



# CANTHERM

Supplying high-quality bimetal and thermal sensor products.

## MF72 Power NTC Thermistor

The MF72 series Power NTC Thermistors provide inrush current suppression for sensitive electronics. Connecting a MF72 in series with the power source will limit the current surges typically created at turn on. Once the circuit is energized the resistance of the MF72 will decrease rapidly to a very low value, power consumption can be ignored and there will be no effect on normal operating current. Using the MF72 Power NTC Thermistor is a most cost-effective way to curb surge current and protect sensitive electronics from damage.



### Application

Can be installed into the power circuits of:

- Power supplies and inverters
- Uninterruptible Power Supplies
- Energy saving lamps
- Electronic Ballasts
- Filament Protection of various types of lamps
- Some types of heaters
- For higher power circuits ask about the MF73 and MF74 series surge suppressors.

### Characteristics

- Small Size and fast response
- High Power handling capability
- Fast response to surge current
- High material constant (B value)
- Low residual resistance
- Wide operating temperature range -55 to +200C
- R25 allowable tolerance is  $\pm 20\%$
- Long-term Stability and Reliability
- UL 1434 File# E241319
- CQC File# 04001010556



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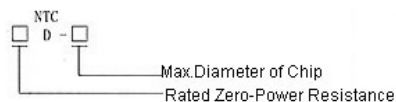


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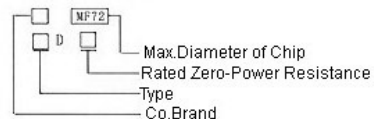
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## Specification

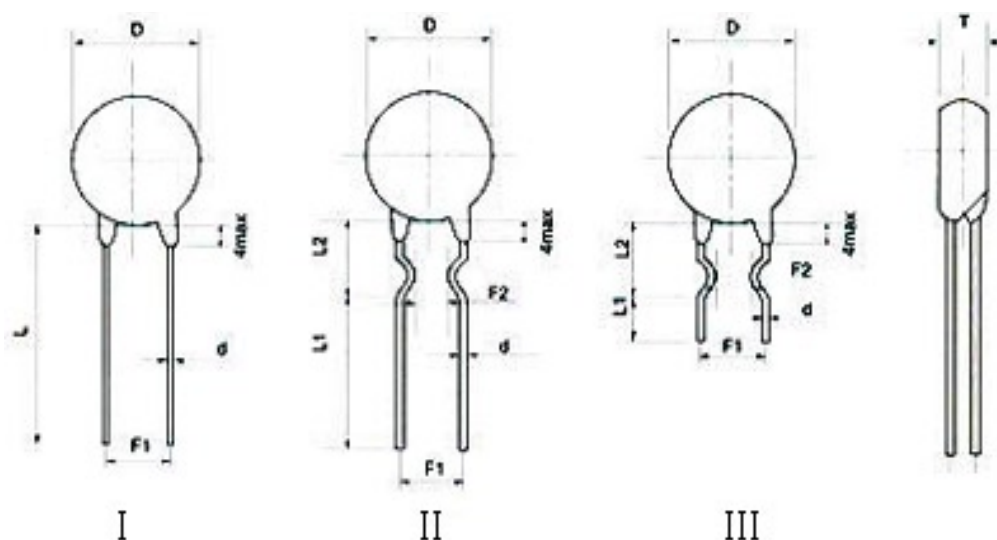
### Non-Branded Marking



### Branded Marking



## Dimensions (mm)



| Part No./Dim (mm)/Sym | D<br>+2<br>-1                                                                                                                   | Tmax | +/-<br>0.05 | F1<br>+/-1 | F2<br>+/- 1.5 | Straight Lead Wire | Curved Lead Wire |        |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------|------|-------------|------------|---------------|--------------------|------------------|--------|
|                       |                                                                                                                                 |      |             |            |               | Lmin               | b<br>L1min       | L2+/-2 |
| MF72-□ D5             | 6.5                                                                                                                             | 5    | 0.6/0.45    | 5/2.5      | 3             | 25                 | 17/5             | 8      |
| MF72-□ D7             | 8.5                                                                                                                             | 5    | 0.6         | 5          | 3             | 25                 | 17/5             | 8      |
| MF72-□ D9             | 10.5                                                                                                                            | 5.5  | 0.8/0.6     | 7.5/5      | 5/3           | 25                 | 17/5             | 8      |
| MF72-□ D11            | 12.5                                                                                                                            | 5.5  | 0.8/0.6     | 7.5/5      | 5/3           | 25                 | 17/5             | 8      |
| MF72-□ D13            | 14.5                                                                                                                            | 6    | 0.8         | 7.5        | 5             | 25                 | 17/5             | 8      |
| MF72-□ D15            | 16.5                                                                                                                            | 6    | 0.8         | 10/7.5     | 5             | 25                 | 17/5             | 8      |
| MF72-□ D20            | 21.5                                                                                                                            | 7    | 1.0         | 10/7.5     | /             | 25                 | /                | /      |
| MF72-□ D25            | 26.5                                                                                                                            | 8    | 1.0         | 10         | /             | 25                 | /                | /      |
| Remark                | a, rated zero-power resistance<br>b, 17/5 17 indicates the long bent lead wire, 5 indicates the short bent lead wire (Fig. III) |      |             |            |               |                    |                  |        |

