

KVF Series

RoHS2
Compliant

AEC-
Q200

High
temperature
150°C

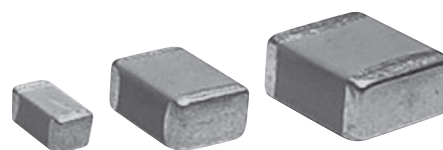
Temperature cycle : 1000 cycles

◆FEATURES

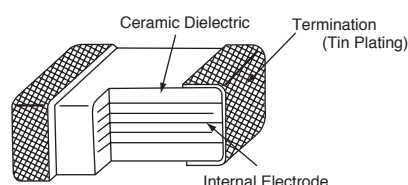
1. Temperature range : -55 to +150°C
2. Temperature characteristics : X8L
3. Excellent noise absorption.
4. Automotive grade (AEC-Q200)

◆APPLICATIONS

1. Noise filter for automotive equipment (ECU etc.)
2. Equipment used in a high temperature environment



◆CONSTRUCTION



◆RATINGS

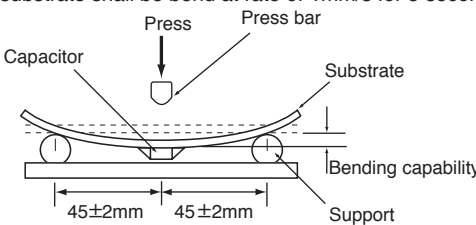
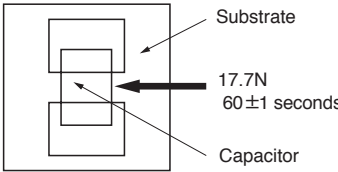
1. Category Temperature Range	-55~+150°C
2. Rated Voltage Range	25, 50, 100 Vdc
3. Rated Capacitance Range	0.033~15μF
4. Rated Capacitance Tolerance	M(±20%), K(±10%)
5. Temperature Characteristics	X8L
6. Rated Ripple Current	See No.5 on the following table

◆SPECIFICATIONS

No.	Items	Specification	Test Condition			
1	Withstand Voltage	No abnormality.	250% of rated voltage shall be applied for 5 seconds.			
2	Insulation Resistance	100/C _R (MΩ) or 4000(MΩ) whichever is less.	Rated voltage shall be applied for 60±5 seconds at temperature 25±2°C.			
3	Rated Capacitance	Within specified tolerance.				
			C _R ≤10μF	C _R >10μF		
			Temperature	25± 2°C		
4	Dissipation Factor	5.0% maximum.	Frequency	1±0.1kHz	120±12Hz	
			Voltage	1±0.2Vrms	0.5±0.2Vrms	
5	Rated Ripple Current					
		Size code				
		31	32	43	55	
		Arms	0.3	0.5	1.0	2.0
		10kHz~1MHz (sine curve) Ripple voltage V _p shall be less than the rated voltage. The surface temperature MLCC must not exceed the maximum category temperature when the ripple current is applied.				

As customer requirement, Chemi-Con has submits the test results according to AEC-Q200 for Multilayer ceramic capacitors. Please contact us for more information.

