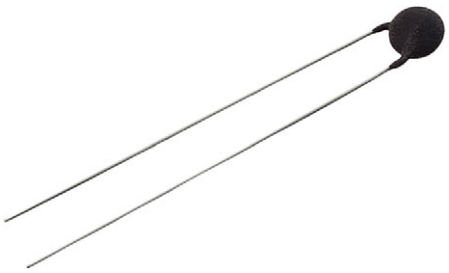
# NTC Thermistors, miniAMP Inrush Current Limiters



## FEATURES

RoHS COMPLIANT

- Rugged and reliable
- Can withstand up to 3 A of continuous current and 24 J of input energy
- Operating temperature range: -40 °C to +150 °C
- Radial leaded inrush current limiter is available on kinked or straight leads, the standard lead length is 0.5"
- 24 AWG lead
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

## DESCRIPTION

These miniature inrush current limiters are your solution for space-sensitive applications. The miniAMP series is designed for applications where board space is limited and cool operation is desired. The cost effective miniAMP inrush current limiter is an efficient way to protect components such as relays, diodes, and fuses from inrush current.

## APPLICATIONS

- Switching power supplies
- AC motors
- Uninterruptible power supplies
- Variable frequency drive
- Other equipment that can be improved with inrush current protection

## QUICK REFERENCE DATA

| PART NUMBER | RESISTANCE AT 25 °C ($R_{25}$) (Ω) | TOLERANCE ON $R_{25}$ VALUE (%) | MAX. STEADY-STATE CURRENT UP TO 65 °C (A) | MAX. RECOMMENDED ENERGY RATING (J) | MAX. VOLTAGE ($V_{AC}$) | MAX. CAPACITANCE AT 120 $V_{AC}$ (µF) |
|---|---|---|---|---|---|---|
| SL054R003 | 4 | ± 20 | 3 | 5 | 120 | 340 |
| SL055R001 | 5 | ± 25 | 1 | 5 | 120 | 340 |
| SL0510001 | 10 | ± 15 | 1 | 6 | 120 | 400 |
| SL0510002 | 10 | ± 15 | 2 | 6 | 120 | 400 |
| SL0530001 | 30 | ± 20 | 1 | 3 | 120 | 200 |
| SL0560001 | 60 | ± 20 | 1 | 1 | 120 | 75 |
| SL0512101 | 120 | ± 15 | 1 | 5 | 120 | 340 |

## ELECTRICAL SPECIFICATIONS

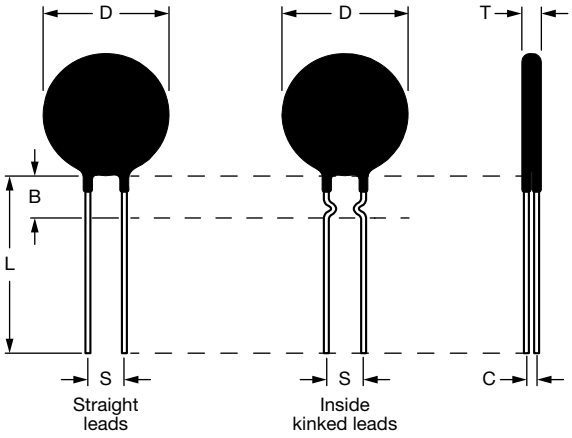
| PART NUMBER | ACTUAL FAILURE INSTANTANEOUS ENERGY (J) | RESISTANCE AT 100 % MAX. CURRENT (Ω) | RESISTANCE AT 50 % MAX. CURRENT (Ω) | BODY TEMP. AT 100 % MAX. CURRENT (°C) | DISSIPATION FACTOR (mW/°C) | THERMAL TIME CONSTANT (s) | MATERIAL TYPE (FOR BETA AND CURVE) |
|---|---|---|---|---|---|---|---|
| SL054R003 | - | - | - | 138 | 5 | 10 | A |
| SL055R001 | - | - | - | - | 5 | 10 | A |
| SL0510001 | 12 | 0.4 | 0.8 | 149 | 6.5 | 9 | B |
| SL0510002 | 12 | 0.4 | 0.8 | 149 | 6.5 | 9 | B |
| SL0530001 | 6 | 1 | 1.5 | 112 | 4 | 20 | G |
| SL0560001 | 2 | 1 | 1.7 | 144 | 7 | 9 | H |
| SL0512101 | 24 | 12 | 24 | 121 | 5.8 | 9 | M |



For technical questions, contact: ametherm@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

## MECHANICAL SPECIFICATIONS in millimeters




| PART NUMBER | B | C | D | L | S | T | LEAD DIAMETER | LEAD STYLE |
|---|---|---|---|---|---|---|---|---|
| SL054R003 | 4.5 nom. | 1.8 nom. | 6.0 max. | 38.0 nom. | 5.1 ± 0.3 | 3.5 max. | 0.5 nom. | Straight |
| SL054R003A | | | | | | | | Inside kinked |
| SL055R001 | 4.5 nom. | 1.8 nom. | 6.0 max. | 38.0 nom. | 5.1 ± 0.3 | 3.5 max. | 0.5 nom. | Straight |
| SL055R001A | | | | | | | | Inside kinked |
| SL0510001 | 2.5 max. | 1.9 ± 0.7 | 5.0 ± 0.5 | 38.0 nom. | 5.1 ± 0.3 | 2.5 ± 0.5 | 0.5 nom. | Straight |
| SL0510001A | | | | | | | | Inside kinked |
| SL0510002 | 2.5 max. | 1.9 ± 0.7 | 5.0 ± 0.5 | 38.0 nom. | 5.1 ± 0.3 | 2.5 ± 0.5 | 0.5 nom. | Straight |
| SL0510002A | | | | | | | | Inside kinked |
| SL0530001 | 4.5 nom. | 1.8 nom. | 6.0 max. | 38.0 nom. | 5.1 ± 0.3 | 2.7 max. | 0.5 nom. | Straight |
| SL0530001A | | | | | | | | Inside kinked |
| SL0560001 | 2.5 max. | 2.22 ± 0.5 | 5.5 ± 0.5 | 38.0 nom. | 5.1 ± 0.3 | 2.8 nom. | 0.5 nom. | Straight |
| SL0560001A | | | | | | | | Inside kinked |
| SL0512101 | 2.5 max. | 2.22 ± 0.5 | 5.0 ± 0.5 | 38.0 nom. | 5.1 ± 0.3 | 2.7 ± 0.4 | 0.5 nom. | Straight |
| SL0512101A | | | | | | | | Inside kinked |



For technical questions, contact: ametherm@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

# Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

*© 2026 VISHAY INTERTECHNOLOGY, INC. ALL RIGHTS RESERVED*



THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000