.39                                          | 9.57  | .77 x 3.65                             |
| 12000                 | 301123U010HP2          | 28.7                                       | 16.6 | 6.39                                          | 7.91  | .895 x 2.65                            |
| 12000                 | 301R123U010HP2         | 20.8                                       | 11.5 | 7.49                                          | 9.53  | .895 x 2.65                            |
| 12000                 | 301123U010JL2          | 31.0                                       | 19.9 | 5.93                                          | 6.99  | 1.02 x 2.15                            |
| 12000                 | 301R123U010JL2         | 20.3                                       | 11.4 | 7.33                                          | 9.23  | 1.02 x 2.15                            |
| 15000                 | 301153U010HS2          | 23.7                                       | 13.7 | 7.66                                          | 9.49  | .895 x 3.15                            |
| 15000                 | 301R153U010HS2         | 17.0                                       | 9.3  | 9.05                                          | 11.50 | .895 x 3.15                            |
| 18000                 | 301183U010HT2          | 20.5                                       | 11.9 | 8.81                                          | 10.90 | .895 x 3.65                            |
| 18000                 | 301R183U010HT2         | 14.5                                       | 8.0  | 10.50                                         | 13.30 | .895 x 3.65                            |
| 18000                 | 301183U010JP2          | 24.1                                       | 15.4 | 7.48                                          | 8.81  | 1.02 x 2.65                            |
| 18000                 | 301R183U010JP2         | 15.6                                       | 8.7  | 9.29                                          | 11.70 | 1.02 x 2.65                            |
| 22000                 | 301223U010JS2          | 20.1                                       | 12.8 | 8.90                                          | 10.50 | 1.02 x 3.15                            |
| 22000                 | 301R223U010JS2         | 16.1                                       | 9.0  | 9.94                                          | 12.50 | 1.02 x 3.15                            |
| 27000                 | 301273U010JT2          | 17.5                                       | 11.2 | 10.30                                         | 12.10 | 1.02 x 3.65                            |
| 27000                 | 301R273U010JT2         | 11.0                                       | 6.2  | 12.90                                         | 16.30 | 1.02 x 3.65                            |

| Cap.<br>(µF)          | Catalog<br>Part Number | ESR MAX<br>@ 25°C<br>120 Hz 20 kHz<br>(mΩ) |      | Ripple MAX<br>@ 85°C<br>120 Hz 20 kHz<br>(mΩ) |       | Nom Size<br>Insulated<br>D x L<br>(in) |
|-----------------------|------------------------|--------------------------------------------|------|-----------------------------------------------|-------|----------------------------------------|
| 16 Vdc (25 Vdc Surge) |                        |                                            |      |                                               |       |                                        |
| 1500                  | 301152U016GE2          | 159.0                                      | 80.9 | 1.62                                          | 2.14  | .77 x 1.15                             |
| 1500                  | 301R152U016GE2         | 138.0                                      | 70.1 | 1.74                                          | 2.30  | .77 x 1.15                             |
| 2700                  | 301272U016HE2          | 110.0                                      | 63.7 | 2.14                                          | 2.65  | .895 x 1.15                            |
| 2700                  | 301R272U016HE2         | 95.2                                       | 52.4 | 2.30                                          | 2.92  | .895 x 1.15                            |
| 3300                  | 301332U016GJ2          | 80.4                                       | 41.0 | 2.51                                          | 3.32  | .77 x 1.65                             |
| 3300                  | 301R332U016GJ2         | 69.7                                       | 35.5 | 2.70                                          | 3.56  | .77 x 1.65                             |
| 3300                  | 301332U016JE2          | 90.7                                       | 56.2 | 2.46                                          | 2.94  | 1.02 x 1.15                            |
| 3300                  | 301R332U016JE2         | 78.6                                       | 41.6 | 2.64                                          | 3.42  | 1.02 x 1.15                            |
| 4700                  | 301472U016GL2          | 54.5                                       | 27.8 | 3.82                                          | 5.05  | .77 x 2.15                             |
| 4700                  | 301R472U016GL2         | 47.2                                       | 24.1 | 4.11                                          | 5.42  | .77 x 2.15                             |
| 4700                  | 301472U016HJ2          | 56.0                                       | 32.5 | 3.55                                          | 4.39  | .895 x 1.65                            |
| 4700                  | 301R472U016HJ2         | 48.5                                       | 26.7 | 3.81                                          | 4.84  | .895 x 1.65                            |
| 5600                  | 301562U016GP2          | 41.7                                       | 21.3 | 4.87                                          | 6.43  | .77 x 2.65                             |
| 5600                  | 301R562U016GP2         | 36.1                                       | 18.4 | 5.23                                          | 6.90  | .77 x 2.65                             |
| 6800                  | 301682U016HL2          | 38.2                                       | 22.2 | 4.97                                          | 6.15  | .895 x 2.15                            |
| 6800                  | 301R682U016HL2         | 28.3                                       | 15.6 | 5.78                                          | 7.35  | .895 x 2.15                            |
| 6800                  | 301682U016JJ2          | 46.4                                       | 28.8 | 4.23                                          | 5.06  | 1.02 x 1.65                            |
| 6800                  | 301R682U016JJ2         | 40.2                                       | 21.3 | 4.54                                          | 5.88  | 1.02 x 1.65                            |
| 8200                  | 301822U016GS2          | 34.1                                       | 17.4 | 5.87                                          | 7.75  | .77 x 3.15                             |
| 8200                  | 301R822U016GS2         | 29.6                                       | 15.1 | 6.31                                          | 8.33  | .77 x 3.15                             |
| 10000                 | 301103U016GT2          | 29.2                                       | 14.9 | 6.77                                          | 8.94  | .77 x 3.65                             |
| 10000                 | 301R103U016GT2         | 25.3                                       | 12.9 | 7.27                                          | 9.60  | .77 x 3.65                             |
| 10000                 | 301103U016HP2          | 29.5                                       | 17.1 | 6.30                                          | 7.79  | .895 x 2.65                            |
| 10000                 | 301R103U016HP2         | 21.6                                       | 11.9 | 7.36                                          | 9.36  | .895 x 2.65                            |
| 10000                 | 301103U016JL2          | 31.8                                       | 19.7 | 5.86                                          | 7.01  | 1.02 x 2.15                            |
| 10000                 | 301R103U016JL2         | 21.0                                       | 11.1 | 7.21                                          | 9.33  | 1.02 x 2.15                            |
| 12000                 | 301123U016HS2          | 24.4                                       | 14.1 | 7.55                                          | 9.35  | .895 x 3.15                            |
| 12000                 | 301R123U016HS2         | 17.6                                       | 9.7  | 8.89                                          | 11.30 | .895 x 3.15                            |
| 15000                 | 301153U016HT2          | 21.1                                       | 12.2 | 8.69                                          | 10.80 | .895 x 3.65                            |
| 15000                 | 301R153U016HT2         | 15.0                                       | 8.2  | 10.30                                         | 13.10 | .895 x 3.65                            |
| 15000                 | 301153U016JP2          | 24.7                                       | 15.3 | 7.39                                          | 8.85  | 1.02 x 2.65                            |
| 15000                 | 301R153U016JP2         | 16.1                                       | 8.5  | 9.14                                          | 11.80 | 1.02 x 2.65                            |
| 18000                 | 301183U016JS2          | 20.5                                       | 12.7 | 8.80                                          | 10.50 | 1.02 x 3.15                            |
| 18000                 | 301R183U016JS2         | 16.6                                       | 8.8  | 9.79                                          | 12.70 | 1.02 x 3.15                            |
| 22000                 | 301223U016JT2          | 17.9                                       | 11.1 | 10.10                                         | 12.10 | 1.02 x 3.65                            |
| 22000                 | 301R223U016JT2         | 11.4                                       | 6.0  | 12.70                                         | 16.50 | 1.02 x 3.65                            |

