

DATA SHEET

CURRENT SENSOR-LOW TCR

PL0805 1mR

5%,1%

size 0805

RoHS Compliant & Halogen Free



YAGEO
Phycomp

Product specification



SCOPE

This specification describes PL0805 current sensor – low TCR chip resistors with lead-free terminations.

APPLICATIONS

- Power supplies
- Consumer(Mobile、PNDs、...)
- Laptop
- HDDs

FEATURES

- Products with lead free terminations meet RoHS requirements.
- High component and equipment reliability with high power rating.
- Low resistance and narrow tolerance can suitable for current detection.

ORDERING INFORMATION - GLOBAL PART

NUMBER

Part number is identified by the series name, size, tolerance, packaging type, temperature coefficient of resistance, taping reel, resistance value.

PL0805 X X X XX XXXX L
 (1) (2) (3) (4) (5) (6)

(1) TOLERANCE

F = ±1%

J = ±5%

(2) PACKAGING TYPE

R = Paper taping reel

(3) TEMPERATURE COEFFICIENT OF RESISTANCE

I=±300ppm/°C

(4) TAPING REEL

47 = 7 inch dia. Reel & Power Rating 0.5W

(5) RESISTANCE VALUE

0R001 (1mR)

(6) DEFAULT CODE

Letter L is system default code for order only ^(NOTE)

ORDERING EXAMPLE

The ordering code for a PL0805 0.5W chip resistor,TC300 value 0.001Ω(1mR) with ±1% tolerance, supplied in 7-inch tape reel with 5Kpcs quantify is: PL0805FRI470R001L.

NOTE

1. All our RSMD products meet RoHS compliant and Halogen Free. "LFP" of the internal 2D reel label mentions "Lead Free Process".
2. On customized label, "LFP" or specific symbol can be printed.



MARKING

PL0805



Fig.1 No marking

OUTLINES

For dimension see Table 1

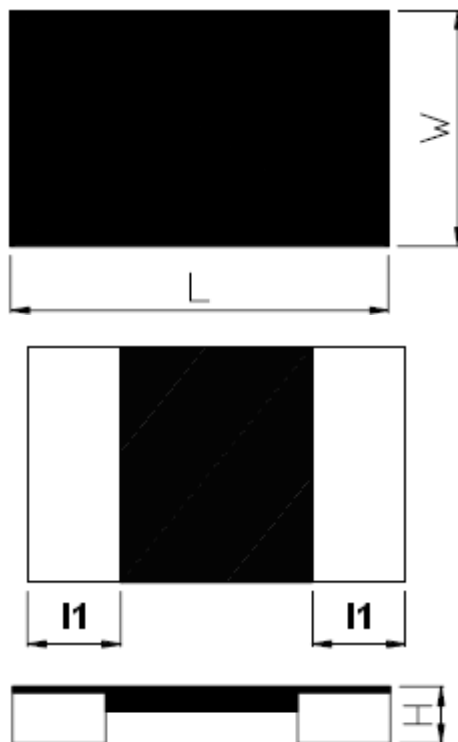


Fig.2 Chip resistor outlines

DIMENSIONS

Table 1

1mR

| | |
|---------|-----------|
| L (mm) | 2.03±0.20 |
| W (mm) | 1.27±0.20 |
| H (mm) | ≤0.4 |
| l1 (mm) | 0.6 ±0.15 |

ELECTRICAL CHARACTERISTICS

Table 2

| CHARACTERISTICS | PL0805 |
|-----------------------------|------------------|
| Operating Temperature Range | -55°C to +155°C |
| Maximum Working Voltage | $\sqrt{(P * R)}$ |
| Resistance Range | 1mΩ |
| Temperature Coefficient | ±300ppm/°C |

PACKING STYLE AND PACKAGING QUANTITY

Table 3

| PRODUCT TYPE | PACKING STYLE | REEL DIMENSION | QUANTITY PER REEL |
|--------------|-------------------|----------------|-------------------|
| PL0805 | Paper taping reel | 7" (178 mm) | 5,000 Units |

FUNCTIONAL DESCRIPTION

POWER RATING

PL0805 rated power at 70°C is 0.5W

RATED VOLTAGE

The DC or AC (rms) continuous working voltage corresponding to the rated power is determined by the following formula:

$$U = \sqrt{(P * R)}$$

Where

U=Continuous rated DC

or AC (rms) working voltage (v)

