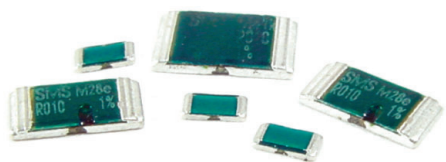


Precision Current Sensing Resistors

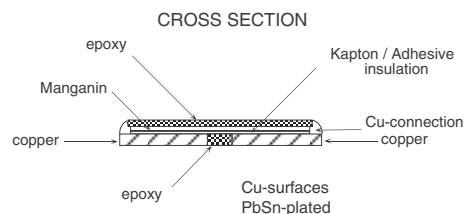
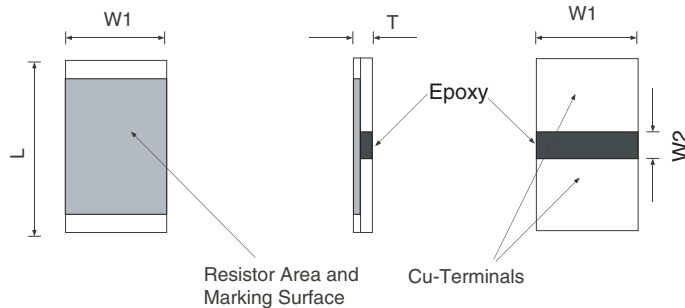
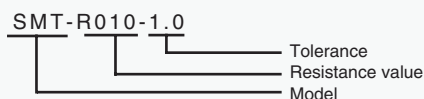
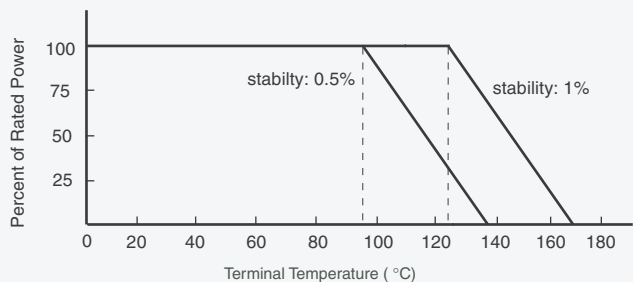


The SMK, SMP, SMS and SMT low-ohmic current sense resistors offer state-of-the-art in miniaturization and automated manufacturing process. This patented design combines excellent electrical properties with extremely small size, a high power rating and an effective, reliable mounting technology.

The use of the unique ISA-PLAN® etched-Manganin foil technology results in the SMK-T series' long-term stability and high pulse power ratings. In addition to providing high mechanical stability, the large copper terminals serve as both efficient heat conductors and extremely low-ohmic current terminals. Due to the low internal heat resistance, the temperature rise under power is very low, resulting in high stability and minimal power derating.

The TCR influence of the solid copper terminals on the overall resistance value is negligible. For precision measurements, the four terminal trace layout is recommended.

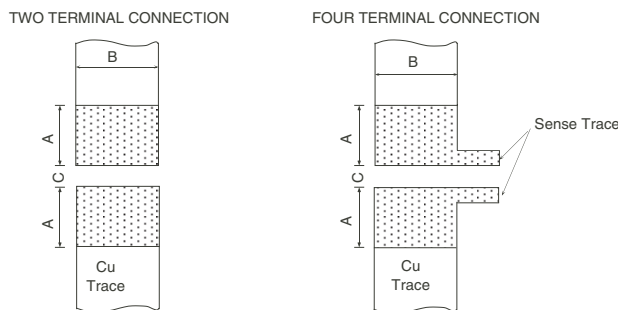
Due to the SMK-T series' very low profile, they can be mounted to either side of the pcb. The SMK-T series is compatible with all standard soldering and surface mount processes. The SMP, SMS and SMT are packaged in 12mm and the SMK in 8mm carrier tape for use in automatic pick and place equipment.



SM SERIES MECHANICAL LAYOUT

Model	EIA PACKAGE	W1	L	T	W2
SMK	1206	1.52	3.05	0.6	0.5
SMP	2010	2.54	5.08	0.7	0.8
SMS	2512	3.05	6.35	0.8	0.9
SMT	2817	4.2	7.1	0.8	0.9

SUGGESTED PCB LAYOUT



Model	REFLOW SOLDERING			WAVE SOLDERING		
	A	B	C	A	B	C
SMK	2.5	2	0.5	2.5	2.0	0.5
SMP	2.4	2.8	0.6	2.1	3.0	1.4
SMS	3.1	3.5	0.6	2.8	3.7	1.4
SMT	3.4	4.6	0.6	3.2	5.0	1.5

Dimensions in millimeters

Technical Data

Parameters	SMK	SMP	SMS	SMT
Resistance Values	0 Ω, 10 mΩ to 500mΩ	5 mΩ to 1Ω	0 Ω, 5 mΩ to 1Ω	0 Ω, 5 mΩ to 2Ω
Tolerance	1%(> 25mΩ), 5.0%	1.0%, 5.0%	1.0%, 5.0%	1.0%, 5.0%
Temperature Coefficient of Resistance (20°C to 60°C)	< 50 ppm/°C	< 50 ppm/°C	< 50 ppm/°C	< 50 ppm/°C
Power Rating (Watts)	0.5	1	2	3
Dielectric Withstanding Voltage	200 V	200 V	200 V	200 V
Inductance	< 10 nH	< 10 nH	< 10 nH	< 10 nH
Thermal Resistance to terminals	Rth < 80°C/W	Rth < 40°C/W	Rth < 25°C/W	Rth < 13°C/W
Operating Temperature Range	-55°C to +170°C	-55°C to +170°C	-55°C to +170°C	-55°C to +170°C
Stability (Nominal Load at 130°C)	< 1.0% after 2000 hours	< 1.0% after 2000 hours	< 1.0% after 2000 hours	< 1.0% after 2000 hours
Stability (Nominal Load at 95°C)	< 0.5% after 2000 hours	< 0.5% after 2000 hours	< 0.5% after 2000 hours	< 0.5% after 2000 hours