



# PTC THERMISTORS: TYPE YP

## WIRED DISC

### DESCRIPTION:

A range of radially-wired PTC disc thermistors with black silicone resin coating.

### FEATURES:

- Designed for general purpose over-current, over-voltage and direct over-temperature protection
- Wide range of operating current & voltage levels
- Approved to CECC 44 001 - 002 (certificate E1254/F)
- Excellent stability
- Fail-safe operation
- Solid state
- High performance barium titanate ceramic
- Suitable for automatic PCB insertion

### OPTIONS:

- Non-standard resistances and tolerances
- Resistance matching
- Non-standard wire lengths
- Other wire configurations

### PACKAGING:

All types in the YP range are available loose-packed, as shown in the drawing. Devices are also available on bandolier (tape & reel): types with diameter  $a < 13.5\text{mm}$  comply with IEC 286-2.

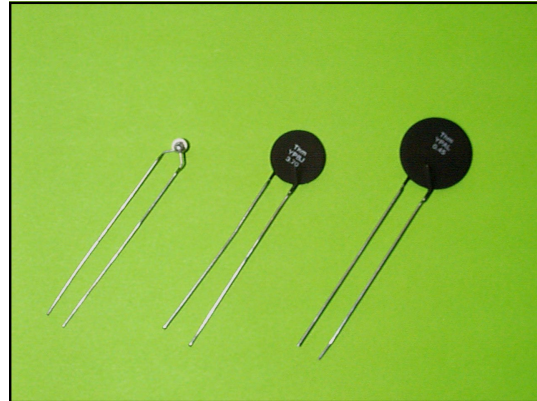
To identify the packaging required, replace X in the product codes shown overleaf as follows:

Bandoliered ..... T  
Loose-packed ..... N

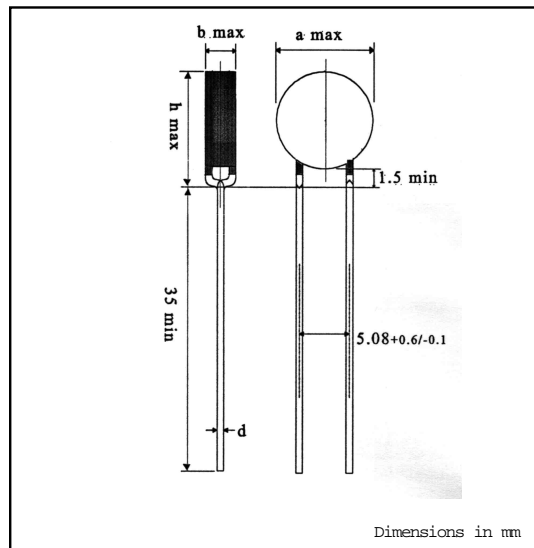
Devices are also available with dimension  $H_0$  (as specified in IEC 286-2) of 18mm instead of the standard 16mm. These parts can be ordered by adding the suffix 18 to the code e.g. YPAL0.80T18.

Pack quantities:

Loose packed ..... 500/box  
Bandoliered  
a  $< 13.5\text{mm}$  ..... 1000/reel (0.5" pitch)  
a  $\geq 13.5\text{mm}$  ..... 500/reel (1" pitch)



### DIMENSIONS:



### DATA:

Tolerance on  $R_{25}$  .....  $\pm 25\%$   
Ambient temperature range:  
at maximum voltage ..... 0 to  $+60^\circ\text{C}$   
at zero voltage .....  $-25$  to  $+125^\circ\text{C}$   
Lead wire material ..... Solder-coated brass  
Body coating ..... Silicone resin  
(except types YPEL3500X & YPEL6250X)

