SMC Series

Cylindrical Surface Mount Metal Glaze™
Compliant Terminal Resistors

TT electronics
IRC Wire and Film Technologies Division

- Capped terminals provide mechanical compliance-relief from board vs. component TCE mismatch
- Ideal for automotive and other harsh thermal applications
- Uncompromising Metal Glaze™ performance gives excellent surge performance
- Uses standard IRC 2512, 3610 solder pads
- Lead free, RoHS compliant

Specifications

IRC Type	Size Code	Industry Standard Footprint	Power Rating @70°C (Watts)	Resistance Range (Ohms)	Tolerance (±%)[1]	TCR (±ppm/°C)	Operating Voltage (V)	Maximum Voltage (V)
SMC-1	F	2512	1.0	10 - 1M	1, 2, 5	100	350	650
SMC-2	H	3610	2.0	10 - 2M	1, 2, 5	100	500	1000

Notes:
[1]For tolerances below ±1%, please contact factory.

Environmental Performance

Characteristics	Maximum Change	Test Method
Temperature Coefficient	As specified	MIL-PRF-55342E Par 4.7.9 (-55ºC +125ºC)
Thermal Shock	±0.5% +0.01Ω	MIL-PRF-55342E Par 4.7.3 (-65ºC +150ºC)
Low Temperature Operation	±0.25% +0.01Ω	MIL PRF-55342E Par 4.7.4 (-65ºC @ working voltage)
Short Time Overload	±0.25% +0.01Ω (R</-100KΩ) ±1% +0.01(R</-100KΩ)	MIL-PRF-55342E Par 4.7.5 (2.5 x sq. rt.(PxR) for 5 seconds)
High Temperature Exposure	±0.25% +0.01Ω (R</-100KΩ) ±1% +0.01(R</-100KΩ)	MIL-PRF-55342E Par 4.7.6 (+150ºC for 100 hours)
Resistance to Bonding	±0.25% 0.01Ω	MIL-PRF-55342E Par 4.7.7 (Reflow soldered to board at 260ºC for 10 seconds)
Solderability	95% minimum coverage	MIL-STD-202, Method 208 (245ºC for 5 seconds)
Moisture Resistance	±0.5% +0.01Ω	MIL-PRF-55342E Par 4.7.8 (10 cycles, total 240 hours)
Life Test	±0.5% +0.01Ω	MIL-PRF-55342E Par 4.7.10 (2000 hour at 70ºC intermittent)
Terminal Adhesion Strength	±1% +0.01 no mechanical damage	1200 gram push from underside of mounted chip for 60 seconds
Resistance to Board Bending	±1% +0.01 no mechanical damage	Chip mounted in center of 90mm long board, deflected 5mm so as to exert pull on chip contacts for 10 seconds
Operating temperature	-55ºC to +150ºC	

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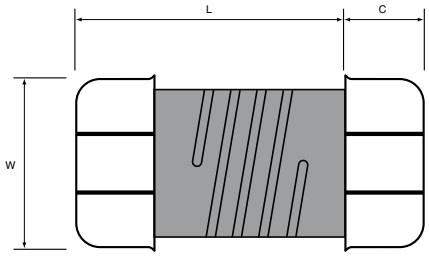
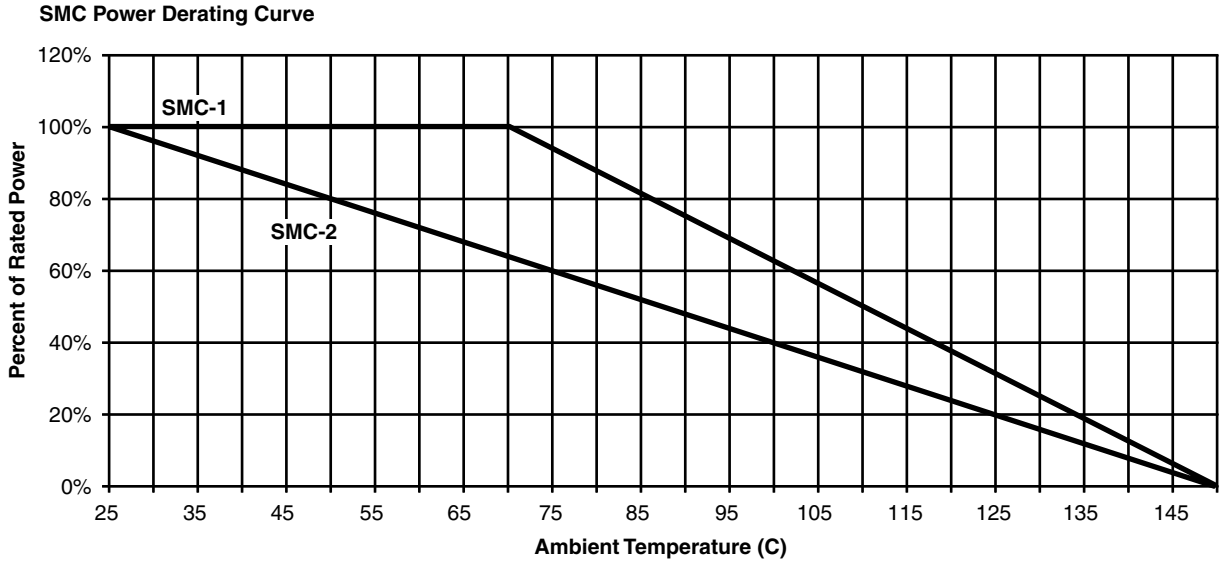
Dimensions (mm)