# Type 300/301 –55 °C to 105 °C Long-Life, Switching Power Grade Radial

## High Capacitance and Ultra-Low ESR

| Cap.<br>(µF)          | Catalog<br>Part Number | ESR MAX<br>@ 25°C<br>120 Hz 20 kHz<br>(mΩ) |      | Ripple MAX<br>@ 85°C<br>120 Hz 20 kHz<br>(mΩ) |       | Nom Size<br>Insulated<br>D x L<br>(in) |
|-----------------------|------------------------|--------------------------------------------|------|-----------------------------------------------|-------|----------------------------------------|
| 20 Vdc (30 Vdc Surge) |                        |                                            |      |                                               |       |                                        |
| 1200                  | 301122U020GE2          | 159.0                                      | 80.9 | 1.62                                          | 2.14  | .77 x 1.15                             |
| 1200                  | 301R122U020GE2         | 138.0                                      | 70.1 | 1.74                                          | 2.30  | .77 x 1.15                             |
| 2200                  | 301222U020HE2          | 110.0                                      | 61.5 | 2.14                                          | 2.70  | .895 x 1.15                            |
| 2200                  | 301R222U020HE2         | 95.2                                       | 53.3 | 2.30                                          | 2.90  | .895 x 1.15                            |
| 2700                  | 301272U020GJ2          | 80.4                                       | 41.0 | 2.51                                          | 3.32  | .77 x 1.65                             |
| 2700                  | 301R272U020GJ2         | 69.7                                       | 35.5 | 2.70                                          | 3.56  | .77 x 1.65                             |
| 2700                  | 301272U020JE2          | 90.7                                       | 57.1 | 2.46                                          | 2.92  | 1.02 x 1.15                            |
| 2700                  | 301R272U020JE2         | 78.6                                       | 49.5 | 2.64                                          | 3.14  | 1.02 x 1.15                            |
| 3900                  | 301392U020GL2          | 54.5                                       | 27.8 | 3.82                                          | 5.05  | .77 x 2.15                             |
| 3900                  | 301R392U020GL2         | 47.2                                       | 24.1 | 4.11                                          | 5.42  | .77 x 2.15                             |
| 3900                  | 301392U020HJ2          | 56.0                                       | 31.4 | 3.55                                          | 4.47  | .895 x 1.65                            |
| 3900                  | 301R392U020HJ2         | 48.5                                       | 27.2 | 3.81                                          | 4.80  | .895 x 1.65                            |
| 4700                  | 301472U020GP2          | 41.7                                       | 21.3 | 4.87                                          | 6.43  | .77 x 2.65                             |
| 4700                  | 301R472U020GP2         | 36.1                                       | 18.4 | 5.23                                          | 6.90  | .77 x 2.65                             |
| 5600                  | 301562U020JJ2          | 46.4                                       | 29.2 | 4.23                                          | 5.02  | 1.02 x 1.65                            |
| 5600                  | 301R562U020JJ2         | 40.2                                       | 21.3 | 4.54                                          | 5.88  | 1.02 x 1.65                            |
| 6800                  | 301682U020GS2          | 34.1                                       | 17.4 | 5.87                                          | 7.75  | .77 x 3.15                             |
| 6800                  | 301R682U020GS2         | 29.6                                       | 15.1 | 6.31                                          | 8.33  | .77 x 3.15                             |
| 6800                  | 301682U020HL2          | 38.2                                       | 21.4 | 4.97                                          | 6.26  | .895 x 2.15                            |
| 6800                  | 301R682U020HL2         | 28.3                                       | 15.8 | 5.78                                          | 7.28  | .895 x 2.15                            |
| 8200                  | 301822U020GT2          | 29.2                                       | 14.9 | 6.77                                          | 8.94  | .77 x 3.65                             |
| 8200                  | 301R822U020GT2         | 25.3                                       | 12.9 | 7.27                                          | 9.60  | .77 x 3.65                             |
| 8200                  | 301822U020HP2          | 29.5                                       | 16.5 | 6.30                                          | 7.93  | .895 x 2.65                            |
| 8200                  | 301R822U020HP2         | 21.6                                       | 12.1 | 7.36                                          | 9.28  | .895 x 2.65                            |
| 8200                  | 301822U020JL2          | 31.8                                       | 20.1 | 5.86                                          | 6.96  | 1.02 x 2.15                            |
| 8200                  | 301R822U020JL2         | 21.0                                       | 11.1 | 7.21                                          | 9.33  | 1.02 x 2.15                            |
| 10000                 | 301103U020HS2          | 24.4                                       | 13.7 | 7.55                                          | 9.52  | .895 x 3.15                            |
| 10000                 | 301R103U020HS2         | 17.6                                       | 9.8  | 8.89                                          | 11.20 | .895 x 3.15                            |
| 12000                 | 301123U020HT2          | 21.1                                       | 11.8 | 8.69                                          | 10.90 | .895 x 3.65                            |
| 12000                 | 301R123U020HT2         | 15.0                                       | 8.4  | 10.30                                         | 13.00 | .895 x 3.65                            |
| 12000                 | 301123U020JP2          | 24.7                                       | 15.6 | 7.39                                          | 8.77  | 1.02 x 2.65                            |
| 12000                 | 301R123U020JP2         | 16.1                                       | 8.5  | 9.14                                          | 11.80 | 1.02 x 2.65                            |
| 15000                 | 301153U020JS2          | 20.5                                       | 12.9 | 8.80                                          | 10.50 | 1.02 x 3.15                            |
| 15000                 | 301R153U020JS2         | 13.2                                       | 7.0  | 11.00                                         | 14.20 | 1.02 x 3.15                            |
| 18000                 | 301183U020JT2          | 17.9                                       | 11.2 | 10.10                                         | 12.00 | 1.02 x 3.65                            |
| 18000                 | 301R183U020JT2         | 11.4                                       | 6.0  | 12.70                                         | 16.50 | 1.02 x 3.65                            |

| Cap.<br>(µF)          | Catalog<br>Part Number | ESR MAX<br>@ 25°C<br>120 Hz 20 kHz<br>(mΩ) |      | Ripple MAX<br>@ 85°C<br>120 Hz 20 kHz<br>(mΩ) |       | Nom Size<br>Insulated<br>D x L<br>(in) |
|-----------------------|------------------------|--------------------------------------------|------|-----------------------------------------------|-------|----------------------------------------|
| 25 Vdc (35 Vdc Surge) |                        |                                            |      |                                               |       |                                        |
| 1000                  | 301102U025GE2          | 170.0                                      | 81.8 | 1.57                                          | 2.13  | .77 x 1.15                             |
| 1000                  | 301R102U025GE2         | 148.0                                      | 70.9 | 1.68                                          | 2.29  | .77 x 1.15                             |
| 1800                  | 301182U025HE2          | 117.0                                      | 62.1 | 2.07                                          | 2.68  | .895 x 1.15                            |
| 1800                  | 301R182U025HE2         | 102.0                                      | 47.7 | 2.23                                          | 3.06  | .895 x 1.15                            |
| 2200                  | 301222U025GJ2          | 86.3                                       | 41.4 | 2.42                                          | 3.30  | .77 x 1.65                             |
| 2200                  | 301R222U025GJ2         | 74.8                                       | 35.9 | 2.60                                          | 3.54  | .77 x 1.65                             |
| 2700                  | 301272U025JE2          | 95.8                                       | 57.5 | 2.39                                          | 2.91  | 1.02 x 1.15                            |
| 2700                  | 301R272U025JE2         | 83.0                                       | 41.5 | 2.57                                          | 3.42  | 1.02 x 1.15                            |
| 3300                  | 301332U025GL2          | 58.4                                       | 28.1 | 3.69                                          | 5.02  | .77 x 2.15                             |
| 3300                  | 301R332U025GL2         | 50.6                                       | 24.3 | 3.97                                          | 5.40  | .77 x 2.15                             |
| 3300                  | 301332U025HJ2          | 59.7                                       | 31.6 | 3.44                                          | 4.45  | .895 x 1.65                            |
| 3300                  | 301R332U025HJ2         | 51.7                                       | 24.3 | 3.69                                          | 5.07  | .895 x 1.65                            |
| 4700                  | 301472U025GP2          | 44.7                                       | 21.4 | 4.71                                          | 6.40  | .77 x 2.65                             |
| 4700                  | 301R472U025GP2         | 38.7                                       | 18.6 | 5.05                                          | 6.88  | .77 x 2.65                             |
| 4700                  | 301472U025JJ2          | 48.9                                       | 29.4 | 4.12                                          | 5.01  | 1.02 x 1.65                            |
| 4700                  | 301R472U025JJ2         | 42.4                                       | 21.2 | 4.42                                          | 5.90  | 1.02 x 1.65                            |
| 5600                  | 301562U025GS2          | 36.5                                       | 17.5 | 5.68                                          | 7.73  | .77 x 3.15                             |
| 5600                  | 301R562U025GS2         | 31.6                                       | 15.2 | 6.10                                          | 8.30  | .77 x 3.15                             |
| 5600                  | 301562U025HL2          | 42.0                                       | 22.3 | 4.74                                          | 6.14  | .895 x 2.15                            |
| 5600                  | 301R562U025HL2         | 30.4                                       | 14.3 | 5.58                                          | 7.67  | .895 x 2.15                            |
| 6800                  | 301682U025GT2          | 31.2                                       | 15.0 | 6.55                                          | 8.91  | .77 x 3.65                             |
| 6800                  | 301R682U025GT2         | 27.0                                       | 13.0 | 7.04                                          | 9.58  | .77 x 3.65                             |
| 6800                  | 301682U025HP2          | 31.3                                       | 16.6 | 6.11                                          | 7.91  | .895 x 2.65                            |
| 6800                  | 301R682U025HP2         | 23.1                                       | 10.9 | 7.11                                          | 9.77  | .895 x 2.65                            |
| 6800                  | 301682U025JL2          | 33.5                                       | 20.1 | 5.71                                          | 6.94  | 1.02 x 2.15                            |
| 6800                  | 301R682U025JL2         | 22.5                                       | 11.3 | 6.96                                          | 9.29  | 1.02 x 2.15                            |
| 8200                  | 301822U025HS2          | 25.8                                       | 13.7 | 7.34                                          | 9.50  | .895 x 3.15                            |
| 8200                  | 301R822U025HS2         | 18.9                                       | 8.9  | 8.59                                          | 11.81 | .895 x 3.15                            |
| 10000                 | 301103U025HT2          | 22.3                                       | 11.8 | 8.45                                          | 10.94 | .895 x 3.65                            |
| 10000                 | 301R103U025HT2         | 16.0                                       | 7.5  | 9.96                                          | 13.69 | .895 x 3.65                            |
| 10000                 | 301103U025JP2          | 26.0                                       | 15.6 | 7.20                                          | 8.77  | 1.02 x 2.65                            |
| 10000                 | 301R103U025JP2         | 17.2                                       | 8.6  | 8.84                                          | 11.80 | 1.02 x 2.65                            |
| 12000                 | 301123U025JS2          | 21.6                                       | 12.9 | 8.59                                          | 10.50 | 1.02 x 3.15                            |
| 12000                 | 301R123U025JS2         | 14.1                                       | 7.1  | 10.60                                         | 14.10 | 1.02 x 3.15                            |
| 15000                 | 301153U025JT2          | 18.7                                       | 11.2 | 9.90                                          | 12.10 | 1.02 x 3.65                            |
| 15000                 | 301R153U025JT2         | 12.1                                       | 6.0  | 12.30                                         | 16.40 | 1.02 x 3.65                            |