Data sheet D-YP-2

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| Group  | Code      | R <sub>25</sub><br>Ω | I <sub>nt</sub><br>A | I <sub>t</sub><br>A | I <sub>mo</sub><br>A | I <sub>r</sub><br>mA | a<br>mm | b<br>mm | l<br>mm | d<br>mm | Brand code    | CECC approval |
|--|-----------|----------------------|----------------------|---------------------|----------------------|----------------------|---------|---------|---------|---------|---------------|---------------|
| V <sub>max</sub> = 30Vdc<br>T <sub>b</sub> =120 C  | YPAL0.45X | 0.45                 | 1.3                  | 2.6                 | 8                    | 115                  | 17.5    | 3.5     | 21      | 0.6     | ThM YPAL 0.45 |               |
|  | YPAL0.80X | 0.8                  | 0.85                 | 1.7                 | 5.5                  | 80                   | 13.5    | 3.5     | 17      | 0.6     | ThM YPAL 0.80 |               |
|  | YPAL1.20X | 1.2                  | 0.6                  | 1.2                 | 4.3                  | 70                   | 11      | 3.5     | 14.5    | 0.6     | ThM YPAL 1.20 |               |
|  | YPAL1.80X | 1.8                  | 0.45                 | 0.9                 | 3                    | 60                   | 9       | 3.5     | 12.5    | 0.6     | ThM YPAL 1.80 |               |
|  | YPAL4.60X | 4.6                  | 0.25                 | 0.5                 | 1                    | 45                   | 6.5     | 3.5     | 10      | 0.6     | K             |               |
|  | YPAL0013X | 13                   | 0.12                 | 0.24                | 0.7                  | 25                   | 4       | 3.5     | 7.5     | 0.5     | L             |               |
| V <sub>max</sub> = 80Vdc<br>T <sub>b</sub> =80 C   | YPBJ2.30X | 2.3                  | 0.245                | 0.5                 | 8                    | 40                   | 17.5    | 3.5     | 21      | 0.6     | ThM YPBJ 2.30 |               |
|  | YPBJ3.70X | 3.7                  | 0.17                 | 0.35                | 5.5                  | 30                   | 13.5    | 3.5     | 17      | 0.6     | ThM YPBJ 3.70 |               |
|  | YPBJ5.60X | 5.6                  | 0.13                 | 0.265               | 4.3                  | 25                   | 11      | 3.5     | 14.5    | 0.6     | ThM YPBJ 5.60 | Yes           |
|  | YPBJ9.40X | 9.4                  | 0.09                 | 0.19                | 3                    | 20                   | 9       | 3.5     | 12.5    | 0.6     | ThM YPBJ 9.40 | Yes           |
|  | YPBJ0025X | 25                   | 0.05                 | 0.11                | 1                    | 16                   | 6.5     | 3.5     | 10      | 0.6     | M             | Yes           |
|  | YPBJ0055X | 55                   | 0.03                 | 0.06                | 0.7                  | 12                   | 4       | 3.5     | 7.5     | 0.5     | N             | Yes           |
| V <sub>max</sub> = 80Vdc<br>T <sub>b</sub> =120 C  | YPBL2.30X | 2.3                  | 0.45                 | 0.9                 | 8                    | 40                   | 17.5    | 3.5     | 21      | 0.6     | ThM YPBL 2.30 |               |
|  | YPBL3.70X | 3.7                  | 0.32                 | 0.64                | 5.5                  | 30                   | 13.5    | 3.5     | 17      | 0.6     | ThM YPBL 3.70 |               |
|  | YPBL5.60X | 5.6                  | 0.25                 | 0.5                 | 4.3                  | 25                   | 11      | 3.5     | 14.5    | 0.6     | ThM YPBL 5.60 | Yes           |
|  | YPBL9.40X | 9.4                  | 0.15                 | 0.3                 | 3                    | 20                   | 9       | 3.5     | 12.5    | 0.6     | ThM YPBL 9.40 | Yes           |
|  | YPBL0025X | 25                   | 0.085                | 0.17                | 1                    | 16                   | 6.5     | 3.5     | 10      | 0.6     | O             | Yes           |
|  | YPBL0055X | 55                   | 0.05                 | 0.1                 | 0.7                  | 12                   | 4       | 3.5     | 7.5     | 0.5     | P             | Yes           |
| V <sub>max</sub> =265Vrms<br>T <sub>b</sub> =80 C  | YPCJ0006X | 6                    | 0.17                 | 0.35                | 4.1                  | 10                   | 17.5    | 5       | 21      | 0.6     | ThM YPCJ 0006 |               |