Industry Footprint	IRC type	L (Length)	W (Width/Diameter)	C (Termination Width)
2512	SMC-1	0.250 ± 0.010 (6.35 ± 0.25)	0.122 ± 0.003 (3.10 ± 0.08)	0.080 ± 0.010 (2.04 ± 0.25)
3610	SMC-2	0.367 ± 0.010 (9.32 ± 0.25)	0.122 ± 0.003 (3.10 ± 0.08)	0.080 ± 0.010 (2.04 ± 0.25)

Performance Curves



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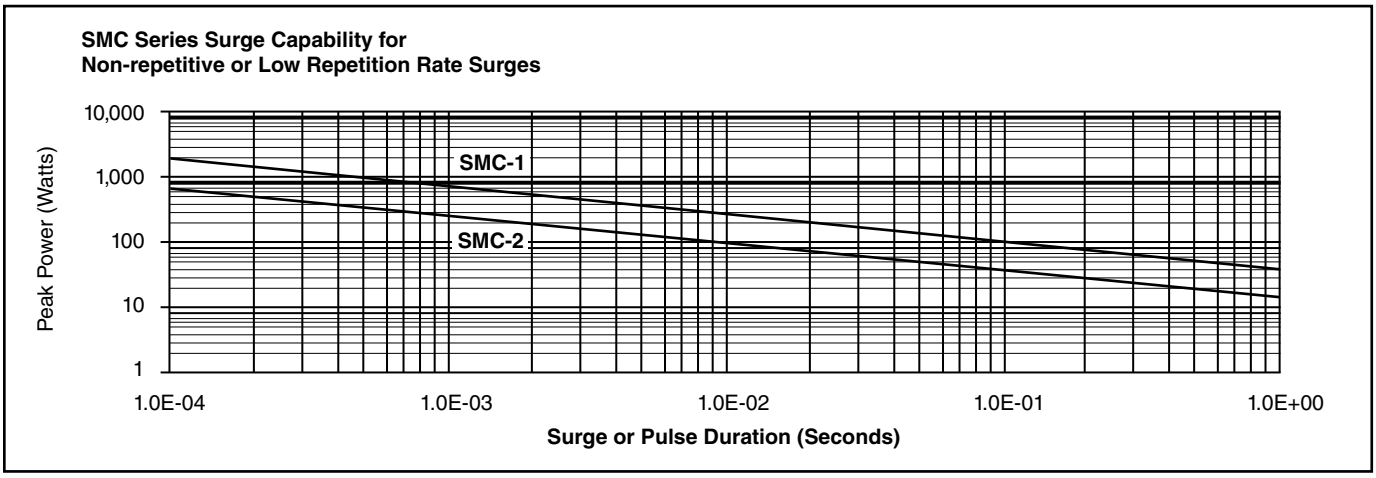
SMC Surge Capabilities



Ordering Information

Sample Part No. **SMC1 100 2003 F LF 13**

IRC Type
(SMC 1 or SMC 2)

Temperature Coefficient
(50 or 100 PPM)

Resistance Value
(First 3 significant figures plus fourth digit multiplier)
Example: 2203 = 220 K Ohm
51R0 = 51 Ohm
R200 = 0.2 Ohm

Tolerance
C = ±0.25%, D = ±0.5%,
F = ±1.0%, G = ±2.0%, J= ±5.0%

LF
Provides clear “Lead Free” Designation

Packaging Code
(7 = 7” Reel, 13 = 13” Reel)