# THICK FILM PRECISION CHIP RESISTORS

The content of this specification may change without notification 10/04/07

## HOW TO ORDER

**CTR 10- 1001 D Y M**

**Packaging**
M = 7" Reel B = Bulk

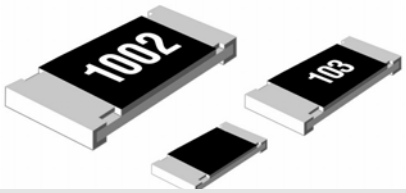
**TCR (ppm/°C)**
Y = ±50 Z = ±100

**Tolerance (%)**
B = ±0.1 D = ±0.5 F = ±1

**EIA Resistance Value**
Standard Decade Values

**Size**
05 = 0402 10 = 0805 14 = 1210
16 = 0603 18 = 1206 12 = 2010
01 = 2512

**Series**
CTR = Thick Film Precision

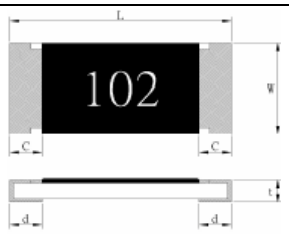



## FEATURES

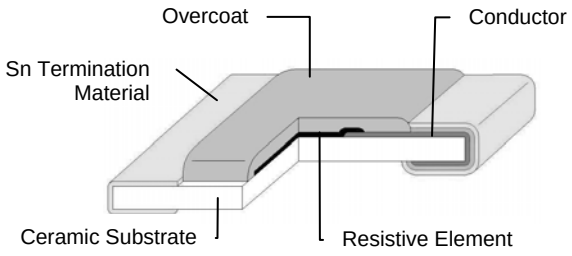
- Excellent stability over a wide range of environmental conditions
- Operating temperature -55°C ~ +125°C
- Compact, thin, and light weight
- High reliability with 3 layer electrode construction.
- Appl. Specifications: EIA 575, IEC 60115-1, JIS 5201-1, and MIL-R-55342G
- Either ISO 9001 or ISO/TS 16949:2002 Certified

## DIMENSIONS (mm)

| Size | L | W | c | d | t |
|---|---|---|---|---|---|
| 0402 | 1.00 ± 0.05 | 0.5+0.1-0.05 | 0.20 ± 0.10 | 0.25+0.05-0.10 | 0.35 ± 0.05 |
| 0603 | 1.60 ± 0.10 | 0.80 ± 0.10 | 0.20 ± 0.10 | 0.30+0.20-0.10 | 0.50 ± 0.10 |
| 0805 | 2.00 ± 0.15 | 1.25 ± 0.15 | 0.40 ± 0.25 | 0.30+0.20-0.10 | 0.50 ± 0.15 |
| 1206 | 3.20 ± 0.15 | 1.60 ± 0.15 | 0.45 ± 0.25 | 0.40+0.20-0.10 | 0.60 ± 0.15 |
| 1210 | 3.20 ± 0.20 | 2.60 ± 0.20 | 0.50 ± 0.30 | 0.40+0.20-0.10 | 0.60 ± 0.10 |
| 2010 | 5.00 ± 0.20 | 2.50 ± 0.20 | 0.50 ± 0.30 | 0.40+0.20-0.10 | 0.60 ± 0.10 |
| 2512 | 6.30 ± 0.20 | 3.10 ± 0.20 | 0.50 ± 0.30 | 0.40+0.20-0.10 | 0.60 ± 0.15 |




## CONSTRUCTION




## DERATING CURVE

For resistors operated at ambient temperature over 70°, power rating shall be derated in accordance with figure 1.

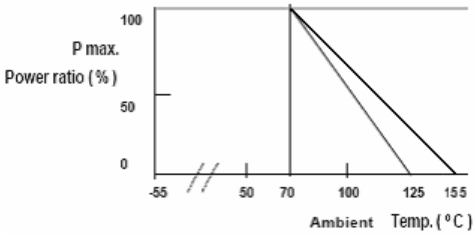



Figure 1. The rated voltage is calculated by the following formula:
E= √P * R
E=Rated Voltage(V)
P=Rated Power(W)
R=Resistance Value(Ω)

## ELECTRICAL SPECIFICATIONS for CHIP RESISTORS

| Size | Power Rating at 70° (W) | Resistance Range | ±% Tolerance | TCR (ppm/°C) | Working Voltage | Overload Voltage | Operating Temp. Range |
|---|---|---|---|---|---|---|---|
| 0402 | 1/16 W | 10.0 ~ 97.6 | 0.5, 1.0 | ±100 | 50V | 100V | -55°C ~ +125°C |
| | | 100 ~ 976 | 0.5, 1.0 | ±50 | | | |
| | | 100K ~ 1.0M | 0.5, 1.0 | ±50, ±100 | | | |
| 0603 | 1/10 W | 56.0 ~ 560K | 0.1 | ±100 | 50V | 100V | -55°C ~ +155°C |
| | | 10.0 ~ 1.0M | 0.5 | ±100 | | | |
| | | 100 ~ 1.0M | 0.5, 1.0 | ±50 | | | |
| 0805 | 1/8 W | 56.0 ~ 560K | 0.1 | ±100 | 150V | 200V | -55°C ~ +155°C |
| | | 10.0 ~ 1.0M | 0.5 | ±100 | | | |
| | | 100 ~ 1.0M | 0.5, 1.0 | ±50 | | | |
| 1206 | 1/4 W | 56.0 ~ 560K | 0.1 | ±100 | 200V | 400V | -55°C ~ +155°C |
| | | 10.0 ~ 1.0M | 0.5 | ±100 | | | |
| | | 100 ~ 1.0M | 0.5, 1.0 | ±50 | | | |
| 1210 | 1/3 W | 56.0 ~ 560K | 0.1 | ±100 | 200V | 400V | -55°C ~ +155°C |
| | | 10.0 ~ 1.0M | 0.5 | ±100 | | | |
| 2010 | 1/2 W | 56.0 ~ 560K | 0.1 | ±100 | 200V | 400V | -55°C ~ +155°C |
| | | 10.0 ~ 1.0M | 0.5 | ±100 | | | |
| 2512 | 1.0 W | 56.0 ~ 560K | 0.1 | ±100 | 200V | 400V | -55°C ~ +155°C |
| | | 10.0 ~ 1.0M | 0.5 | ±100 | | | |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