

WELLCOMP TECHNOLOGY CO., LTD

APPROVAL SHEET

Model Name	Metal Strip Current Sensing Resistor
Part Number	WMCSM Series
Customer Name	
Customer P/N	
Issued Date	

Customer		Maker		
Approved	Checked	Inspector	Checked	Prepared



元璽科技股份有限公司

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Metal Strip Current Sensing Resistor

Features

- ◆ Able to withstand high temperature and high current
- ◆ Ultra Low sensing resistance
- ◆ Excellent frequency response
- ◆ Chip size: 2512, 1206
- ◆ Lead free, RoHS compliant for global applications and halogen free

Application

- ◆ Mobile electronic equipment-Cellular phone, NB Tablet PC, GPS, DSC, HDD
- ◆ DC-DC converter, Adapter, Battery pack and charger
- ◆ Switching power supply
- ◆ Voltage Regulation module
- ◆ Power management applications

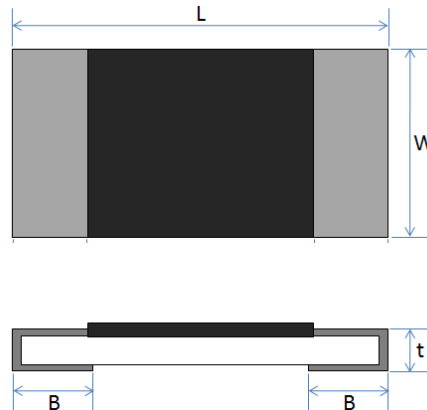
Part Numbering System

WMCSM 2512 R001 F E E x

(1) (2) (3) (4) (5) (6) (7)

- (1) Series Code
- (2) Size (EIA): Length x Width
- (3) Resistance: R0025=2.5mΩ, R001=1mΩ
- (4) Tolerance: F=+/-1%, G=+/-2%, J=+/-5%
- (5) Power Rating: S=1/2W, C=1W, D=1.5W, E=2W
- (6) Packaging: E-Embossed plastic tape, 7" reel
- (7) Factory Code

Dimension



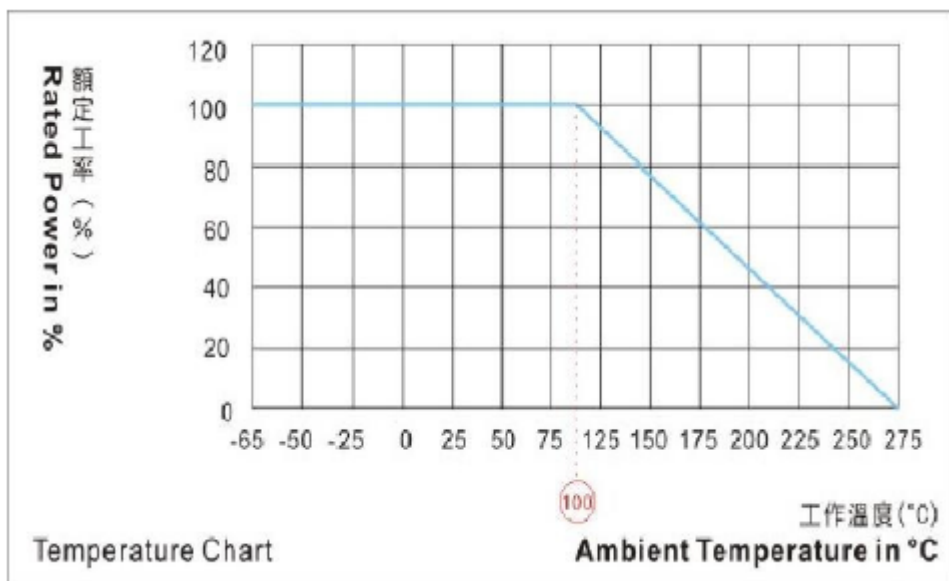
Type	Dimensions(mm)			
	L	W	t	B
1206	3.10±0.25	1.60±0.25	0.75±0.25	0.7±0.25
2512 1~4.9mR	6.30±0.25	3.30±0.25	0.85±0.25	1.9±0.25
2512 5~7.9mR				1.15±0.25
2512 8~200mR				0.8±0.25

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Electrical Specification

Item	Power Rating	Resistance Range(mΩ)	Operation Temp. Range	TCR (PPM/°C)
MCSM1206	1W	$1 \leq R \leq 50$	-65~+275°C	±50~±100
MCSM2512	2W	$1 \leq R < 5$	-65~+275°C	±50~±100
		$5 \leq R < 79$		
		$80 \leq R < 200$		