Illustration: In general, the long bent lead wire is used, see figure II



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## Main Techno-Parameter

| Part NO.   | R <sub>25</sub><br>(Ω) | Max.<br>Steady State<br>Current<br>(A) | Approx.R of<br>Max.Cur<br>(Ω) | Dissi,Coef.<br>(mW/°C) | Thermal<br>time<br>Constant<br>(S) | UL<br>Recognized | Operating<br>Temp.<br>(°C) |
|------------|------------------------|----------------------------------------|-------------------------------|------------------------|------------------------------------|------------------|----------------------------|
| MF72-5D5   | 5                      | 1                                      | 0.353                         | 6                      | 20                                 |                  | -55 to +200                |
| MF72-10D5  | 10                     | 0.7                                    | 0.771                         | 6                      | 20                                 |                  |                            |
| MF72-60D5  | 60                     | 0.5                                    | 1.878                         | 6                      | 18                                 |                  |                            |
| MF72-200D5 | 200                    | 0.1                                    | 6.259                         | 6                      | 18                                 |                  |                            |
| MF72-5D7   | 5                      | 2                                      | 0.283                         | 10                     | 30                                 |                  |                            |
| MF72-8D7   | 8                      | 1                                      | 0.539                         | 9                      | 28                                 |                  |                            |
| MF72-10D7  | 10                     | 1                                      | 0.616                         | 9                      | 27                                 |                  |                            |
| MF72-12D7  | 12                     | 1                                      | 0.816                         | 9                      | 27                                 |                  |                            |
| MF72-16D7  | 16                     | 0.7                                    | 1.003                         | 9                      | 27                                 |                  |                            |
| MF72-22D7  | 22                     | 0.6                                    | 1.108                         | 9                      | 27                                 |                  |                            |
| MF72-33D7  | 33                     | 0.5                                    | 1.485                         | 10                     | 28                                 |                  |                            |
| MF72-200D7 | 200                    | 0.2                                    | 6.233                         | 11                     | 28                                 |                  |                            |
| MF72-3D9   | 3                      | 4                                      | 0.120                         | 11                     | 35                                 | ✓                |                            |
| MF72-4D9   | 4                      | 3                                      | 0.190                         | 11                     | 35                                 | ✓                |                            |
| MF72-5D9   | 5                      | 3                                      | 0.210                         | 11                     | 34                                 | ✓                |                            |
| MF72-6D9   | 6                      | 2                                      | 0.315                         | 11                     | 34                                 | ✓                |                            |
| MF72-8D9   | 8                      | 2                                      | 0.400                         | 11                     | 32                                 | ✓                |                            |
| MF72-10D9  | 10                     | 2                                      | 0.458                         | 11                     | 32                                 | ✓                |                            |
| MF72-12D9  | 12                     | 1                                      | 0.652                         | 11                     | 32                                 | ✓                |                            |
| MF72-16D9  | 16                     | 1                                      | 0.802                         | 11                     | 31                                 | ✓                |                            |
| MF72-20D9  | 20                     | 1                                      | 0.864                         | 11                     | 30                                 | ✓                |                            |
| MF72-22D9  | 22                     | 1                                      | 0.950                         | 11                     | 30                                 | ✓                |                            |
| MF72-30D9  | 30                     | 1                                      | 1.022                         | 11                     | 30                                 | ✓                |                            |
| MF72-33D9  | 33                     | 1                                      | 1.124                         | 11                     | 30                                 | ✓                |                            |
| MF72-50D9  | 50                     | 1                                      | 1.252                         | 11                     | 30                                 | ✓                |                            |