# Type 300/301 –55 °C to 105 °C Long-Life, Switching Power Grade Radial

## High Capacitance and Ultra-Low ESR

| Cap.<br>(µF)          | Catalog<br>Part Number | ESR MAX<br>@ 25°C<br>120 Hz 20 kHz<br>(mΩ) |       | Ripple MAX<br>@ 85°C<br>120 Hz 20 kHz<br>(mΩ) |       | Nom Size<br>Insulated<br>D x L<br>(in) |
|-----------------------|------------------------|--------------------------------------------|-------|-----------------------------------------------|-------|----------------------------------------|
| 40 Vdc (60 Vdc Surge) |                        |                                            |       |                                               |       |                                        |
| 1200                  | 301122U040HE2          | 137.0                                      | 65.6  | 1.92                                          | 2.61  | .895 x 1.15                            |
| 1200                  | 301R122U040HE2         | 118.0                                      | 52.1  | 2.06                                          | 2.93  | .895 x 1.15                            |
| 1500                  | 301152U040JE2          | 109.0                                      | 60.2  | 2.24                                          | 2.84  | 1.02 x 1.15                            |
| 1500                  | 301R152U040JE2         | 94.8                                       | 43.6  | 2.40                                          | 3.34  | 1.02 x 1.15                            |
| 2200                  | 301222U040HJ2          | 69.4                                       | 33.3  | 3.18                                          | 4.33  | .895 x 1.65                            |
| 2200                  | 301R222U040HJ2         | 60.2                                       | 26.5  | 3.42                                          | 4.86  | .895 x 1.65                            |
| 3300                  | 301332U040HL2          | 47.2                                       | 22.6  | 4.48                                          | 6.09  | .895 x 2.15                            |
| 3300                  | 301R332U040HL2         | 36.0                                       | 15.8  | 5.12                                          | 7.28  | .895 x 2.15                            |
| 3300                  | 301332U040JJ2          | 55.8                                       | 30.7  | 3.86                                          | 4.90  | 1.02 x 1.65                            |
| 3300                  | 301R332U040JJ2         | 48.3                                       | 22.2  | 4.14                                          | 5.76  | 1.02 x 1.65                            |
| 3900                  | 301R392U040GS2         | 37.1                                       | 16.7  | 5.63                                          | 7.92  | .77 x 3.15                             |
| 4700                  | 301472U040GT2          | 36.4                                       | 16.4  | 6.06                                          | 8.52  | .77 x 3.65                             |
| 4700                  | 301R472U040GT2         | 31.6                                       | 14.2  | 6.51                                          | 9.15  | .77 x 3.65                             |
| 4700                  | 301472U040HP2          | 36.2                                       | 17.4  | 5.68                                          | 7.73  | .895 x 2.65                            |
| 4700                  | 301R472U040HP2         | 27.4                                       | 12.0  | 6.54                                          | 9.29  | .895 x 2.65                            |
| 4700                  | 301472U040JL2          | 38.1                                       | 20.9  | 5.35                                          | 6.81  | 1.02 x 2.15                            |
| 4700                  | 301R472U040JL2         | 26.5                                       | 12.2  | 6.42                                          | 8.93  | 1.02 x 2.15                            |
| 5600                  | 301562U040HS2          | 29.7                                       | 14.3  | 6.84                                          | 9.31  | .895 x 3.15                            |
| 5600                  | 301R562U040HS2         | 22.2                                       | 9.8   | 7.91                                          | 11.20 | .895 x 3.15                            |
| 6800                  | 301682U040HT2          | 25.5                                       | 12.3  | 7.89                                          | 10.70 | .895 x 3.65                            |
| 6800                  | 301R682U040HT2         | 18.9                                       | 8.3   | 9.18                                          | 13.10 | .895 x 3.65                            |
| 6800                  | 301682U040JP2          | 29.4                                       | 16.2  | 6.77                                          | 8.61  | 1.02 x 2.65                            |
| 6800                  | 301R682U040JP2         | 20.2                                       | 9.3   | 8.17                                          | 11.40 | 1.02 x 2.65                            |
| 8200                  | 301822U040JS2          | 24.3                                       | 13.4  | 8.09                                          | 10.30 | 1.02 x 3.15                            |
| 8200                  | 301R822U040JS2         | 16.5                                       | 7.6   | 9.82                                          | 13.60 | 1.02 x 3.15                            |
| 10000                 | 301103U040JT2          | 21.0                                       | 11.5  | 9.35                                          | 11.90 | 1.02 x 3.65                            |
| 10000                 | 301R103U040JT2         | 14.1                                       | 6.5   | 11.40                                         | 15.90 | 1.02 x 3.65                            |
| 50 Vdc (75 Vdc Surge) |                        |                                            |       |                                               |       |                                        |
| 560                   | 301R561U050GE2         | 216.0                                      | 88.6  | 1.39                                          | 2.05  | .77 x 1.15                             |
| 560                   | 301561U050GE2          | 249.0                                      | 102.0 | 1.29                                          | 1.91  | .77 x 1.15                             |
| 1200                  | 301R122U050GJ2         | 109.0                                      | 44.7  | 2.16                                          | 3.18  | .77 x 1.65                             |
| 1200                  | 301122U050GJ2          | 126.0                                      | 51.6  | 2.01                                          | 2.96  | .77 x 1.65                             |
| 1200                  | 301122U050JE2          | 130.0                                      | 62.4  | 2.05                                          | 2.79  | 1.02 x 1.15                            |
| 1200                  | 301R122U050JE2         | 113.0                                      | 43.9  | 2.21                                          | 3.33  | 1.02 x 1.15                            |
| 1500                  | 301R152U050GL2         | 73.4                                       | 30.1  | 3.29                                          | 4.85  | .77 x 2.15                             |
| 1500                  | 301152U050GL2          | 84.7                                       | 34.7  | 3.07                                          | 4.52  | .77 x 2.15                             |
| 1800                  | 301182U050HJ2          | 84.0                                       | 34.5  | 2.89                                          | 4.26  | .895 x 1.65                            |

| Cap.<br>(µF)          | Catalog<br>Part Number | ESR MAX<br>@ 25°C<br>120 Hz 20 kHz<br>(mΩ) |      | Ripple MAX<br>@ 85°C<br>120 Hz 20 kHz<br>(mΩ) |       | Nom Size<br>Insulated<br>D x L<br>(in) |
|-----------------------|------------------------|--------------------------------------------|------|-----------------------------------------------|-------|----------------------------------------|
| 1800                  | 301R182U050HJ2         | 72.8                                       | 26.2 | 3.11                                          | 4.89  | .895 x 1.65                            |
| 2200                  | 301R222U050GP2         | 55.8                                       | 22.9 | 4.21                                          | 6.20  | .77 x 2.65                             |
| 2200                  | 301222U050GP2          | 64.4                                       | 26.4 | 3.92                                          | 5.77  | .77 x 2.65                             |
| 2700                  | 301R272U050GS2         | 45.3                                       | 18.6 | 5.10                                          | 7.51  | .77 x 3.15                             |
| 2700                  | 301272U050GS2          | 52.3                                       | 21.4 | 4.75                                          | 6.99  | .77 x 3.15                             |
| 2700                  | 301272U050HL2          | 56.9                                       | 23.3 | 4.07                                          | 6.00  | .895 x 2.15                            |
| 2700                  | 301R272U050HL2         | 44.5                                       | 16.0 | 4.61                                          | 7.24  | .895 x 2.15                            |
| 2700                  | 301272U050JJ2          | 66.0                                       | 31.7 | 3.54                                          | 4.82  | 1.02 x 1.65                            |
| 2700                  | 301R272U050JJ2         | 57.2                                       | 22.3 | 3.81                                          | 5.75  | 1.02 x 1.65                            |
| 3300                  | 301R332U050GT2         | 38.4                                       | 15.7 | 5.90                                          | 8.69  | .77 x 3.65                             |
| 3300                  | 301332U050GT2          | 44.3                                       | 18.2 | 5.49                                          | 8.09  | .77 x 3.65                             |
| 3300                  | 301332U050HP2          | 43.5                                       | 17.8 | 5.18                                          | 7.63  | .895 x 2.65                            |
| 3300                  | 301R332U050HP2         | 33.7                                       | 12.1 | 5.89                                          | 9.26  | .895 x 2.65                            |
| 3900                  | 301392U050JL2          | 44.9                                       | 21.6 | 4.93                                          | 6.71  | 1.02 x 2.15                            |
| 3900                  | 301R392U050JL2         | 32.4                                       | 12.6 | 5.81                                          | 8.77  | 1.02 x 2.15                            |
| 4700                  | 301472U050HS2          | 35.6                                       | 14.6 | 6.25                                          | 9.21  | .895 x 3.15                            |
| 4700                  | 301R472U050HS2         | 27.3                                       | 9.8  | 7.14                                          | 11.20 | .895 x 3.15                            |
| 5600                  | 301562U050HT2          | 30.4                                       | 12.5 | 7.23                                          | 10.60 | .895 x 3.65                            |
| 5600                  | 301R562U050HT2         | 23.1                                       | 8.3  | 8.30                                          | 13.00 | .895 x 3.65                            |
| 5600                  | 301562U050JP2          | 34.5                                       | 16.6 | 6.25                                          | 8.50  | 1.02 x 2.65                            |
| 5600                  | 301R562U050JP2         | 24.6                                       | 9.6  | 7.40                                          | 11.20 | 1.02 x 2.65                            |
| 6800                  | 301682U050JS2          | 28.4                                       | 13.6 | 7.48                                          | 10.20 | 1.02 x 3.15                            |
| 6800                  | 301R682U050JS2         | 20.0                                       | 7.8  | 8.91                                          | 13.40 | 1.02 x 3.15                            |
| 8200                  | 301822U050JT2          | 24.4                                       | 11.7 | 8.67                                          | 11.80 | 1.02 x 3.65                            |
| 8200                  | 301R822U050JT2         | 17.0                                       | 6.6  | 10.40                                         | 15.70 | 1.02 x 3.65                            |
| 63 Vdc (90 Vdc Surge) |                        |                                            |      |                                               |       |                                        |
| 390                   | 301391U063GE2          | 281.0                                      | 92.7 | 1.22                                          | 2.00  | .77 x 1.15                             |
| 390                   | 301R391U063GE2         | 243.0                                      | 80.3 | 1.31                                          | 2.15  | .77 x 1.15                             |
| 680                   | 301681U063HE2          | 185.0                                      | 70.5 | 1.65                                          | 2.52  | .895 x 1.15                            |
| 680                   | 301R681U063HE2         | 161.0                                      | 53.0 | 1.77                                          | 2.90  | .895 x 1.15                            |
| 820                   | 301821U063GJ2          | 142.0                                      | 46.7 | 1.89                                          | 3.11  | .77 x 1.65                             |
| 820                   | 301R821U063GJ2         | 123.0                                      | 40.5 | 2.03                                          | 3.34  | .77 x 1.65                             |
| 1000                  | 301102U063JE2          | 144.0                                      | 63.2 | 1.95                                          | 2.78  | 1.02 x 1.15                            |
| 1000                  | 301R102U063JE2         | 124.0                                      | 43.5 | 2.10                                          | 3.34  | 1.02 x 1.15                            |
| 1200                  | 301122U063GL2          | 95.2                                       | 31.4 | 2.89                                          | 4.75  | .77 x 2.15                             |
| 1200                  | 301R122U063GL2         | 82.5                                       | 27.2 | 3.11                                          | 5.10  | .77 x 2.15                             |
| 1200                  | 301122U063HJ2          | 93.8                                       | 35.6 | 2.74                                          | 4.19  | .895 x 1.65                            |
| 1200                  | 301R122U063HJ2         | 81.3                                       | 26.8 | 2.94                                          | 4.83  | .895 x 1.65                            |