|  | YPCJ0010X | 10                   | 0.11                 | 0.23                | 2.2                  | 8                    | 13.5    | 5       | 17      | 0.6     | ThM YPCJ 0010 |               |
|  | YPCJ0015X | 15                   | 0.09                 | 0.18                | 1.5                  | 6                    | 11      | 5       | 14.5    | 0.6     | ThM YPCJ 0015 | Yes           |
|  | YPCJ0025X | 25                   | 0.06                 | 0.13                | 1                    | 5                    | 9       | 5       | 12.5    | 0.6     | ThM YPCJ 0025 | Yes           |
|  | YPCJ0070X | 70                   | 0.03                 | 0.07                | 0.4                  | 4                    | 6.5     | 5       | 10      | 0.6     | Q             | Yes           |
|  | YPCJ0150X | 150                  | 0.015                | 0.04                | 0.2                  | 3                    | 4       | 5       | 7.5     | 0.5     | R             | Yes           |
| V <sub>max</sub> =265Vrms<br>T <sub>b</sub> =120 C | YPCL0006X | 6                    | 0.33                 | 0.66                | 4.1                  | 15                   | 17.5    | 5       | 21      | 0.6     | ThM YPCL 0006 |               |
|  | YPCL0010X | 10                   | 0.2                  | 0.4                 | 2.2                  | 13                   | 13.5    | 5       | 17      | 0.6     | ThM YPCL 0010 |               |
|  | YPCL0015X | 15                   | 0.14                 | 0.28                | 1.5                  | 10                   | 11      | 5       | 14.5    | 0.6     | ThM YPCL 0015 | Yes           |
|  | YPCL0025X | 25                   | 0.1                  | 0.2                 | 1                    | 9                    | 9       | 5       | 12.5    | 0.6     | ThM YPCL0025  | Yes           |
|  | YPCL0035X | 35                   | 0.08                 | 0.16                | 1                    | 9                    | 9       | 5       | 12.5    | 0.6     | ThM YPCL 0035 | Yes           |
|  | YPCL0045X | 45                   | 0.07                 | 0.14                | 1                    | 9                    | 9       | 5       | 12.5    | 0.6     | ThM YPCL 0045 | Yes           |
|  | YPCL0055X | 55                   | 0.06                 | 0.125               | 1                    | 9                    | 9       | 5       | 12.5    | 0.6     | ThM YPCL 0055 | Yes           |
|  | YPCL0065X | 65                   | 0.055                | 0.11                | 1                    | 9                    | 9       | 5       | 12.5    | 0.6     | ThM YPCL 0065 | Yes           |
|  | YPCL0070X | 70                   | 0.055                | 0.11                | 0.4                  | 6                    | 6.5     | 5       | 10      | 0.6     | S             | Yes           |
|  | YPCL0120X | 120                  | 0.035                | 0.07                | 0.4                  | 5                    | 6.5     | 5       | 10      | 0.6     | Z             | Yes           |
| YPCL0150X  | 150       | 0.03                 | 0.06                 | 0.2                 | 5                    | 4                    | 5       | 7.5     | 0.5     | T       | Yes           |               |
| V <sub>max</sub> =420Vrms<br>T <sub>b</sub> =120 C | YDDL0600X | 600                  | 0.021                | 0.039               | 0.2                  | 3                    | 6.5     | 5       | 10      | 0.6     | U             | Yes           |
| V <sub>max</sub> =550Vrms<br>T <sub>b</sub> =120 C | YPEK1200X | 1200                 | 0.015                | 0.03                | 0.1                  | 3                    | 6.5     | 5       | 10      | 0.6     | V             | Yes           |
|  | YPEK1500X | 1500                 | 0.012                | 0.024               | 0.1                  | 2                    | 6.5     | 5       | 10      | 0.6     | W             | Yes           |
|  | YPEL3500X | 3500                 | 0.008                | 0.018               | 0.25                 | 2.5                  | 4       | 4       | 7.5     | 0.5     | X             | Yes           |
|  | YPEL6250X | 6250                 | 0.006                | 0.014               | 0.15                 | 1.5                  | 4       | 4       | 7.5     | 0.5     | Y             | Yes           |

