



New Power Applied Materials Co., Ltd.

High Power Shunt Resistor Specification



Part Numbers

SR 4026 E F L 0L50

(1) (2) (3) (4) (5) (6)

- (1) Series Name: SR (Shunt Resistor)
- (2) Chip size: 4026(inch)
- (3) Packaging Material: Emboss
- (4) Resistance Tolerance: $\pm 1\%$ (F), $\pm 5\%$ (J)
- (5) Power rating: L=5W, J=4W
- (6) Resistance Code: Ex: 0L50 means 0.5m Ω , etc.

Electrical Specification

Item	Power Rating	Resistance Range(m Ω)	Operation Temp. Range	TCR (PPM/ $^{\circ}$ C)	Resistance Material
SR4026	5W	0.5	-55~+170 $^{\circ}$ C	± 50	MnCuSn
SR4026	4W	1.0	-55~+170 $^{\circ}$ C	± 50	MnCu

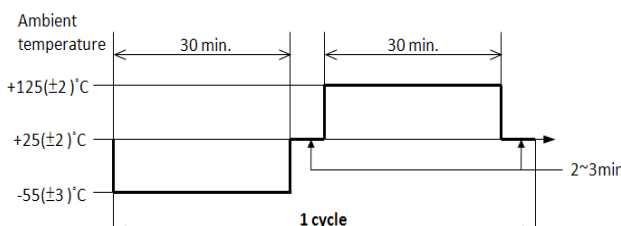
Performances

Environmental Performance

No.	Item	Test Condition	Specification
1	Short Time Overload	Loading 5 times rate power 5sec	ΔR : $\pm 1\%$
2	Temperature Coefficient of Resistance (T.C.R.)	-20 $^{\circ}$ C / +125 $^{\circ}$ C. (JIS-C5202-5.2) $TCR \text{ (ppm/^{\circ}C)} = \frac{\Delta R}{R \times \Delta t} \times 10^6$	Refer to electrical specification.
3	Moisture Resistance	The specimens shall be placed in a chamber and subjected to a relative humidity of 90~98% percent and a temperature of 25 $^{\circ}$ C / 65 $^{\circ}$ C 10 cycles (MIL-STD-202, Method 106)	ΔR : $\pm 1\%$
4	High Temperature Exposure	The ship (mounted on board) is exposed in the heat chamber 125 $^{\circ}$ C for 1000 hrs. (JIS-C5202-7.2)	ΔR : $\pm 1\%$

Performances

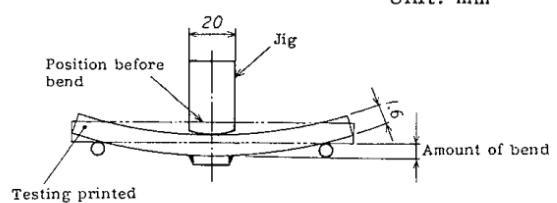
Environmental Performance

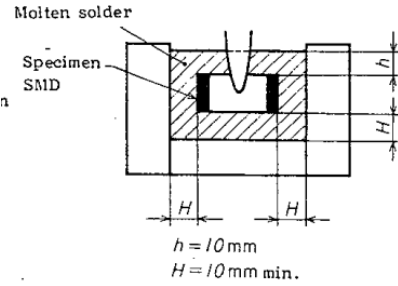
No.	Item	Test Condition	Specification
5	Load Life	Apply rated power for 1000 hours with 1.5 hours ON and 0.5 hour OFF. (JIS-C5202-7.10)	$\Delta R: \pm 1\%$
6	Rapid change of temperature	The chip (mounted on board) is exposed, $-20 \pm 3^\circ\text{C}$ (30min.)/$+125 \pm 2^\circ\text{C}$ (30min.) for 5 cycles. The following conditions as the following figure. (JIS-C5202-7.4) 	$\Delta R: \pm 1\%$

Remark:

- The terminal electron temperature of component should below 100°C .