# Type 300/301 –55 °C to 105 °C Long-Life, Switching Power Grade Radial

## High Capacitance and Ultra-Low ESR

| Cap.<br>(µF)           | Catalog<br>Part Number | ESR MAX<br>@ 25°C<br>120 Hz 20 kHz<br>(mΩ) |       | Ripple MAX<br>@ 85°C<br>120 Hz 20 kHz<br>(mΩ) |       | Nom Size<br>Insulated<br>D x L<br>(in) |
|------------------------|------------------------|--------------------------------------------|-------|-----------------------------------------------|-------|----------------------------------------|
| 63 Vdc (90 Vdc Surge)  |                        |                                            |       |                                               |       |                                        |
| 1500                   | 301152U063GP2          | 72.3                                       | 23.8  | 3.70                                          | 6.07  | .77 x 2.65                             |
| 1500                   | 301R152U063GP2         | 62.6                                       | 20.7  | 3.97                                          | 6.52  | .77 x 2.65                             |
| 1800                   | 301182U063HL2          | 63.4                                       | 24.1  | 3.86                                          | 5.90  | .895 x 2.15                            |
| 1800                   | 301R182U063HL2         | 50.1                                       | 16.5  | 4.34                                          | 7.13  | .895 x 2.15                            |
| 1800                   | 301182U063JJ2          | 72.8                                       | 32.0  | 3.37                                          | 4.80  | 1.02 x 1.65                            |
| 1800                   | 301R182U063JJ2         | 63.1                                       | 22.1  | 3.62                                          | 5.78  | 1.02 x 1.65                            |
| 2200                   | 301222U063GS2          | 58.6                                       | 19.3  | 4.48                                          | 7.36  | .77 x 3.15                             |
| 2200                   | 301R222U063GS2         | 50.8                                       | 16.8  | 4.82                                          | 7.90  | .77 x 3.15                             |
| 2200                   | 301222U063GT2          | 49.6                                       | 16.4  | 5.19                                          | 8.53  | .77 x 3.65                             |
| 2200                   | 301R222U063GT2         | 43.0                                       | 14.2  | 5.58                                          | 9.16  | .77 x 3.65                             |
| 2700                   | 301272U063HP2          | 48.4                                       | 18.4  | 4.92                                          | 7.52  | .895 x 2.65                            |
| 2700                   | 301R272U063HP2         | 37.9                                       | 12.5  | 5.55                                          | 9.11  | .895 x 2.65                            |
| 2700                   | 301272U063JL2          | 49.5                                       | 21.8  | 4.70                                          | 6.68  | 1.02 x 2.15                            |
| 2700                   | 301R272U063JL2         | 36.3                                       | 12.7  | 5.48                                          | 8.74  | 1.02 x 2.15                            |
| 3300                   | 301332U063HS2          | 39.5                                       | 15.0  | 5.94                                          | 9.08  | .895 x 3.15                            |
| 3300                   | 301R332U063HS2         | 30.7                                       | 10.1  | 6.73                                          | 11.10 | .895 x 3.15                            |
| 3900                   | 301392U063HT2          | 33.7                                       | 12.8  | 6.87                                          | 10.50 | .895 x 3.65                            |
| 3900                   | 301R392U063HT2         | 25.9                                       | 8.5   | 7.84                                          | 12.90 | .895 x 3.65                            |
| 3900                   | 301392U063JP2          | 37.9                                       | 16.7  | 5.96                                          | 8.47  | 1.02 x 2.65                            |
| 3900                   | 301R392U063JP2         | 27.6                                       | 9.7   | 6.99                                          | 11.10 | 1.02 x 2.65                            |
| 4700                   | 301472U063JS2          | 31.1                                       | 13.7  | 7.15                                          | 10.20 | 1.02 x 3.15                            |
| 4700                   | 301R472U063JS2         | 22.4                                       | 7.8   | 8.42                                          | 13.40 | 1.02 x 3.15                            |
| 5600                   | 301562U063JT2          | 26.7                                       | 11.7  | 8.30                                          | 11.80 | 1.02 x 3.65                            |
| 5600                   | 301R562U063JT2         | 19.0                                       | 6.6   | 9.83                                          | 15.70 | 1.02 x 3.65                            |
| 75 Vdc (100 Vdc Surge) |                        |                                            |       |                                               |       |                                        |
| 330                    | 301331U075GE2          | 360.0                                      | 155.0 | 1.08                                          | 1.55  | .77 x 1.15                             |
| 330                    | 301R331U075GE2         | 312.0                                      | 134.0 | 1.16                                          | 1.66  | .77 x 1.15                             |
| 470                    | 301471U075HE2          | 234.0                                      | 108.0 | 1.47                                          | 2.04  | .895 x 1.15                            |
| 470                    | 301R471U075HE2         | 203.0                                      | 87.3  | 1.57                                          | 2.26  | .895 x 1.15                            |
| 560                    | 301561U075GJ2          | 181.0                                      | 77.8  | 1.67                                          | 2.41  | .77 x 1.65                             |
| 560                    | 301R561U075GJ2         | 157.0                                      | 67.4  | 1.80                                          | 2.59  | .77 x 1.65                             |
| 680                    | 301681U075JE2          | 178.0                                      | 88.8  | 1.76                                          | 2.34  | 1.02 x 1.15                            |
| 680                    | 301R681U075JE2         | 154.0                                      | 67.7  | 1.89                                          | 2.68  | 1.02 x 1.15                            |
| 1000                   | 301102U075GL2          | 122.0                                      | 52.3  | 2.56                                          | 3.68  | .77 x 2.15                             |
| 1000                   | 301R102U075GL2         | 105.0                                      | 45.3  | 2.75                                          | 3.95  | .77 x 2.15                             |
| 1000                   | 301102U075HJ2          | 118.0                                      | 54.3  | 2.44                                          | 3.39  | .895 x 1.65                            |
| 1000                   | 301R102U075HJ2         | 102.0                                      | 44.0  | 2.62                                          | 3.77  | .895 x 1.65                            |

| Cap.<br>(µF)            | Catalog<br>Part Number | ESR MAX<br>@ 25°C<br>120 Hz 20 kHz<br>(mΩ) |       | Ripple MAX<br>@ 85°C<br>120 Hz 20 kHz<br>(mΩ) |       | Nom Size<br>Insulated<br>D x L<br>(in) |
|-------------------------|------------------------|--------------------------------------------|-------|-----------------------------------------------|-------|----------------------------------------|
| 1200                    | 301122U075GP2          | 92.0                                       | 39.5  | 3.28                                          | 4.71  | .77 x 2.65                             |
| 1200                    | 301R122U075GP2         | 79.7                                       | 34.3  | 3.52                                          | 5.06  | .77 x 2.65                             |
| 1500                    | 301152U075GS2          | 74.4                                       | 32.0  | 3.98                                          | 5.72  | .77 x 3.15                             |
| 1500                    | 301R152U075GS2         | 64.4                                       | 27.7  | 4.27                                          | 6.15  | .77 x 3.15                             |
| 1500                    | 301152U075HL2          | 79.7                                       | 36.6  | 3.44                                          | 4.79  | .895 x 2.15                            |
| 1500                    | 301R152U075HL2         | 64.2                                       | 27.6  | 3.84                                          | 5.52  | .895 x 2.15                            |
| 1500                    | 301152U075JJ2          | 89.9                                       | 44.9  | 3.04                                          | 4.05  | 1.02 x 1.65                            |
| 1500                    | 301R152U075JJ2         | 77.9                                       | 34.3  | 3.26                                          | 4.64  | 1.02 x 1.65                            |
| 1800                    | 301182U075GT2          | 62.7                                       | 27.0  | 4.62                                          | 6.64  | .77 x 3.65                             |
| 1800                    | 301R182U075GT2         | 54.3                                       | 23.4  | 4.96                                          | 7.13  | .77 x 3.65                             |
| 2200                    | 301222U075HP2          | 60.6                                       | 27.9  | 4.39                                          | 6.11  | .895 x 2.65                            |
| 2200                    | 301R222U075HP2         | 48.5                                       | 20.9  | 4.91                                          | 7.06  | .895 x 2.65                            |
| 2200                    | 301222U075JL2          | 60.8                                       | 30.4  | 4.24                                          | 5.65  | 1.02 x 2.15                            |
| 2200                    | 301R222U075JL2         | 46.2                                       | 20.3  | 4.86                                          | 6.91  | 1.02 x 2.15                            |
| 2700                    | 301272U075HS2          | 49.2                                       | 22.6  | 5.32                                          | 7.39  | .895 x 3.15                            |
| 2700                    | 301R272U075HS2         | 39.1                                       | 16.8  | 5.96                                          | 8.57  | .895 x 3.15                            |
| 2700                    | 301272U075HT2          | 41.8                                       | 19.2  | 6.17                                          | 8.58  | .895 x 3.65                            |
| 2700                    | 301R272U075HT2         | 32.9                                       | 14.2  | 6.95                                          | 9.99  | .895 x 3.65                            |
| 2700                    | 301272U075JP2          | 46.4                                       | 23.2  | 5.39                                          | 7.18  | 1.02 x 2.65                            |
| 2700                    | 301R272U075JP2         | 35.0                                       | 15.4  | 6.21                                          | 8.82  | 1.02 x 2.65                            |
| 3300                    | 301332U075JS2          | 37.9                                       | 19.0  | 6.47                                          | 8.63  | 1.02 x 3.15                            |
| 3300                    | 301R332U075JS2         | 28.3                                       | 12.5  | 7.49                                          | 10.60 | 1.02 x 3.15                            |
| 3900                    | 301392U075JT2          | 32.4                                       | 16.2  | 7.53                                          | 10.00 | 1.02 x 3.65                            |
| 3900                    | 301R392U075JT2         | 23.9                                       | 10.5  | 8.76                                          | 12.40 | 1.02 x 3.65                            |
| 100 Vdc (140 Vdc Surge) |                        |                                            |       |                                               |       |                                        |
| 150                     | 301151U100GE2          | 581.0                                      | 221.0 | 0.85                                          | 1.30  | .77 x 1.15                             |
| 150                     | 301R151U100GE2         | 503.0                                      | 191.0 | 0.91                                          | 1.39  | .77 x 1.15                             |
| 220                     | 301221U100HE2          | 371.0                                      | 141.0 | 1.16                                          | 1.78  | .895 x 1.15                            |
| 220                     | 301R221U100HE2         | 321.0                                      | 122.0 | 1.25                                          | 1.91  | .895 x 1.15                            |
| 270                     | 301271U100GJ2          | 291.0                                      | 111.0 | 1.32                                          | 2.02  | .77 x 1.65                             |
| 270                     | 301R271U100GJ2         | 252.0                                      | 95.9  | 1.42                                          | 2.17  | .77 x 1.65                             |
| 330                     | 301331U100JE2          | 273.0                                      | 109.0 | 1.42                                          | 2.11  | 1.02 x 1.15                            |
| 330                     | 301R331U100JE2         | 237.0                                      | 92.3  | 1.52                                          | 2.30  | 1.02 x 1.15                            |
| 470                     | 301471U100GL2          | 195.0                                      | 74.1  | 2.02                                          | 3.09  | .77 x 2.15                             |
| 470                     | 301R471U100GL2         | 169.0                                      | 64.3  | 2.17                                          | 3.32  | .77 x 2.15                             |
| 470                     | 301471U100HJ2          | 186.0                                      | 70.8  | 1.94                                          | 2.97  | .895 x 1.65                            |
| 470                     | 301R471U100HJ2         | 162.0                                      | 61.4  | 2.09                                          | 3.19  | .895 x 1.65                            |
| 560                     | 301561U100GP2          | 147.0                                      | 55.9  | 2.59                                          | 3.96  | .77 x 2.65                             |