◆SPECIFICATIONS

No.	Items	Specification	Test Condition															
6	High Temperature Exposure (Storage)	Appearance : No abnormality. ΔC/C : ±20% D.F. : 10% maximum I.R. : 50/C _R (MΩ) or 1000(MΩ) whichever is less.	Temperature : Max. category temperature±3°C Time : 1000 ± ⁴⁸ ₀ hours															
7	Temperature Cycle	Appearance : No visible damage. ΔC/C : ±15% D.F. : To meet the initial specification. I.R. : To meet the initial specification.	<table><tr><th>Step</th><th>Temperature (°C)</th><th>(min.)</th></tr><tr><td>1</td><td>Min.Category temperature±3</td><td>30±3</td></tr><tr><td>2</td><td>Room temperature</td><td>3 max.</td></tr><tr><td>3</td><td>Max. Category temperature±3</td><td>30±3</td></tr><tr><td>4</td><td>Room temperature</td><td>3 max.</td></tr></table> (Epoxy resin PCB t=1.6mm) For 1000 cycles	Step	Temperature (°C)	(min.)	1	Min.Category temperature±3	30±3	2	Room temperature	3 max.	3	Max. Category temperature±3	30±3	4	Room temperature	3 max.
Step	Temperature (°C)	(min.)																
1	Min.Category temperature±3	30±3																
2	Room temperature	3 max.																
3	Max. Category temperature±3	30±3																
4	Room temperature	3 max.																
8	Biased Humidity	Appearance : No abnormality. ΔC/C : ±20% D.F. : 10% maximum I.R. : 25/C _R (MΩ) or 1000(MΩ) whichever is less.	Temperature : 85°C ±3°C Humidity : 80 ~ 85%RH Voltage : Rated voltage Time : 1000 ± ⁴⁸ ₀ hours															
9	Operational Life	Appearance : No abnormality. ΔC/C : ±20% D.F. : 10% maximum I.R. : 50/C _R (MΩ) or 1000(MΩ) whichever is less.	Temperature : Max. category temperature±3°C Voltage : Rated voltage Time : 1000 ± ⁴⁸ ₀ hours															
10	Mechanical Shock	Appearance : No abnormality. ΔC/C : To meet the initial specification. D.F. : To meet the initial specification.	MIL-STD-202 Method213 Condition F Peak value : 1,500 G Normal duration : 0.5 ms Velocity change : 15.4 ft/sec (4.7m/s) Direction and time : 3 times each in X,Y, Z axis. Total 18 times															
11	Resistance to Soldering Heat	Appearance : No visible damage. ΔC/C : ±15% D.F. : To meet the initial specification. I.R. : To meet the initial specification.	Preheating temperature : 150±10°C Preheating time : 1 to 2 minute Solder temp. : 260±5°C Dipping Time : 10±1s															
12	ESD	Appearance : No abnormality. ΔC/C : To meet the initial specification. D.F. : To meet the initial specification. I.R. : To meet the initial specification.	AEC-Q200-002 Connection : Between terminals Direct Contact : 8kV (150pF 2000 Ω) Times : ±1time															
13	Solderability	Min. 75% of surface of the termination shall be covered with new solder.	<table><tr><td>Solder</td><td>Pb Free</td></tr><tr><td>Solder Temperature</td><td>245 ±5°C</td></tr><tr><td>Dipping Time</td><td>2±0.5s</td></tr></table>	Solder	Pb Free	Solder Temperature	245 ±5°C	Dipping Time	2±0.5s									
Solder	Pb Free																	
Solder Temperature	245 ±5°C																	
Dipping Time	2±0.5s																	
14	Board Flex	Appearance : No visible damage. ΔC/C : ±15%	The substrate shall be bend at rate of 1mm/s for 5 seconds.  * Bending capability : 1mm or 2mm															
15	Terminal Strength (SMD)	No visible damage.																

*CR : Rated Capacitance(μF)