|                  |   |                 |                                     |
|------------------|---|-----------------|-------------------------------------|
| V <sub>max</sub> | Maximum operating voltage                       | I <sub>t</sub>  | Minimum trip current (25 C ambient) |
| T <sub>b</sub>   | Switching temperature                           | I <sub>mo</sub> | Maximum overload current            |
| R <sub>25</sub>  | Resistance at 25 C                              | I <sub>r</sub>  | Residual current (25 C ambient)     |
| I <sub>nt</sub>  | Maximum current without tripping (25 C ambient) |                 |                                     |

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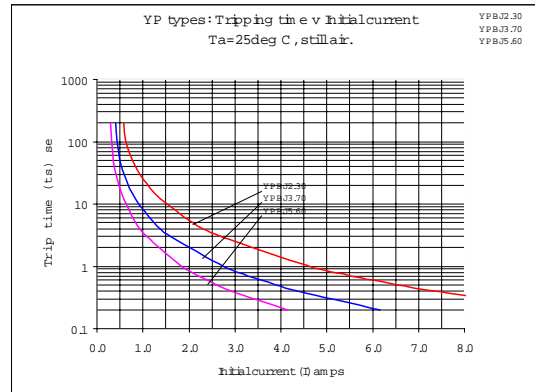
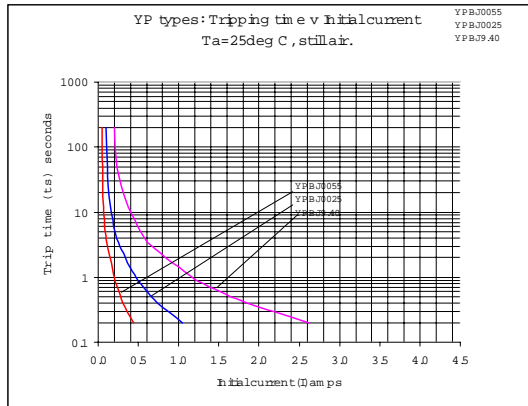
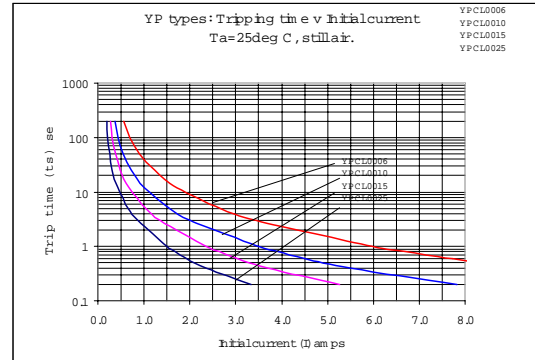
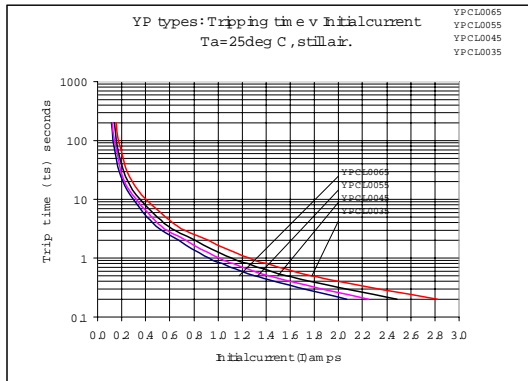
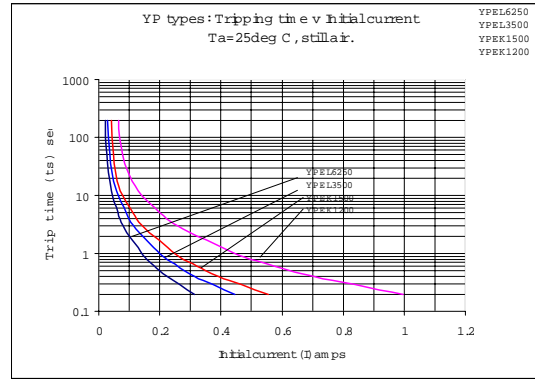
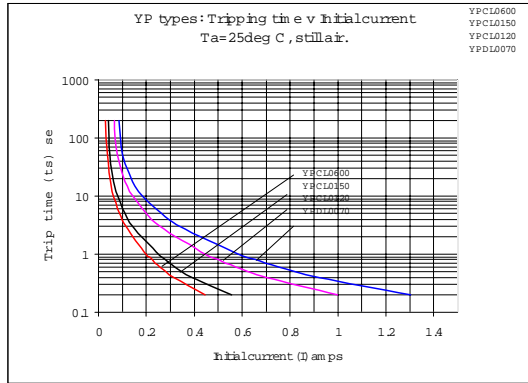
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### TRIPPING TIMES:



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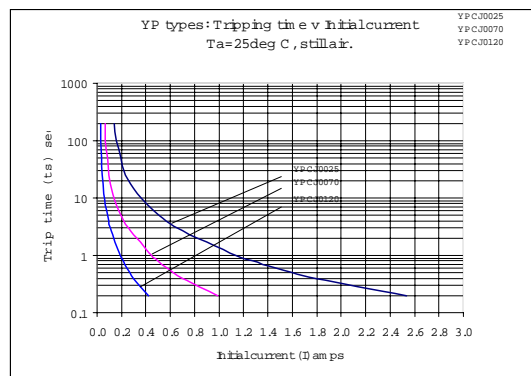
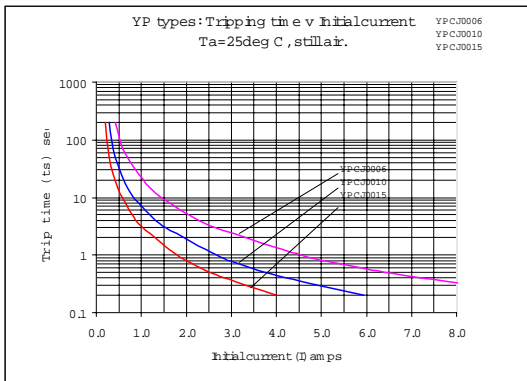
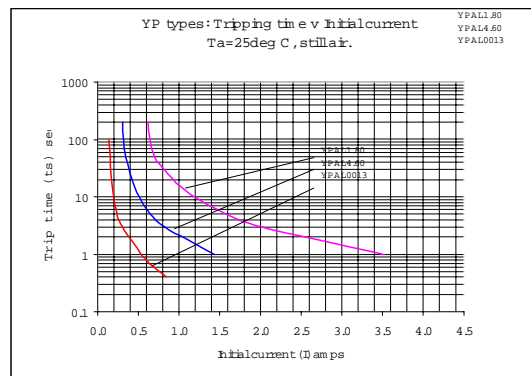
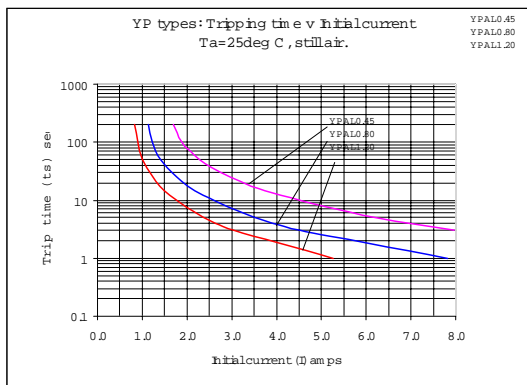
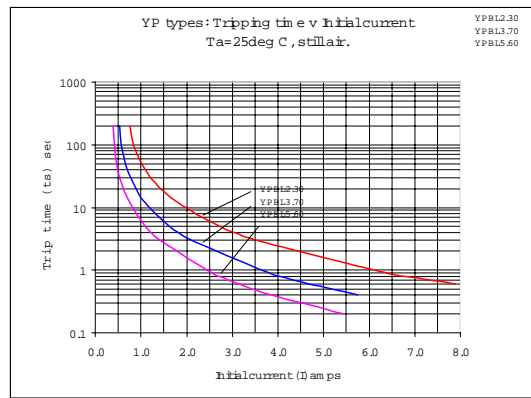
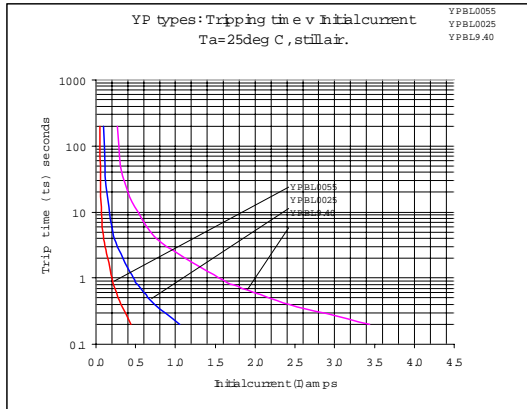
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