# Type 300/301 –55 °C to 105 °C Long-Life, Switching Power Grade Radial

## High Capacitance and Ultra-Low ESR

| Cap.<br>(μF)            | Catalog<br>Part Number | ESR MAX<br>@ 25°C<br>120 Hz 20 kHz<br>(mΩ) |       | Ripple MAX<br>@ 85°C<br>120 Hz 20 kHz<br>(mΩ) |       | Nom Size<br>Insulated<br>D x L<br>(in) |
|-------------------------|------------------------|--------------------------------------------|-------|-----------------------------------------------|-------|----------------------------------------|
| 100 Vdc (140 Vdc Surge) |                        |                                            |       |                                               |       |                                        |
| 560                     | 301R561U100GP2         | 128.0                                      | 48.5  | 2.78                                          | 4.26  | .77 x 2.65                             |
| 680                     | 301681U100GS2          | 119.0                                      | 45.0  | 3.15                                          | 4.82  | .77 x 3.15                             |
| 680                     | 301R681U100GS2         | 103.0                                      | 39.0  | 3.39                                          | 5.18  | .77 x 3.15                             |
| 680                     | 301681U100HL2          | 125.0                                      | 47.6  | 2.75                                          | 4.20  | .895 x 2.15                            |
| 680                     | 301R681U100HL2         | 104.0                                      | 39.4  | 3.02                                          | 4.62  | .895 x 2.15                            |
| 680                     | 301681U100JJ2          | 138.0                                      | 55.1  | 2.45                                          | 3.66  | 1.02 x 1.65                            |
| 680                     | 301R681U100JJ2         | 119.0                                      | 46.5  | 2.64                                          | 3.98  | 1.02 x 1.65                            |
| 820                     | 301821U100GT2          | 99.5                                       | 37.8  | 3.67                                          | 5.61  | .77 x 3.65                             |
| 820                     | 301R821U100GT2         | 86.2                                       | 32.8  | 3.94                                          | 6.02  | .77 x 3.65                             |
| 1000                    | 301102U100HP2          | 94.7                                       | 36.0  | 3.51                                          | 5.38  | .895 x 2.65                            |
| 1000                    | 301R102U100HP2         | 78.1                                       | 29.7  | 3.87                                          | 5.92  | .895 x 2.65                            |
| 1000                    | 301102U100JL2          | 92.7                                       | 37.1  | 3.43                                          | 5.12  | 1.02 x 2.15                            |
| 1000                    | 301R102U100JL2         | 73.8                                       | 28.8  | 3.85                                          | 5.81  | 1.02 x 2.15                            |
| 1200                    | 301122U100HS2          | 76.5                                       | 29.1  | 4.26                                          | 6.52  | .895 x 3.15                            |
| 1200                    | 301R122U100HS2         | 62.8                                       | 23.9  | 4.71                                          | 7.20  | .895 x 3.15                            |
| 1200                    | 301122U100HT2          | 64.5                                       | 24.5  | 4.96                                          | 7.59  | .895 x 3.65                            |
| 1200                    | 301R122U100HT2         | 52.6                                       | 20.0  | 5.50                                          | 8.41  | .895 x 3.65                            |
| 1200                    | 301122U100JP2          | 70.3                                       | 28.1  | 4.38                                          | 6.53  | 1.02 x 2.65                            |
| 1200                    | 301R122U100JP2         | 55.7                                       | 21.7  | 4.92                                          | 7.43  | 1.02 x 2.65                            |
| 1500                    | 301152U100JS2          | 57.0                                       | 22.8  | 5.28                                          | 7.87  | 1.02 x 3.15                            |
| 1500                    | 301R152U100JS2         | 44.9                                       | 17.5  | 5.95                                          | 8.99  | 1.02 x 3.15                            |
| 2200                    | 301222U100JT2          | 48.3                                       | 19.3  | 6.17                                          | 9.19  | 1.02 x 3.65                            |
| 2200                    | 301R222U100JT2         | 37.7                                       | 14.7  | 6.97                                          | 10.50 | 1.02 x 3.65                            |
| 160 Vdc (200 Vdc Surge) |                        |                                            |       |                                               |       |                                        |
| 56                      | 301560T160GE2          | 1817.0                                     | 690.0 | 0.48                                          | 0.73  | .77 x 1.15                             |
| 82                      | 301820T160HE2          | 1169.0                                     | 444.0 | 0.66                                          | 1.00  | .895 x 1.15                            |
| 100                     | 301101T160GJ2          | 1019.0                                     | 387.0 | 0.71                                          | 1.08  | .77 x 1.65                             |
| 120                     | 301121T160JE2          | 904.0                                      | 362.0 | 0.78                                          | 1.16  | 1.02 x 1.15                            |
| 150                     | 301151T160GL2          | 608.0                                      | 231.0 | 1.15                                          | 1.75  | .77 x 2.15                             |
| 180                     | 301181T160HJ2          | 586.0                                      | 222.0 | 1.10                                          | 1.68  | .895 x 1.65                            |
| 220                     | 301221T160GP2          | 457.0                                      | 174.0 | 1.47                                          | 2.25  | .77 x 2.65                             |
| 270                     | 301271T160GS2          | 366.0                                      | 139.0 | 1.79                                          | 2.74  | .77 x 3.15                             |
| 270                     | 301271T160HL2          | 391.0                                      | 149.0 | 1.55                                          | 2.38  | .895 x 2.15                            |
| 270                     | 301271T160JJ2          | 415.0                                      | 166.0 | 1.41                                          | 2.11  | 1.02 x 1.65                            |
| 330                     | 301331T160GT2          | 306.0                                      | 116.0 | 2.09                                          | 3.20  | .77 x 3.65                             |
| 390                     | 301391T160HP2          | 268.0                                      | 102.0 | 2.09                                          | 3.19  | .895 x 2.65                            |
| 390                     | 301391T160JL2          | 278.0                                      | 111.0 | 1.98                                          | 2.95  | 1.02 x 2.15                            |
| 470                     | 301471T160HS2          | 226.0                                      | 85.7  | 2.48                                          | 3.80  | .895 x 3.15                            |
| 470                     | 301471T160JP2          | 228.0                                      | 91.4  | 2.43                                          | 3.62  | 1.02 x 2.65                            |

| Cap.<br>(µF)                   | Catalog<br>Part Number | ESR MAX<br>@ 25°C<br>120 Hz 20 kHz<br>(mΩ) |        | Ripple MAX<br>@ 85°C<br>120 Hz 20 kHz<br>(mΩ) |      | Nom Size<br>Insulated<br>D x L<br>(in) |
|--------------------------------|------------------------|--------------------------------------------|--------|-----------------------------------------------|------|----------------------------------------|
| 560                            | 301561T160HT2          | 189.0                                      | 71.8   | 2.90                                          | 4.44 | .895 x 3.65                            |
| 560                            | 301561T160JS2          | 184.0                                      | 73.5   | 2.94                                          | 4.39 | 1.02 x 3.15                            |
| 680                            | 301681T160JT2          | 154.0                                      | 61.6   | 3.45                                          | 5.15 | 1.02 x 3.65                            |
| <b>200 Vdc (250 Vdc Surge)</b> |                        |                                            |        |                                               |      |                                        |
| 56                             | 301560T200GE2          | 2285.0                                     | 1051.0 | 0.43                                          | 0.59 | .77 x 1.15                             |
| 82                             | 301820T200HE2          | 1423.0                                     | 655.0  | 0.59                                          | 0.83 | .895 x 1.15                            |
| 100                            | 301101T200GJ2          | 1144.0                                     | 526.0  | 0.67                                          | 0.93 | .77 x 1.65                             |
| 120                            | 301121T200JE2          | 1012.0                                     | 465.0  | 0.74                                          | 1.02 | 1.02 x 1.15                            |
| 150                            | 301151T200GL2          | 763.0                                      | 351.0  | 1.02                                          | 1.42 | .77 x 2.15                             |
| 180                            | 301181T200HJ2          | 713.0                                      | 328.0  | 0.99                                          | 1.38 | .895 x 1.65                            |
| 220                            | 301221T200GP2          | 574.0                                      | 264.0  | 1.31                                          | 1.82 | .77 x 2.65                             |
| 220                            | 301221T200JJ2          | 507.0                                      | 233.0  | 1.28                                          | 1.78 | 1.02 x 1.65                            |
| 270                            | 301271T200GS2          | 460.0                                      | 212.0  | 1.60                                          | 2.22 | .77 x 3.15                             |
| 270                            | 301271T200HL2          | 476.0                                      | 219.0  | 1.41                                          | 1.96 | .895 x 2.15                            |
| 330                            | 301331T200GT2          | 384.0                                      | 177.0  | 1.87                                          | 2.59 | .77 x 3.65                             |
| 330                            | 301331T200HP2          | 358.0                                      | 165.0  | 1.81                                          | 2.51 | .895 x 2.65                            |
| 390                            | 301391T200HS2          | 288.0                                      | 132.0  | 2.20                                          | 3.06 | .895 x 3.15                            |
| 390                            | 301391T200JL2          | 339.0                                      | 156.0  | 1.79                                          | 2.49 | 1.02 x 2.15                            |
| 470                            | 301471T200HT2          | 240.0                                      | 111.0  | 2.57                                          | 3.57 | .895 x 3.65                            |
| 470                            | 301471T200JP2          | 255.0                                      | 117.0  | 2.30                                          | 3.19 | 1.02 x 2.65                            |
| 560                            | 301561T200JS2          | 205.0                                      | 94.4   | 2.78                                          | 3.87 | 1.02 x 3.15                            |
| 680                            | 301681T200JT2          | 172.0                                      | 79.1   | 3.27                                          | 4.54 | 1.02 x 3.65                            |
| <b>250 Vdc (300 Vdc Surge)</b> |                        |                                            |        |                                               |      |                                        |
| 39                             | 301390T250GE2          | 2708.0                                     | 1137.0 | 0.39                                          | 0.57 | .77 x 1.15                             |
| 68                             | 301680T250HE2          | 1684.0                                     | 707.0  | 0.55                                          | 0.79 | .895 x 1.15                            |
| 82                             | 301820T250GJ2          | 1355.0                                     | 569.0  | 0.61                                          | 0.89 | .77 x 1.65                             |
| 100                            | 301101T250JE2          | 1194.0                                     | 502.0  | 0.68                                          | 0.99 | 1.02 x 1.15                            |
| 120                            | 301121T250GL2          | 905.0                                      | 380.0  | 0.94                                          | 1.37 | .77 x 2.15                             |
| 120                            | 301121T250HJ2          | 843.0                                      | 354.0  | 0.91                                          | 1.33 | .895 x 1.65                            |
| 150                            | 301151T250GP2          | 679.0                                      | 285.0  | 1.21                                          | 1.75 | .77 x 2.65                             |
| 180                            | 301181T250JJ2          | 598.0                                      | 251.0  | 1.18                                          | 1.71 | 1.02 x 1.65                            |
| 220                            | 301221T250GS2          | 544.0                                      | 229.0  | 1.47                                          | 2.14 | .77 x 3.15                             |
| 220                            | 301221T250HL2          | 563.0                                      | 237.0  | 1.30                                          | 1.88 | .895 x 2.15                            |
| 270                            | 301271T250GT2          | 455.0                                      | 191.0  | 1.72                                          | 2.50 | .77 x 3.65                             |
| 270                            | 301271T250HP2          | 423.0                                      | 178.0  | 1.66                                          | 2.42 | .895 x 2.65                            |
| 270                            | 301271T250JL2          | 400.0                                      | 168.0  | 1.65                                          | 2.40 | 1.02 x 2.15                            |
| 330                            | 301331T250HS2          | 340.0                                      | 143.0  | 2.02                                          | 2.94 | .895 x 3.15                            |
| 390                            | 301391T250HT2          | 284.0                                      | 119.0  | 2.37                                          | 3.44 | .895 x 3.65                            |
| 390                            | 301391T250JP2          | 301.0                                      | 126.0  | 2.12                                          | 3.08 | 1.02 x 2.65                            |
| 470                            | 301471T250JS2          | 242.0                                      | 102.0  | 2.56                                          | 3.73 | 1.02 x 3.15                            |
| 560                            | 301561T250JT2          | 202.0                                      | 85.0   | 3.01                                          | 4.38 | 1.02 x 3.65                            |