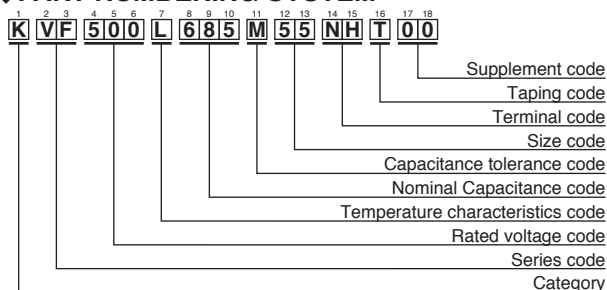
◆STANDARD RATINGS

Rated voltage (Vdc)	Rated Capacitance (μF)	Electrostatic Capacitance Temperature Characteristics	Case Code	Dimensions(mm)				Maximum ripple current (Arms)	Part Number	Taping Quantity per reel (pcs. / reel)
			inch / mm	L	W	T max.	a			
25	0.33	X8L	1206 / 3216	3.2±0.3	1.6±0.2	1.8	0.7±0.2	0.3	KVF250L334□31NLT00	3,000
	0.47	X8L	1206 / 3216	3.2±0.3	1.6±0.2	1.8	0.7±0.2	0.3	KVF250L474□31NLT00	3,000
	0.68	X8L	1206 / 3216	3.2±0.3	1.6±0.2	1.8	0.7±0.2	0.3	KVF250L684□31NLT00	3,000
	1.0	X8L	1206 / 3216	3.2±0.3	1.6±0.2	1.8	0.7±0.2	0.3	KVF250L105□31NLT00	3,000
	1.5	X8L	1210 / 3225	3.2±0.4	2.5±0.3	2.6	0.7±0.2	0.5	KVF250L155□32NHT00	1,600
	2.2	X8L	1210 / 3225	3.2±0.4	2.5±0.3	2.6	0.7±0.2	0.5	KVF250L225□32NHT00	1,600
	3.3	X8L	1210 / 3225	3.2±0.4	2.5±0.3	2.6	0.7±0.2	0.5	KVF250L335□32NHT00	1,600
	4.7	X8L	1812 / 4535	4.5±0.4	3.2±0.4	2.8	0.7±0.2	1.0	KVF250L475□43NHT00	800
	6.8	X8L	1812 / 4535	4.5±0.4	3.2±0.4	2.8	0.7±0.2	1.0	KVF250L685□43NHT00	800
	10	X8L	2220 / 5750	5.7±0.4	5.0±0.4	2.8	1.0±0.4	2.0	KVF250L106□55NHT00	800
	15	X8L	2220 / 5750	5.7±0.4	5.0±0.4	2.8	1.0±0.4	2.0	KVF250L156□55NHT00	800
50	0.10	X8L	1206 / 3216	3.2±0.2	1.6±0.2	1.8	0.7±0.2	0.3	KVF500L104□31NLT00	3,000
	0.15	X8L	1206 / 3216	3.2±0.2	1.6±0.2	1.8	0.7±0.2	0.3	KVF500L154□31NLT00	3,000
	0.22	X8L	1206 / 3216	3.2±0.2	1.6±0.2	1.8	0.7±0.2	0.3	KVF500L224□31NLT00	3,000
	0.33	X8L	1206 / 3216	3.2±0.2	1.6±0.2	1.8	0.7±0.2	0.3	KVF500L334□31NLT00	3,000
	0.47	X8L	1206 / 3216	3.2±0.2	1.6±0.2	1.8	0.7±0.2	0.3	KVF500L474□31NLT00	3,000
	0.68	X8L	1210 / 3225	3.2±0.4	2.5±0.3	2.6	0.7±0.2	0.5	KVF500L684□32NLT00	1,600
	1.0	X8L	1210 / 3225	3.2±0.4	2.5±0.3	2.6	0.7±0.2	0.5	KVF500L105□32NHT00	1,600
	1.5	X8L	1812 / 4532	4.5±0.4	3.2±0.4	2.8	0.7±0.2	1.0	KVF500L155□43NHT00	800
	2.2	X8L	1812 / 4532	4.5±0.4	3.2±0.4	2.8	0.7±0.2	1.0	KVF500L225□43NHT00	800
	3.3	X8L	2220 / 5750	5.7±0.4	5.0±0.4	2.8	1.0±0.4	2.0	KVF500L335□55NLT00	800
	4.7	X8L	2220 / 5750	5.7±0.4	5.0±0.4	2.8	1.0±0.4	2.0	KVF500L475□55NHT00	800
	6.8	X8L	2220 / 5750	5.7±0.4	5.0±0.4	2.8	1.0±0.4	2.0	KVF500L685□55NHT00	800
100	0.033	X8L	1206 / 3216	3.2±0.2	1.6±0.2	1.8	0.7±0.2	0.3	KVF101L333□31NLT00	3,000
	0.047	X8L	1206 / 3216	3.2±0.2	1.6±0.2	1.8	0.7±0.2	0.3	KVF101L473□31NLT00	3,000
	0.068	X8L	1206 / 3216	3.2±0.2	1.6±0.2	1.8	0.7±0.2	0.3	KVF101L683□31NLT00	3,000
	0.1	X8L	1206 / 3216	3.2±0.2	1.6±0.2	1.8	0.7±0.2	0.3	KVF101L104□31NLT00	3,000
	0.15	X8L	1210 / 3225	3.2±0.4	2.5±0.3	2.6	0.7±0.2	0.5	KVF101L154□32NLT00	1,600
	0.22	X8L	1210 / 3225	3.2±0.4	2.5±0.3	2.6	0.7±0.2	0.5	KVF101L224□32NLT00	1,600
	0.3	X8L	1210 / 3225	3.2±0.4	2.5±0.3	2.6	0.7±0.2	0.5	KVF101L334□32NLT00	1,600
	0.5	X8L	1812 / 4532	4.5±0.4	3.2±0.4	2.8	0.7±0.2	1.0	KVF101L474□43NLT00	800
	0.68	X8L	1812 / 4532	4.5±0.4	3.2±0.4	2.8	0.7±0.2	1.0	KVF101L684□43NLT00	800
	1.0	X8L	2220 / 5750	5.7±0.4	5.0±0.4	2.8	1.0±0.4	2.0	KVF101L105□55NLT00	800
	1.5	X8L	2220 / 5750	5.7±0.4	5.0±0.4	2.8	1.0±0.4	2.0	KVF101L155□55NLT00	800

※ The square (□) in part numbers is replaced by a capacitance tolerance code: 'K' when ±10%, or 'M' when ±20%

※ Please consult with us when you consider the rating other than a standard table.

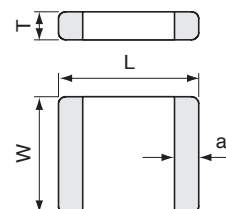
◆PART NUMBERING SYSTEM



Size Code

Size Code	L × W (mm)
31	3.2 × 1.6
32	3.2 × 2.5
43	4.5 × 3.2
55	5.7 × 5.0
76	7.5 × 6.3

◆DIMENSIONS



Please refer to "Part Numbering System" of the beginning of a catalog for the details.