Derating Curve



Performances

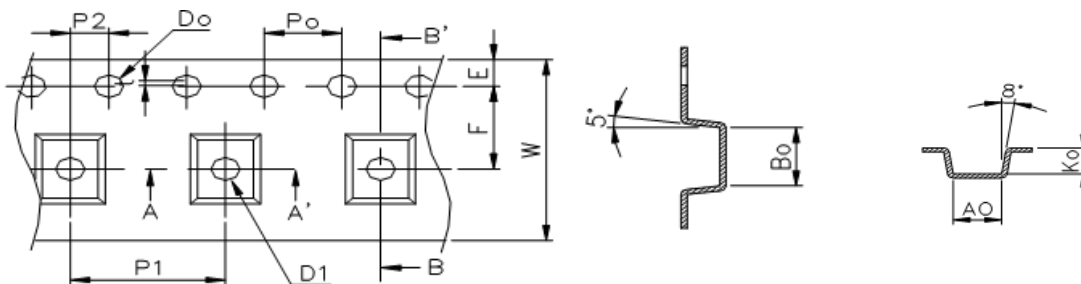
No.	Item	Test Method
1	Thermal Shock	+55°C /+125°C, 1000 cycles, 15 minutes at each extreme (JIS-C5202-5.57.4)
2	Solder ability test	Steam aging: 4hrs, cool down 30 minutes then test (JIS-C5202-6.5)
3	Low Temperature Storage	-65°C for 24 hours (JIS-C5202-7.1)
4	High Temperature Storage	1000 hours @ +275°C (JIS-C5202-7.2)

Metal Strip Current Sensing Resistor

5	Bias Humidity	-85°C, 85% RH, 10% Bias, 1000hours, 90 minutes „ON“, 30 minutes „OFF“. (JIS-C5202-7.9)
6	Mechanical Shock	100 grams for 6 milliseconds, 5 pulses(JIS-C5202-6.13)
7	Vibration	Frequency varied 55Hz in ne minute, 3 directions, 12 hours(JIS-C5202-6.7)
8	Load Life	1000 hours @ rated power, +100°C, 1.5 hours „ON“, 0.5 hours“OFF“. (JIS-C5202-7.10)
9	Resistance to Solder Heat	Solder temp./immersion time: 260±5°C, 10°±1 secs and 350±10°C, 3.5±0.5 secs. (JIS-C5202-6.4)
10	Moisture Resistance	Mil-STD-202, Method 106, 0% power, 7a and 7b not required.
11	Resistance to solvent	Immersion time: 60±5 secs, 20°C~25°C

Tape Packaging Specifications

◆Embossed Plastic Tape Specifications



Unit:mm

Type	Carrier Dimensions												
	W	P1	E	F	D0	D1	P0	P1	P2	A0	B0	K0	t
1206	8.0±0.3	4.0±0.1	1.75±0.1	3.5±0.05	1.55±0.05	1.0(min)	4.0±0.1	4.0±0.2	2.0±0.05	1.83±0.1	3.5±0.1	0.9±0.1	0.2±0.1
2512	12±0.3	8.0±0.1	1.75±.1	5.5±0.05	1.55±0.05	1.5(min)	4.0±0.1	4.0±0.2	2.0±0.05	3.9±0.1	6.74±0.1	1.08±0.1	0.24±0.1

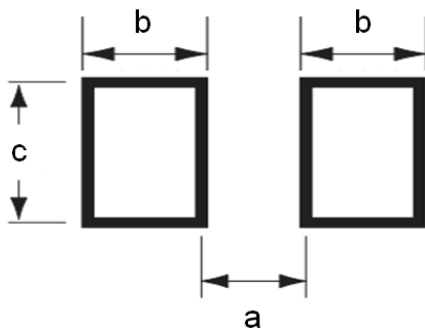
Packaging

Size EIA (EIAJ)	1206	2512
Standard Packing Quantity (pcs /reel)	4,000	2,000

Storage Conditions

Temperature : 5~35°C, Humidity : 40~75%

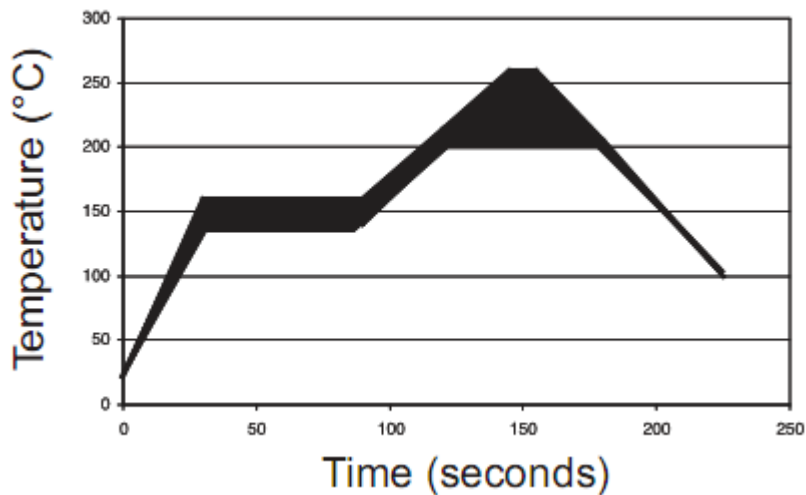
Recommended Solder Pad Layout



Type	Pad Layout Dimension (mm)		
	a	b	c
1206	0.8	1.95	1.5
2512 1~4.9mR	1.5	3.0	3.65
2512 5~7.9mR	3.14	2.2	3.65
2512 8~200mR	3.6	1.9	3.65

Soldering Recommendations

- ◆ Peak reflow temperatures and durations :
 - IR Reflow Peak = 260°C max for 10 sec
 - Wave Solder = 260°C max for 10 sec
- ◆ Compatible with lead and lead-free solder reflow processes
- ◆ 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.