P=Rated power

R=Resistance value (Ω)

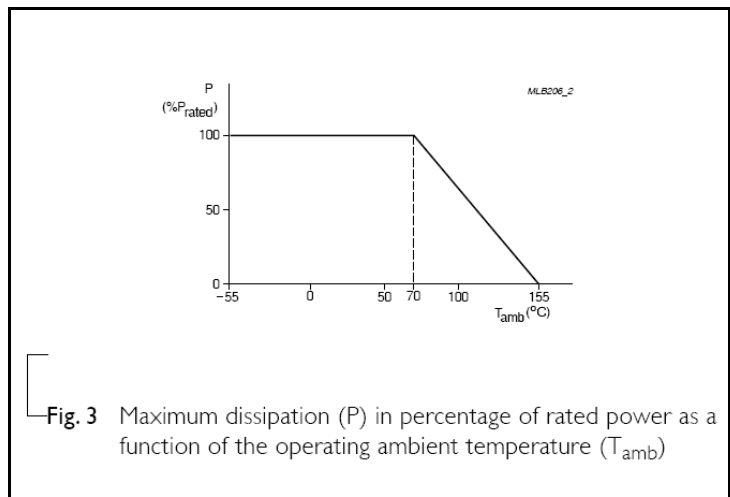
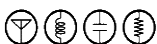


Fig. 3 Maximum dissipation (P) in percentage of rated power as a function of the operating ambient temperature (T_{amb})



TAPING REEL

Table 4

| DIMENSION | PL0805 |
|----------------|-----------|
| Tape Width(mm) | 8 |
| ØA (mm) | 178.0±1.0 |
| ØN (mm) | 60.0+1/-0 |
| ØC (mm) | 13.5±0.5 |
| ØD (mm) | 21.0±0.8 |
| W1 (mm) | 9.0±0.5 |

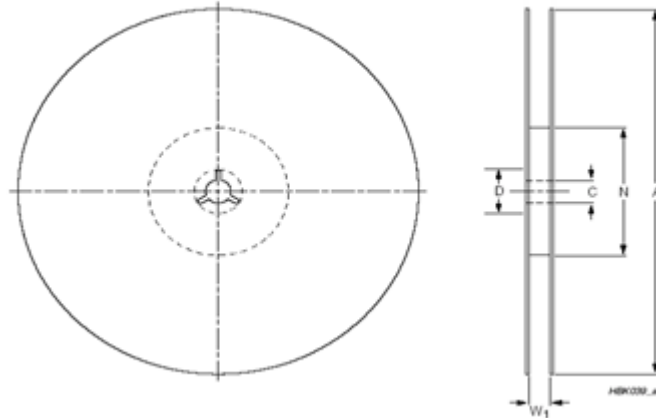


Fig.4 Reel

PAPER/PE TAPE SPECIFICATION

Table 5

| DIMENSION | PL0805 |
|---------------------|-----------|
| A ₀ (mm) | 1.60±0.15 |
| B ₀ (mm) | 2.30±0.15 |
| W (mm) | 8.00±0.30 |
| E (mm) | 1.75±0.10 |
| F (mm) | 3.50±0.10 |
| P ₀ (mm) | 4.00±0.10 |
| P ₁ (mm) | 4.00±0.10 |
| P ₂ (mm) | 2.00±0.10 |
| D ₀ (mm) | 1.50±0.10 |
| T (mm) | 0.50±0.10 |

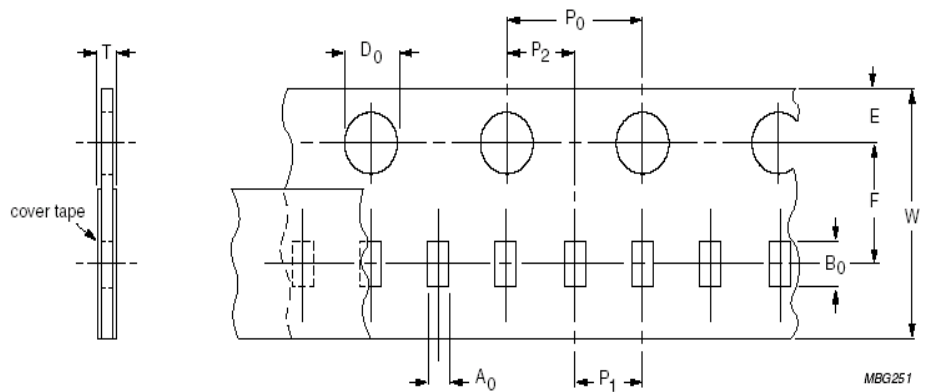


Fig.5 Paper/PE tape

FOOTPRINT DIMENSION

| Size Footprint | Dimensions | Code | unit :mm |
|----------------|--------------|------|----------|
| PL0805 | a b | | i |
| 1mΩ | 2.10 1.50 | | 0.80 |

