

## Inrush Current Limiters

B57237

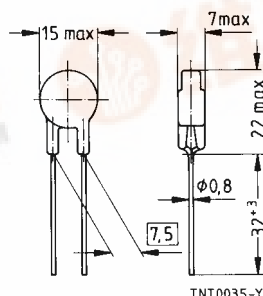
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### Applications

- Switch-mode power supplies
- Soft-start motors, e.g. in vacuum cleaners

### Features

- Useable in series connections up to 265 V<sub>rms</sub>
- Coated thermistor disk
- Kinked leads of tinned copper wire
- Wide resistance range
- UL approval (E69802)



### Options

Resistance tolerance < 20 % available on request

Dimensions in mm

Approx. weight 2 g

### Delivery mode

Bulk (standard), cardboard tape, reeled or in Ammo pack

|                                        |                    |              |      |
|----------------------------------------|--------------------|--------------|------|
| Climatic category (IEC 60068-1)        |                    | 55/170/56    |      |
| Max. power at 25 °C                    | $P_{\max}$         | 3,1          | W    |
| Resistance tolerance                   | $\Delta R_N / R_N$ | ± 20 %       |      |
| Rated temperature                      | $T_N$              | 25           | °C   |
| B value tolerance                      | $\Delta B / B$     | ± 3 %        |      |
| Dissipation factor (in air)            | $\delta_{th}$      | approx. 17   | mW/K |
| Thermal cooling time constant (in air) | $\tau_c$           | approx. 90   | s    |
| Heat capacity                          | $C_{th}$           | approx. 1530 | mJ/K |

| $R_{25}$ | $I_{\max}$<br>(25 °C) | No. of<br>R/T char-<br>acteristic | $B_{25/100}$ | $C_T^{(1)}$<br>230 V | $C_T^{(1)}$<br>110 V | Parameters for<br>$R(I)^{(1)}$ |        | Ordering code   |
|----------|-----------------------|-----------------------------------|--------------|----------------------|----------------------|--------------------------------|--------|-----------------|
| $\Omega$ | A                     |                                   | K            | $\mu F$              | $\mu F$              | k                              | n      |                 |
| 1,0      | 9,0                   | 1201                              | 2700         | 700                  | 2800                 | 0,622                          | – 1,27 | B57237S0109M000 |
| 2,2      | 7,0                   | 1202                              | 2800         | 700                  | 2800                 | 0,806                          | – 1,30 | B57237S0229M000 |
| 2,5      | 6,5                   | 1202                              | 2800         | 700                  | 2800                 | 0,843                          | – 1,30 | B57237S0259M000 |
| 4,7      | 5,1                   | 1203                              | 2900         | 700                  | 2800                 | 1,03                           | – 1,32 | B57237S0479M000 |
| 5,0      | 5,0                   | 1203                              | 2900         | 700                  | 2800                 | 1,05                           | – 1,32 | B57237S0509M000 |
| 7,0      | 4,2                   | 1302                              | 3060         | 700                  | 2800                 | 1,16                           | – 1,33 | B57237S0709M000 |
| 10       | 3,7                   | 1308                              | 3060         | 700                  | 2800                 | 1,29                           | – 1,34 | B57237S0100M000 |
| 15       | 3,0                   | 1302                              | 3000         | 700                  | 2800                 | 1,49                           | – 1,33 | B57237S0150M000 |
| 22       | 2,8                   | 1304                              | 3300         | 700                  | 2800                 | 1,57                           | – 1,37 | B57237S0220M000 |
| 33       | 2,5                   | 1304                              | 3300         | 900                  | 3600                 | 1,78                           | – 1,37 | B57237S0330M000 |

1) For details on the capacitance  $C_T$  as well as on the parameters  $k$  and  $n$  refer to "Application Notes", pages 40–42.



# Reliability data

| Test                               | Standard       | Test conditions                                                                                                                        | $\Delta R_{25}/R_{25}$<br>(typical) | Remarks           |
|------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------------------|
| Storage in dry heat                | IEC 60068-2-2  | Storage at upper category temperature<br>$T: 170\text{ }^{\circ}\text{C}$<br>$t: 1000\text{ h}$                                        | < 10 %                              | No visible damage |
| Storage in damp heat, steady state | IEC 60068-2-3  | Temperature of air: $40\text{ }^{\circ}\text{C}$<br>Relative humidity of air: 93 %<br>Duration: 21 days                                | < 5 %                               | No visible damage |
| Rapid temperature cycling          | IEC 60068-2-14 | Lower test temperature: $-55\text{ }^{\circ}\text{C}$<br>Upper test temperature: $170\text{ }^{\circ}\text{C}$<br>Number of cycles: 10 | < 10 %                              | No visible damage |
| Endurance                          |                | $I = I_{\max}$<br>$t: 1000\text{ h}$                                                                                                   | < 10 %                              | No visible damage |
| Cyclic endurance                   |                | $I = I_{\max}$ , 1000 cycles<br>On-time = 1 min<br>Cooling time = 6 min                                                                | < 10 %                              | No visible damage |
| Transient load                     |                | Capacitance = $C_T$<br>Number of cycles: 1000                                                                                          | < 5 %                               | No visible damage |

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**Corporate Communications, P.O. Box 80 17 09, 81617 Munich, GERMANY**

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