# Type 300/301 –55 °C to 105 °C Long-Life, Switching Power Grade Radial

## High Capacitance and Ultra-Low ESR

| Cap.<br>(µF)          | Catalog<br>Part Number | ESR MAX<br>@ 25°C<br>120 Hz 20 kHz<br>(mΩ) |       | Ripple MAX<br>@ 85°C<br>120 Hz 20 kHz<br>(mΩ) |      | Nom Size<br>Insulated<br>D x L<br>(in) |  | Cap.<br>(µF)          | Catalog<br>Part Number | ESR MAX<br>@ 25°C<br>120 Hz 20 kHz<br>(mΩ) |       | Ripple MAX<br>@ 85°C<br>120 Hz 20 kHz<br>(mΩ) |      | Nom Size<br>Insulated<br>D x L<br>(in) |
|-----------------------|------------------------|--------------------------------------------|-------|-----------------------------------------------|------|----------------------------------------|--|-----------------------|------------------------|--------------------------------------------|-------|-----------------------------------------------|------|----------------------------------------|
| 6.3 Vdc (9 Vdc Surge) |                        |                                            |       |                                               |      |                                        |  | 680                   | NR301681U020FF2        | 170.0                                      | 60.0  | 1.72                                          | 2.90 | .65 x 1.32                             |
| 680                   | NR301681U6R3EM2        | 231.0                                      | 150.0 | 1.16                                          | 1.44 | .51 x 1.10                             |  | 1000                  | NR301R102M020EN2       | 114.0                                      | 48.0  | 1.10                                          | 1.69 | .51 x 1.38                             |
| 1000                  | NR301102U6R3FK2        | 160.0                                      | 90.0  | 1.54                                          | 2.05 | .65 x 1.04                             |  | 1500                  | NR301R152M020ER2       | 85.0                                       | 33.0  | 2.23                                          | 3.58 | .51 x 1.73                             |
| 1200                  | NR301122U6R3ER2        | 134.0                                      | 70.0  | 1.78                                          | 2.46 | .51 x 1.73                             |  | 1500                  | NR301152U020LV2        | 90.0                                       | 50.0  | 2.42                                          | 3.25 | .73 x 1.63                             |
| 1500                  | NR301R152M6R3EG2       | 201.0                                      | 71.0  | 1.09                                          | 1.84 | .51 x .85                              |  | 2200                  | NR301R222M020FQ2       | 77.0                                       | 32.0  | 2.55                                          | 3.96 | .65 x 1.48                             |
| 1500                  | NR301152U6R3FN2        | 105.0                                      | 50.0  | 2.00                                          | 2.90 | .65 x 1.32                             |  | 3300                  | NR301R332M020LV2       | 62.0                                       | 26.0  | 3.19                                          | 4.92 | .73 x 1.63                             |
|                       |                        |                                            |       |                                               |      |                                        |  | 25 Vdc (35 Vdc Surge) |                        |                                            |       |                                               |      |                                        |
| 2200                  | NR301R222M6R3EM2       | 110.0                                      | 60.0  | 1.20                                          | 1.63 | .51 x 1.10                             |  | 330                   | NR301331U025EN2        | 290.0                                      | 120.0 | 1.13                                          | 1.75 | .51 x 1.38                             |
| 3300                  | NR301R332M6R3EN2       | 93.0                                       | 57.0  | 1.78                                          | 2.28 | .51 x 1.38                             |  | 390                   | NR301R391M025EG2       | 267.0                                      | 92.0  | 0.89                                          | 1.52 | .51 x .85                              |
| 3300                  | NR301332U6R3LV2        | 76.0                                       | 45.0  | 2.61                                          | 3.39 | .73 x 1.63                             |  | 470                   | NR301471U025ER2        | 220.0                                      | 80.0  | 1.42                                          | 2.35 | .51 x 1.73                             |
| 3900                  | NR301R392M6R3FK2       | 111.0                                      | 41.0  | 1.84                                          | 3.03 | .65 x 1.04                             |  | 560                   | NR301R561M025EK2       | 193.0                                      | 75.0  | 1.12                                          | 1.79 | .51 x 1.04                             |
| 4700                  | NR301R472M6R3ER2       | 68.0                                       | 31.0  | 2.52                                          | 3.73 | .51 x 1.73                             |  | 680                   | NR301R681M025EM2       | 160.0                                      | 67.0  | 1.40                                          | 2.17 | .51 x 1.10                             |
| 5600                  | NR301R562M6R3FF2       | 78.0                                       | 37.0  | 2.43                                          | 3.53 | .65 x 1.32                             |  | 680                   | NR301681U025FQ2        | 190.0                                      | 75.0  | 1.53                                          | 2.44 | .65 x 1.48                             |
| 5600                  | NR301R682M6R3FQ2       | 71.0                                       | 34.0  | 2.53                                          | 3.65 | .65 x 1.48                             |  | 1000                  | NR301R102M025EN2       | 152.0                                      | 56.0  | 1.62                                          | 2.67 | .51 x 1.38                             |
| 5600                  | NR301R822M6R3FV2       | 59.0                                       | 31.0  | 3.03                                          | 4.18 | .65 x 1.65                             |  | 1200                  | NR301R122M025ER2       | 90.0                                       | 34.0  | 2.20                                          | 3.58 | .51 x 1.73                             |
| 6800                  | NR301R822M6R3LQ2       | 67.0                                       | 29.0  | 2.97                                          | 4.51 | .73 x 1.48                             |  | 1200                  | NR301R122M025FK2       | 132.0                                      | 45.0  | 1.71                                          | 2.93 | .65 x 1.04                             |
| 8200                  | NR301R103M6R3LV2       | 54.0                                       | 24.0  | 3.47                                          | 5.21 | .73 x 1.63                             |  | 1200                  | NR301122U025LV2        | 100.0                                      | 50.0  | 2.26                                          | 3.20 | .73 x 1.63                             |
| 10 Vdc (15 Vdc Surge) |                        |                                            |       |                                               |      |                                        |  | 1500                  | NR301R152M025FF2       | 95.0                                       | 39.0  | 2.20                                          | 3.44 | .65 x 1.32                             |
| 1000                  | NR301R102M010EG2       | 216.0                                      | 77.0  | 1.07                                          | 1.80 | .51 x .85                              |  | 1800                  | NR301R182M025FQ2       | 75.0                                       | 32.0  | 2.59                                          | 3.97 | .65 x 1.48                             |
| 1500                  | NR301R152M010EK2       | 200.0                                      | 64.0  | 1.07                                          | 1.90 | .51 x 1.04                             |  | 2200                  | NR301R222M025FV2       | 73.0                                       | 31.0  | 2.69                                          | 4.13 | .65 x 1.65                             |
| 1800                  | NR301R182M010EM2       | 122.0                                      | 62.0  | 1.58                                          | 2.21 | .51 x 1.10                             |  | 2200                  | NR301R222M025LQ2       | 70.0                                       | 30.0  | 2.84                                          | 4.34 | .73 x 1.48                             |
| 2700                  | NR301R272M010EN2       | 111.0                                      | 59.0  | 1.66                                          | 2.28 | .51 x 1.38                             |  | 2700                  | NR301R272M025LV2       | 62.0                                       | 26.0  | 3.22                                          | 4.97 | .73 x 1.63                             |
| 2700                  | NR301R272M010FK2       | 116.0                                      | 42.0  | 2.04                                          | 3.39 | .65 x 1.04                             |  | 40 Vdc (60 Vdc Surge) |                        |                                            |       |                                               |      |                                        |
| 3300                  | NR301R332M010ER2       | 75.0                                       | 32.0  | 2.41                                          | 3.69 | .51 x 1.73                             |  | 220                   | NR301221U040FK2        | 480.0                                      | 140.0 | 0.89                                          | 1.65 | .65 x 1.04                             |
| 4700                  | NR301R472M010FF2       | 87.0                                       | 38.0  | 2.29                                          | 3.47 | .65 x 1.32                             |  | 330                   | NR301R331M040EM2       | 202.0                                      | 68.0  | 1.19                                          | 2.05 | .51 x 1.10                             |
| 5600                  | NR301R562M010FQ2       | 78.0                                       | 33.0  | 2.35                                          | 3.62 | .65 x 1.48                             |  | 330                   | NR301331U040FN2        | 330.0                                      | 120.0 | 1.35                                          | 2.24 | .65 x 1.32                             |
| 6800                  | NR301R682M010LQ2       | 71.0                                       | 31.0  | 2.92                                          | 4.42 | .73 x 1.48                             |  | 390                   | NR301391U040ER2        | 270.0                                      | 150.0 | 1.42                                          | 1.90 | .51 x 1.73                             |
| 8200                  | NR301R882M010LV2       | 60.0                                       | 26.0  | 3.30                                          | 5.01 | .73 x 1.63                             |  | 470                   | NR301R471M040FK2       | 133.0                                      | 46.0  | 1.66                                          | 2.82 | .65 x 1.04                             |
| 16 Vdc (25 Vdc Surge) |                        |                                            |       |                                               |      |                                        |  | 680                   | NR301R681M040ER2       | 95.0                                       | 35.0  | 2.07                                          | 3.41 | .51 x 1.73                             |
| 820                   | NR301R821M016EG2       | 216.0                                      | 85.0  | 1.12                                          | 1.78 | .51 x .85                              |  | 820                   | NR301821U040LV2        | 160.0                                      | 75.0  | 1.78                                          | 2.60 | .73 x 1.63                             |
| 1200                  | NR301R122M016EM2       | 130.0                                      | 66.0  | 1.60                                          | 2.24 | .51 x 1.10                             |  | 1000                  | NR301R102M040FQ2       | 80.0                                       | 33.0  | 2.49                                          | 3.87 | .65 x 1.48                             |
| 1800                  | NR301R182M016EN2       | 122.0                                      | 55.0  | 1.85                                          | 2.76 | .51 x 1.38                             |  | 1500                  | NR301R152M040LV2       | 63.0                                       | 27.0  | 3.16                                          | 4.82 | .73 x 1.63                             |
| 2200                  | NR301R222M016FK2       | 120.0                                      | 42.0  | 1.79                                          | 3.02 | .65 x 1.04                             |  | 50 Vdc (75 Vdc Surge) |                        |                                            |       |                                               |      |                                        |
| 2700                  | NR301R272M016ER2       | 82.0                                       | 32.0  | 1.66                                          | 2.65 | .51 x 1.73                             |  | 100                   | NR301101U050EN2        | 810.0                                      | 260.0 | 0.65                                          | 1.14 | .51 x 1.38                             |
| 3300                  | NR301R332M016FF2       | 78.0                                       | 32.0  | 2.42                                          | 3.78 | .65 x 1.32                             |  | 120                   | NR301R121M050EG2       | 391.0                                      | 139.0 | 0.79                                          | 1.33 | .51 x .85                              |
| 3900                  | NR301R392M016FQ2       | 75.0                                       | 32.0  | 2.59                                          | 3.97 | .65 x 1.48                             |  | 150                   | NR301151U050FK2        | 550.0                                      | 220.0 | 0.82                                          | 1.30 | .65 x 1.04                             |
| 4700                  | NR301R472M016LQ2       | 74.0                                       | 32.0  | 2.85                                          | 4.34 | .73 x 1.48                             |  | 180                   | NR301R181M050EK2       | 261.0                                      | 90.0  | 0.95                                          | 1.61 | .51 x 1.04                             |
| 5600                  | NR301R562M016LV2       | 62.0                                       | 26.0  | 3.22                                          | 4.98 | .73 x 1.63                             |  | 180                   | NR301181U050ER2        | 500.0                                      | 180.0 | 0.93                                          | 1.55 | .51 x 1.73                             |
| 20 Vdc (30 Vdc Surge) |                        |                                            |       |                                               |      |                                        |  | 220                   | NR301R221M050EM2       | 240.0                                      | 69.0  | 1.12                                          | 2.08 | .51 x 1.04                             |
| 330                   | NR301331U020EM2        | 360.0                                      | 160.0 | 0.89                                          | 1.34 | .51 x 1.10                             |  | 220                   | NR301221U050FN2        | 420.0                                      | 150.0 | 1.09                                          | 1.83 | .65 x 1.32                             |
| 470                   | NR301R471M020EG2       | 250.0                                      | 77.0  | 0.55                                          | 0.99 | .51 x .85                              |  | 330                   | NR301R331M050EN2       | 221.0                                      | 63.0  | 1.19                                          | 2.22 | .51 x 1.38                             |
| 470                   | NR301471U020FK2        | 240.0                                      | 90.0  | 1.22                                          | 2.00 | .65 x 1.04                             |  | 390                   | NR301R391M050FK2       | 150.0                                      | 48.0  | 1.60                                          | 2.82 | .65 x 1.04                             |
| 560                   | NR301561U020ER2        | 220.0                                      | 80.0  | 1.41                                          | 2.34 | .51 x 1.73                             |  | 470                   | NR301R471M050ER2       | 111.0                                      | 36.0  | 1.97                                          | 3.46 | .51 x 1.73                             |
| 680                   | NR301R681M020EM2       | 140.0                                      | 67.0  | 1.46                                          | 2.11 | .51 x 1.10                             |  |                       |                        |                                            |       |                                               |      |                                        |