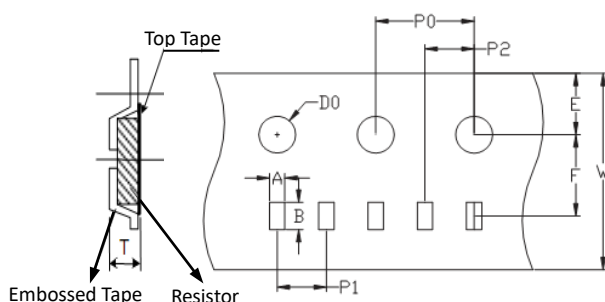
Function Performance

No.	Item	Test Condition	Specification
1	Bending Strength	Mount the chip to test 90mm(L)*40mm(W) FR4 printed circuit board substrate. Apply pressure in direction of arrow unit band width reaches 2mm(+0.2/-0mm) illustrated in the figure below and hold for 10 ± 1 sec. (JIS-C5202-6.1) Unit: mm 	$\Delta R: \pm 1\%$

2	Solderability	The specimen chip shall be immersed into the flux specified in the solder bath $235 \pm 5^{\circ}\text{C}$ for 2 ± 0.5 sec. It shall be immersed to a point 10mm from its root. (Sn96.5/Ag3.0/Cu0.5) (JIS-C5 202-6.11) 	Solder shall be covered 95% or more of the electrode area.
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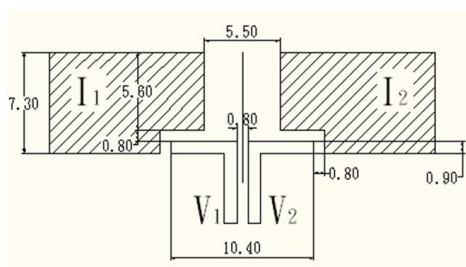
Tape Packaging Specifications

◆ Embossed Plastic Tape Specifications



Type	Carrier Dimensions (mm)									
	A	B	E	F	W	P0	P1	P2	D0	T
4026	6.9 ± 0.1	10.4 ± 0.1	1.75 ± 0.1	11.5 ± 0.1	24.0 ± 0.3	4.0 ± 0.1	12.0 ± 0.1	2.0 ± 0.1	1.5 ± 0.1	3.2 ± 0.1

Recommended Pad Layout



Packaging

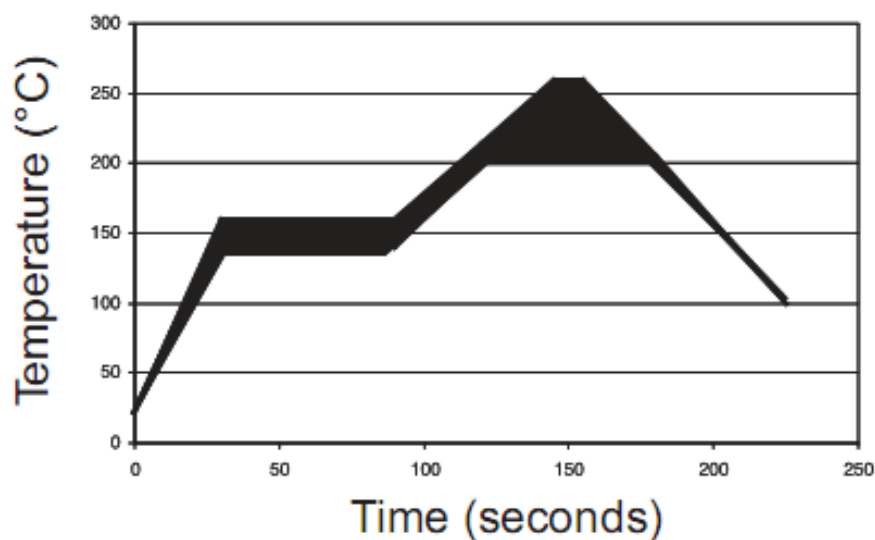
Size EIA (EIAJ)	4026
Standard Packing Quantity (pcs /Reel)	1400

Storage Conditions

Temperature : 22~28°C, Humidity : 40~75%

Soldering Recommendations

- ◆ Peak reflow temperatures and durations :
 - IR Reflow Peak = 260°C max for 10 sec
 - Not suitable for wave soldering
- ◆ Recommended IR Reflow Profile :



ECN

Engineering Change Notice : The customer will be informed with ECN if there is significant modification on the characteristics and materials described in Approval Sheet.