

# DATA SHEET

CURRENT SENSOR-LOW TCR

**PA0612-series**

5%, 1%

size 0612

RoHS Compliant & Halogen Free



**YAGEO**  
**Phycomp**

Product specification



**SCOPE**

This specification describes PA0612 current sensor – low TCR chip resistors made by metal alloy.

**APPLICATIONS**

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

**FEATURES**

- AEC-Q200 qualified
- 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.

PA0612 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**

E=±50ppm/°C  
 F=±100ppm/°C

**(4) TAPING REEL**

07 = 7 inch dia. Reel & Power Rating 1W

**(5) RESISTANCE VALUE**

0R001 (1mR) ~ 0R01 (10mR)

**(6) DEFAULT CODE**

Letter L is system default code for order only <sup>(NOTE)</sup>

**ORDERING EXAMPLE**

The ordering code for a PA0612 1W chip resistor, TC100 value 0.002Ω(2mR) with ±1% tolerance, supplied in 7-inch tape reel with 5Kpcs quantify is: PA0612FRF070R002L.

**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**

PA0612



Fig.1 No marking

**OUTLINES**

For dimension see Table 1

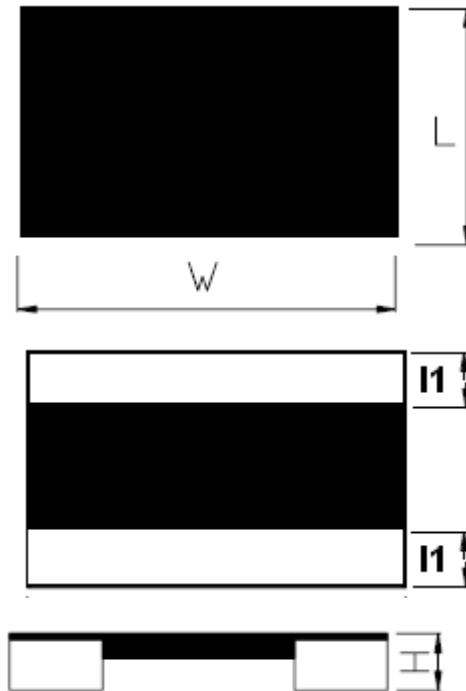
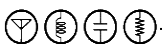


Fig.2 Chip resistor outlines

**DIMENSIONS**

Table 1	
	1mΩ~10mΩ
L (mm)	1.6±0.20
W (mm)	3.2±0.20
H (mm)	Max.0.45
I1 (mm)	0.35±0.15



**ELECTRICAL CHARACTERISTICS**

Table 2

CHARACTERISTICS	PA0612
Operating Temperature Range	-55°C to +155°C
Maximum Working Voltage	$\sqrt{(P * R)}$
Resistance Range	1~10mΩ
Temperature Coefficient	±100ppm/°C, 1≤R<5mΩ ±50ppm/, 5mΩ≤R≤10mΩ

**PACKING STYLE AND PACKAGING QUANTITY**

Table 3

PRODUCT TYPE	PACKING STYLE	REEL DIMENSION	QUANTITY PER REEL
PA0612	Paper taping reel	7" (178 mm)	5,000 Units

**FUNCTIONAL DESCRIPTION**

**POWER RATING**

PA0612 standard rated power at 70°C is 1W

**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)

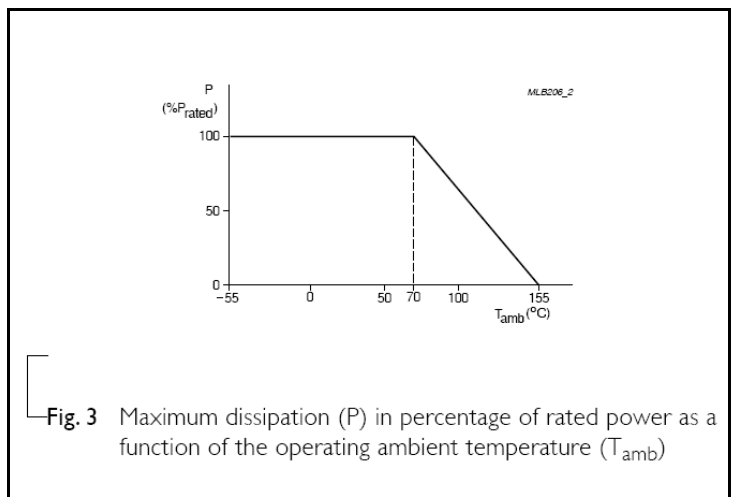


Fig. 3 Maximum dissipation (P) in percentage of rated power as a function of the operating ambient temperature (T<sub>amb</sub>)

**TAPING REEL**

Table 4

DIMENSION	PA0612
Tape Width(mm)	8
ØA (mm)	178.0±5
ØN (mm)	60.0+1/-0
ØC (mm)	13.00±0.5
ØD (mm)	17.70±0.5
W1 (mm)	8.4+1/-0