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|-------------|------------------------|----------------------------------------|---------------------------------|-------------------------|------------------------------------|------------------|----------------------------|
| MF72-60D9   | 60                     | 0.8                                    | 1.502                           | 11                      | 30                                 | ✓                | -55 to +200                |
| MF72-80D9   | 80                     | 0.8                                    | 2.010                           | 11                      | 30                                 | ✓                |                            |
| MF72-120D9  | 120                    | 0.8                                    | 3.015                           | 11                      | 30                                 | ✓                |                            |
| MF72-200D9  | 200                    | 0.5                                    | 5.007                           | 11                      | 32                                 | ✓                |                            |
| MF72-400D9  | 400                    | 0.2                                    | 9.852                           | 11                      | 32                                 | ✓                |                            |
| MF72-2.5D11 | 2.5                    | 5                                      | 0.095                           | 13                      | 43                                 |                  |                            |
| MF72-3D11   | 3                      | 5                                      | 0.100                           | 13                      | 43                                 |                  |                            |
| MF72-4D11   | 4                      | 4                                      | 0.150                           | 13                      | 44                                 |                  |                            |
| MF72-5D11   | 5                      | 4                                      | 0.156                           | 13                      | 45                                 |                  |                            |
| MF72-6D11   | 6                      | 3                                      | 0.240                           | 13                      | 45                                 |                  |                            |
| MF72-8D11   | 8                      | 3                                      | 0.255                           | 14                      | 47                                 |                  |                            |
| MF72-10D11  | 10                     | 3                                      | 0.275                           | 14                      | 47                                 |                  |                            |
| MF72-12D11  | 12                     | 2                                      | 0.462                           | 14                      | 48                                 |                  |                            |
| MF72-16D11  | 16                     | 2                                      | 0.470                           | 14                      | 50                                 |                  |                            |
| MF72-20D11  | 20                     | 2                                      | 0.512                           | 15                      | 52                                 |                  |                            |
| MF72-22D11  | 22                     | 2                                      | 0.563                           | 15                      | 52                                 |                  |                            |
| MF72-30D11  | 30                     | 1.5                                    | 0.667                           | 15                      | 52                                 |                  |                            |
| MF72-33D11  | 33                     | 1.5                                    | 0.734                           | 15                      | 52                                 |                  |                            |
| MF72-50D11  | 50                     | 1.5                                    | 1.021                           | 15                      | 52                                 |                  |                            |
| MF72-60D11  | 60                     | 1.5                                    | 1.215                           | 15                      | 52                                 |                  |                            |
| MF72-80D11  | 80                     | 1.2                                    | 1.656                           | 15                      | 52                                 | ✓                |                            |
| MF72-1.3D13 | 1.3                    | 7                                      | 0.062                           | 13                      | 60                                 | ✓                |                            |
| MF72-1.5D13 | 1.5                    | 7                                      | 0.073                           | 13                      | 60                                 | ✓                |                            |