# Type 300/301 –55 °C to 105 °C Long-Life, Switching Power Grade Radial

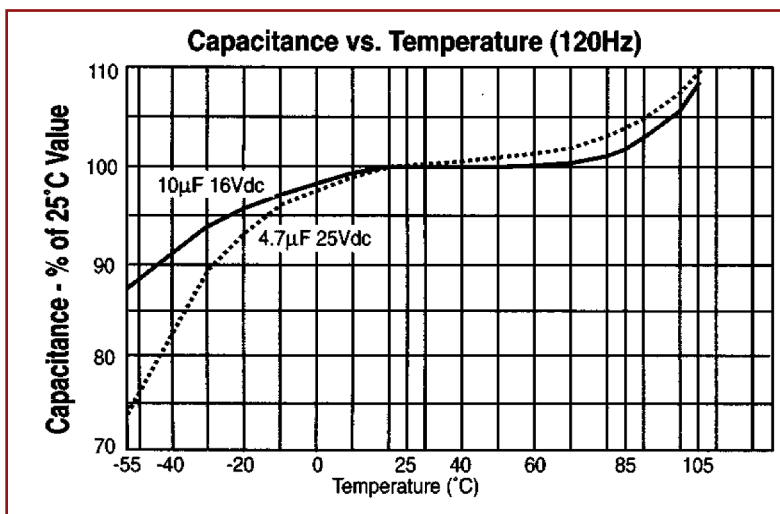
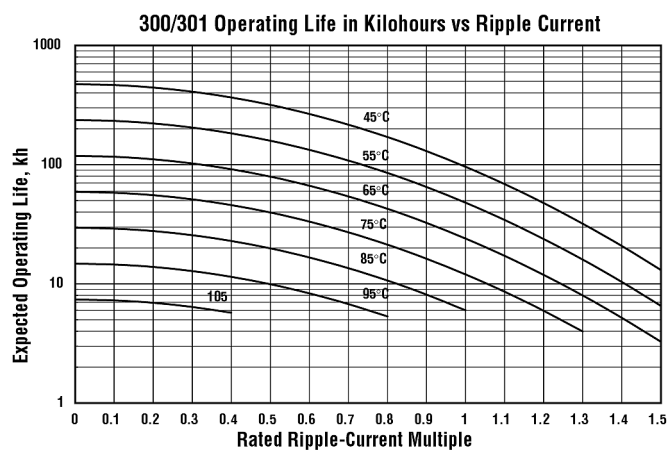
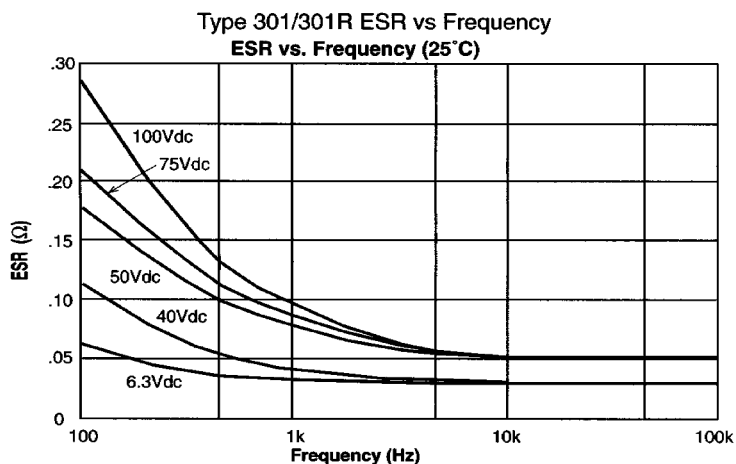
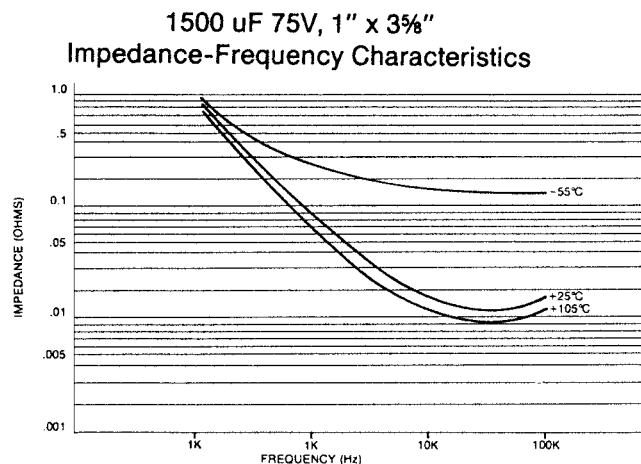
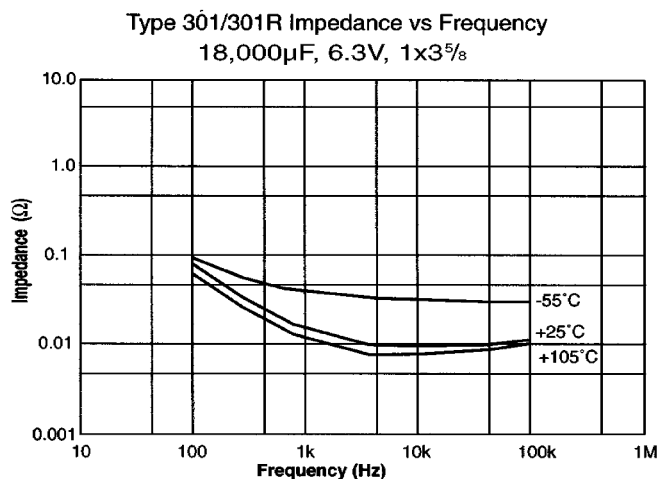
## High Capacitance and Ultra-Low ESR