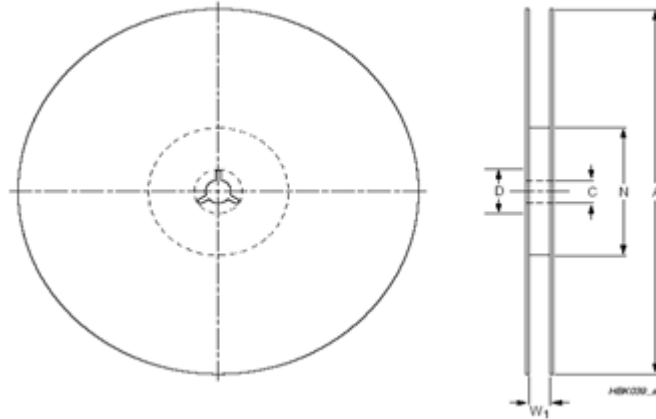


Fig.4 Reel

**PAPER/PE TAPE SPECIFICATION**

Table 5

DIMENSION	
A <sub>0</sub> (mm)	1.80±0.15
B <sub>0</sub> (mm)	3.52±0.15
W (mm)	8.00±0.30
E (mm)	1.75±0.10
F (mm)	3.50±0.10
P <sub>0</sub> (mm)	4.00±0.10
P <sub>1</sub> (mm)	4.00±0.10
P <sub>2</sub> (mm)	2.00±0.05
D <sub>0</sub> (mm)	1.50±0.1
T (mm)	0.53±0.1

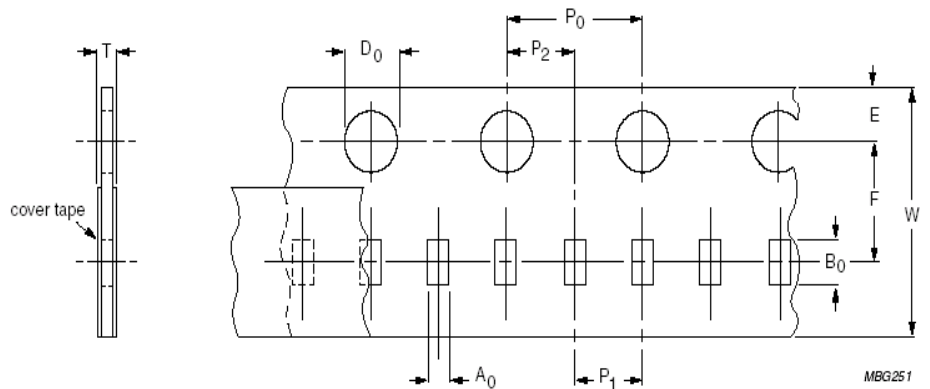
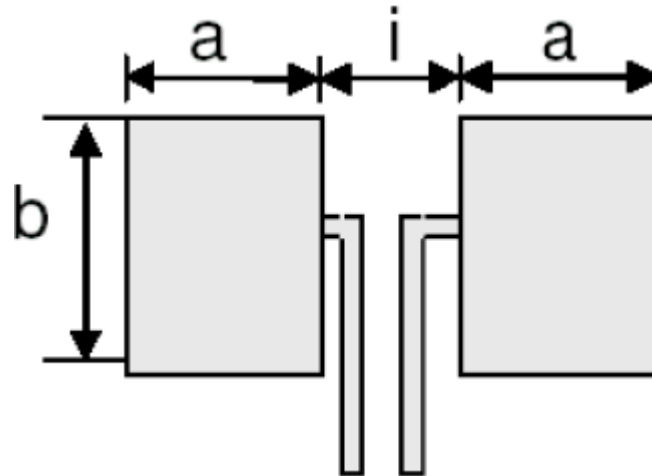


Fig.5 Paper/PE tape

**FOOTPRINT DIMENSION**

Size Footprint	Dimensions		Code	unit :mm
PA0612	a	b	i	
$1 \leq R < 10m\Omega$	2.0	3.68	0.6	



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 RCWV 1.5 hours on, 0.5 hour off, still air required	± (1.0 % + 0.0005Ω)
High Temperature Exposure/ Endurance at upper category temperature	IEC 60068-2-2	1,000 hours at 155±5 °C, un-powered	± (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 rated power 5 seconds at room temperature	± (0.5% + 0.0005Ω) No visible damage
Board Flex/ Bending	IEC 60068-2-21	Chips mounted on a 90mm 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 <sup>st</sup> step: Method B, aging 4 hours at 155 °C dry heat 2 <sup>nd</sup> 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	Condition B, no pre-heat of samples Leadfree solder, 260±5 °C, 10±1seconds immersion time Procedure 2 for SMD: devices fluxed and cleaned with isopropanol	± ( 0.5% + 0.0005Ω) No visible damage



**REVISION HISTORY**

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version 0	2022-04-22		- 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

[>>Yageo\(国巨\)](#)