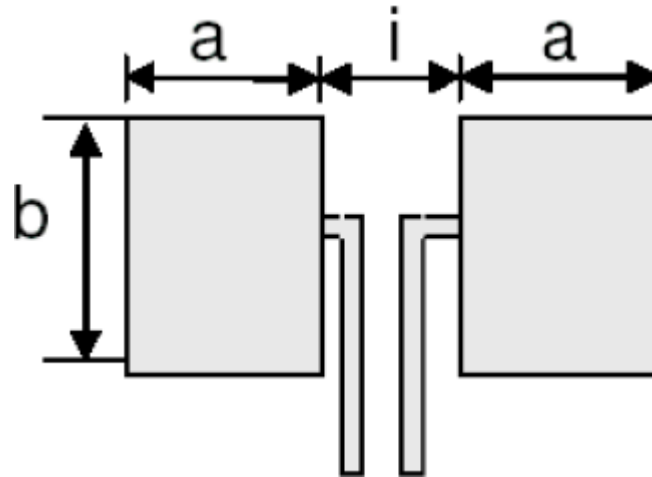


Fig.6 Recommended Footprint Dimensions

TESTS AND REQUIREMENTS

| TEST | TEST METHOD | PROCEDURE | REQUIREMENT |
|---|----------------------------|--|---|
| Life/ Endurance | IEC 60115-1 4.25.1 | 1,000 hours at 70±5 °C applied rated power 1.5 hours on, 0.5 hour off. | ± (1.0 % + 0.0005Ω) |
| High Temperature Exposure/Endurance at upper category temperature | IEC 60068-2-2 | 1,000 hours at 155±5 °C,unpowered. | ± (1.0 % + 0.0005Ω) |
| Moisture Resistance | MIL-STD-202 Method 106G | Each temperature / humidity cycle is defined at 8 hours (Method 106G), 3 cycles / 24 hours for 10d. with 25 °C / 65 °C 95% R.H, without steps 7a & 7b, un-powered Parts mounted on test-boards, without condensation on parts Measurement at 24±2 hours after test conclusion. | ± (0.5% + 0.0005Ω) |
| Thermal Shock | MIL-STD-202 Method 107G | -55/+125 °C Note: Number of cycles required is 300. Devices mounted Maximum transfer time is 20 seconds. Dwell time is 15 minutes. Air – Air | ± (1.0% + 0.0005Ω) |
| Short time overload | IEC 60115-1 4.13 | Applied 5 times of rating power 5 seconds at room temperature | ± (0.5% + 0.0005Ω) No visible damage |
| Board Flex/ Bending | IEC 60068-2-21 | Chips mounted on a glass epoxy resin PCB(FR4) 2 mm bending Bending time: 60±1 seconds | ± (1.0 % + 0.0005Ω) |
| Solderability - Wetting | J-STD-002 test B | Electrical Test not required Magnification 50X SMD conditions: 1 st step: Method B, aging 4 hours at 155 °C dry heat 2 nd step: leadfree solder bath at 245±3 °C Dipping time: 3±0.5 seconds | Well tinned (≥95% covered) No visible damage |
| -Leaching | J-STD-002 test D | Leadfree solder, 260 °C, 30 seconds immersion time | No visible damage |
| -Resistance to Soldering Heat | IEC 60068-2-58 | Specimen passed 3 times reflow temperature at 260°C, with solder. | ± (0.5% + 0.0005Ω) No visible damage |



REVISION HISTORY

| REVISION | DATE | CHANGE NOTIFICATION | DESCRIPTION |
|-----------|------------|---------------------|-------------------------------------|
| Version 0 | 2023-07-20 | | - First issue of this specification |

单击下面可查看定价，库存，交付和生命周期等信息

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