| Cap.<br>(µF)            | Catalog<br>Part Number | ESR MAX<br>@ 25°C<br>120 Hz 20 kHz<br>(mΩ) |        | Ripple MAX<br>@ 85°C<br>120 Hz 20 kHz<br>(mΩ) |      | Nom Size<br>Insulated<br>D x L<br>(in) | Cap.<br>(µF)            | Catalog<br>Part Number | ESR MAX<br>@ 25°C<br>120 Hz 20 kHz<br>(mΩ) |        | Ripple MAX<br>@ 85°C<br>120 Hz 20 kHz<br>(mΩ) |      | Nom Size<br>Insulated<br>D x L<br>(in) |
|-------------------------|------------------------|--------------------------------------------|--------|-----------------------------------------------|------|----------------------------------------|-------------------------|------------------------|--------------------------------------------|--------|-----------------------------------------------|------|----------------------------------------|
| 470                     | NR301471U050LV2        | 250.0                                      | 90.0   | 1.44                                          | 2.40 | .73 x 1.63                             | 160 Vdc (200 Vdc Surge) |                        |                                            |        |                                               |      |                                        |
| 560                     | NR301R561M050FF2       | 118.0                                      | 41.0   | 1.98                                          | 3.36 | .65 x 1.32                             | 39                      | NR301390U160EN2        | 6210.0                                     | 600.0  | 0.23                                          | 0.74 | .51 x 1.38                             |
| 680                     | NR301R681M050FQ2       | 102.0                                      | 40.0   | 2.31                                          | 3.69 | .65 x 1.48                             | 47                      | NR301470U160FK2        | 6000.0                                     | 620.0  | 0.23                                          | 0.70 | .65 x 1.04                             |
| 820                     | NR301R821M050FV2       | 95.0                                       | 38.0   | 2.40                                          | 3.79 | .65 x 1.63                             | 56                      | NR301560U160ER2        | 5110.0                                     | 500.0  | 0.28                                          | 0.89 | .51 x 1.73                             |
| 820                     | NR301R821M050LQ2       | 89.0                                       | 36.0   | 2.59                                          | 4.07 | .73 x 1.48                             | 68                      | NR301680U160FF2        | 3500.0                                     | 350.0  | 0.36                                          | 1.15 | .65 x 1.32                             |
| 1000                    | NR301R102M050LV2       | 77.0                                       | 28.0   | 2.90                                          | 4.81 | .73 x 1.63                             | 82                      | NR301820U160FQ2        | 2950.0                                     | 320.0  | 0.50                                          | 1.53 | .65 x 1.48                             |
| 63 Vdc (90 Vdc Surge)   |                        |                                            |        |                                               |      |                                        | 100                     | NR301101U160LQ2        | 2540.0                                     | 210.0  | 0.47                                          | 1.65 | .73 x 1.48                             |
| 120                     | NR301R121M063EG2       | 451.0                                      | 93.0   | 0.73                                          | 1.60 | .51 x .85                              | 120                     | NR301121U160LV2        | 2010.0                                     | 190.0  | 0.55                                          | 1.79 | .73 x 1.63                             |
| 180                     | NR301R181M063EK2       | 298.0                                      | 90.0   | 1.01                                          | 1.83 | .51 x 1.04                             | 200 Vdc (250 Vdc Surge) |                        |                                            |        |                                               |      |                                        |
| 270                     | NR301R271M063EN2       | 160.0                                      | 55.0   | 1.44                                          | 2.46 | .51 x 1.38                             | 10                      | NR301100U200EG2        | 19900.0                                    | 1780.0 | 0.12                                          | 0.39 | .51 x .85                              |
| 330                     | NR301R331M063FK2       | 171.0                                      | 50.0   | 1.48                                          | 2.74 | .65 x 1.04                             | 15                      | NR301150U200EK2        | 15200.0                                    | 1270.0 | 0.14                                          | 0.49 | .51 x 1.04                             |
| 390                     | NR301R391M063ER2       | 130.0                                      | 38.0   | 1.83                                          | 3.38 | .51 x 1.73                             | 18                      | NR301180U200EM2        | 10600.0                                    | 960.0  | 0.19                                          | 0.63 | .51 x 1.10                             |
| 470                     | NR301R471M063FF2       | 142.0                                      | 43.0   | 1.80                                          | 3.27 | .65 x 1.32                             | 22                      | NR301220U200EN2        | 7010.0                                     | 580.0  | 0.22                                          | 0.75 | .51 x 1.38                             |
| 560                     | NR301R561M063FQ2       | 120.0                                      | 35.0   | 2.05                                          | 3.80 | .65 x 1.48                             | 27                      | NR301270U200FK2        | 6500.0                                     | 650.0  | 0.22                                          | 0.68 | .65 x 1.04                             |
| 680                     | NR301R681M063FV2       | 113.0                                      | 32.0   | 2.06                                          | 3.87 | .65 x 1.65                             | 33                      | NR301330U200ER2        | 5990.0                                     | 550.0  | 0.26                                          | 0.87 | .51 x 1.73                             |
| 680                     | NR301R681M063LQ2       | 103.0                                      | 29.0   | 2.21                                          | 4.17 | .73 x 1.48                             | 39                      | NR301390U200FF2        | 3910.0                                     | 340.0  | 0.34                                          | 1.15 | .65 x 1.32                             |
| 820                     | NR301R821M063LV2       | 90.0                                       | 29.0   | 2.69                                          | 4.74 | .73 x 1.63                             | 47                      | NR301470U200FQ2        | 3730.0                                     | 330.0  | 0.45                                          | 1.50 | .65 x 1.48                             |
| 100 Vdc (140 Vdc Surge) |                        |                                            |        |                                               |      |                                        | 56                      | NR301560U200FV2        | 3250.0                                     | 290.0  | 0.47                                          | 1.58 | .65 x 1.65                             |
| 47                      | NR301470U100EG2        | 1770.0                                     | 345.0  | 0.38                                          | 0.74 | .51 x .85                              | 68                      | NR301680U200LQ2        | 2840.0                                     | 260.0  | 0.53                                          | 1.74 | .73 x 1.48                             |
| 68                      | NR301680U100EM2        | 1160.0                                     | 183.0  | 0.42                                          | 1.10 | .51 x 1.10                             | 82                      | NR301820U200LV2        | 2310.0                                     | 180.0  | 0.53                                          | 1.89 | .73 x 1.63                             |
| 100                     | NR301101U100EN2        | 756.0                                      | 149.0  | 0.52                                          | 1.37 | .51 x 1.38                             | 250 Vdc (300 Vdc Surge) |                        |                                            |        |                                               |      |                                        |
| 120                     | NR301121U100FK2        | 686.0                                      | 139.0  | 0.55                                          | 1.48 | .65 x 1.04                             | 8.2                     | NR30182U250EG2         | 29900.0                                    | 3050.0 | 0.07                                          | 0.23 | .51 x .85                              |
| 150                     | NR301151U100ER2        | 519.0                                      | 104.0  | 0.61                                          | 1.83 | .51 x 1.73                             | 12                      | NR301120U250EK2        | 23300.0                                    | 2500.0 | 0.09                                          | 0.27 | .51 x 1.04                             |
| 180                     | NR301181U100FF2        | 450.0                                      | 93.0   | 0.64                                          | 2.00 | .65 x 1.32                             | 15                      | NR301150U250EM2        | 15000.0                                    | 1900.0 | 0.14                                          | 0.38 | .51 x 1.10                             |
| 220                     | NR301221U100FQ2        | 365.0                                      | 76.0   | 0.69                                          | 2.31 | .65 x 1.48                             | 18                      | NR301180U250EN2        | 12100.0                                    | 1500.0 | 0.17                                          | 0.47 | .51 x 1.38                             |
| 270                     | NR301271U100FV2        | 298.0                                      | 63.0   | 0.75                                          | 2.64 | .65 x 1.65                             | 27                      | NR301270U250FK2        | 10800.0                                    | 1610.0 | 0.20                                          | 0.53 | .65 x 1.04                             |
| 330                     | NR301331U100LQ2        | 249.0                                      | 55.0   | 0.81                                          | 2.94 | .73 x 1.48                             | 27                      | NR301270U250ER2        | 7820.0                                     | 1390.0 | 0.28                                          | 0.67 | .51 x 1.73                             |
| 390                     | NR301391U100LV2        | 210.0                                      | 47.0   | 0.87                                          | 3.35 | .73 x 1.63                             | 33                      | NR301330U250FF2        | 5500.0                                     | 720.0  | 0.29                                          | 0.80 | .65 x 1.32                             |
| 160 Vdc (200 Vdc Surge) |                        |                                            |        |                                               |      |                                        | 39                      | NR301390U250FQ2        | 5260.0                                     | 700.0  | 0.32                                          | 0.89 | .65 x 1.48                             |
| 15                      | NR301150U160EG2        | 17500.0                                    | 1450.0 | 0.12                                          | 0.40 | .51 x .85                              | 47                      | NR301470U250FV2        | 4680.0                                     | 670.0  | 0.38                                          | 1.00 | .65 x 1.65                             |
| 22                      | NR301220U160EK2        | 12800.0                                    | 960.0  | 0.14                                          | 0.52 | .51 x 1.04                             | 56                      | NR301560U250LQ2        | 3750.0                                     | 550.0  | 0.42                                          | 1.10 | .73 x 1.48                             |
| 27                      | NR301270U160EM2        | 9700.0                                     | 720.0  | 0.18                                          | 0.66 | .51 x 1.10                             | 68                      | NR301680U250LV2        | 3110.0                                     | 360.0  | 0.44                                          | 1.29 | .73 x 1.63                             |

# Type 300/301 –55 °C to 105 °C Long-Life, Switching Power Grade Radial

## High Capacitance and Ultra-Low ESR

### Typical Performance Curves



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