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|-------------|------------------------|----------------------------------------|---------------------------------|-------------------------|------------------------------------|------------------|----------------------------|
| MF72-3D13   | 3                      | 6                                      | 0.092                           | 14                      | 60                                 | ✓                | -55 to +200                |
| MF72-4D13   | 4                      | 5                                      | 0.120                           | 15                      | 67                                 | ✓                |                            |
| MF72-5D13   | 5                      | 5                                      | 0.125                           | 15                      | 68                                 | ✓                |                            |
| MF72-6D13   | 6                      | 4                                      | 0.170                           | 15                      | 65                                 | ✓                |                            |
| MF72-7D13   | 7                      | 4                                      | 0.188                           | 15                      | 65                                 | ✓                |                            |
| MF72-8D13   | 8                      | 4                                      | 0.194                           | 15                      | 60                                 | ✓                |                            |
| MF72-10D13  | 10                     | 4                                      | 0.206                           | 15                      | 65                                 | ✓                |                            |
| MF72-12D13  | 12                     | 3                                      | 0.316                           | 16                      | 65                                 | ✓                |                            |
| MF72-15D13  | 15                     | 3                                      | 0.335                           | 16                      | 60                                 | ✓                |                            |
| MF72-16D13  | 16                     | 3                                      | 0.338                           | 16                      | 60                                 | ✓                |                            |
| MF72-20D13  | 20                     | 3                                      | 0.372                           | 16                      | 65                                 | ✓                |                            |
| MF72-30D13  | 30                     | 2.5                                    | 0.517                           | 16                      | 65                                 | ✓                |                            |
| MF72-47D13  | 47                     | 2                                      | 0.810                           | 17                      | 65                                 | ✓                |                            |
| MF72-120D13 | 120                    | 1.5                                    | 2.124                           | 16                      | 65                                 | ✓                |                            |
| MF72-1.3D15 | 1.3                    | 8                                      | 0.048                           | 18                      | 68                                 | ✓                |                            |
| MF72-1.5D15 | 1.5                    | 8                                      | 0.052                           | 19                      | 69                                 | ✓                |                            |
| MF72-3D15   | 3                      | 7                                      | 0.075                           | 18                      | 76                                 |                  |                            |
| MF72-5D15   | 5                      | 6                                      | 0.112                           | 20                      | 76                                 |                  |                            |
| MF72-6D15   | 6                      | 5                                      | 0.155                           | 20                      | 80                                 |                  |                            |
| MF72-7D15   | 7                      | 5                                      | 0.173                           | 20                      | 80                                 |                  |                            |
| MF72-8D15   | 9                      | 5                                      | 0.178                           | 20                      | 80                                 |                  |                            |
| MF72-10D15  | 10                     | 5                                      | 0.180                           | 20                      | 75                                 |                  |                            |
| MF72-12D15  | 12                     | 4                                      | 0.250                           | 20                      | 75                                 |                  |                            |
| MF72-15D15  | 15                     | 4                                      | 0.268                           | 21                      | 85                                 |                  |                            |
| MF72-16D15  | 16                     | 4                                      | 0.276                           | 21                      | 70                                 |                  |                            |



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|-------------|------------------------|----------------------------------------|---------------------------------|-------------------------|------------------------------------|------------------|----------------------------|
| MF72-30D15  | 30                     | 3.5                                    | 0.438                           | 18                      | 75                                 |                  | -55 to +200                |
| MF72-47D15  | 47                     | 3                                      | 0.680                           | 21                      | 86                                 |                  |                            |
| MF72-120D15 | 120                    | 2.5                                    | 1.652                           | 22                      | 87                                 | ✓                |                            |
| MF72-0.7D20 | 0.7                    | 12                                     | 0.018                           | 25                      | 89                                 | ✓                |                            |
| MF72-1.3D20 | 1.3                    | 9                                      | 0.037                           | 24                      | 88                                 |                  |                            |
| MF72-3D20   | 3                      | 8                                      | 0.055                           | 24                      | 88                                 |                  |                            |
| MF72-5D20   | 5                      | 7                                      | 0.087                           | 23                      | 87                                 |                  |                            |
| MF72-6D20   | 6                      | 6                                      | 0.113                           | 25                      | 103                                |                  |                            |
| MF72-8D20   | 8                      | 6                                      | 0.142                           | 25                      | 105                                |                  |                            |
| MF72-10D20  | 10                     | 6                                      | 0.162                           | 24                      | 102                                |                  |                            |
| MF72-12D20  | 12                     | 5                                      | 0.195                           | 24                      | 100                                |                  |                            |
| MF72-16D20  | 16                     | 5                                      | 0.212                           | 25                      | 100                                | ✓                |                            |
| MF72-0.7D25 | 0.7                    | 13                                     | 0.014                           | 30                      | 120                                |                  |                            |
| MF72-1.5D25 | 1.5                    | 10                                     | 0.027                           | 30                      | 121                                |                  |                            |
| MF72-3D25   | 3                      | 9                                      | 0.044                           | 32                      | 124                                |                  |                            |
| MF72-5D25   | 5                      | 8                                      | 0.070                           | 32                      | 125                                |                  |                            |
| MF72-8D25   | 8                      | 7                                      | 0.114                           | 33                      | 125                                |                  |                            |
| MF72-10D25  | 10                     | 7                                      | 0.130                           | 32                      | 127                                |                  |                            |
| MF72-12D25  | 12                     | 6                                      | 0.156                           | 32                      | 126                                |                  |                            |
| MF72-16D25  | 16                     | 6                                      | 0.160                           | 35                      | 126                                |                  |                            |

Note: Unless otherwise specified, the allowable tolerance of R<sub>25</sub> is +/- 20%



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