Cylindrical Surface Mount MetalGlaze™ Compliant-Terminal Resistors

SMC Series

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

All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

Electrical Data

IRC Type	Industry Standard Footprint	Power Rating (Watts)	Resistance Range (Ohms)	Tolerance (±%)[1]	TCR (±ppm/°C)	Operating Voltage (V)	Maximum Voltage (V)
SMC-1	2512	1.0 @ 70°C	1.0 to 10 Ω	5	200	350	700
			≥ 10 - 1 MΩ	1, 2, 5	100		
SMC-2	3610	2.0 @ 25°C 1.33 @ 70°C	1.0 to 10 Ω	5	200	500	1000
			≥ 10 - 1 MΩ	1, 2, 5	100		

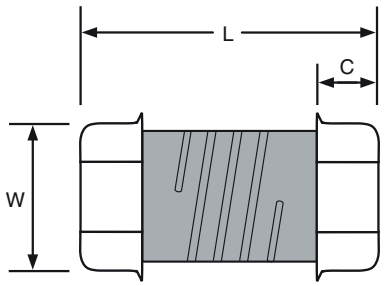
Notes:
[1] For tolerances below ±1%, please contact factory.

Environmental Data

Characteristics	Maximum Change	Test Method
Temperature Coefficient (ppm/°C)	As specified	MIL-PRF-55342E Par 4.7.9 (-55°C to +125°C)
Thermal Shock	±2.0% +0.01Ω (R ≤ 10Ω) ±1.0% +0.01Ω (R > 10Ω)	MIL-PRF-55342E Par 4.7.3 (-65°C to +150°C)
Low Temperature Operation	±1.0% +0.01Ω (R ≤ 10Ω) ±0.5% +0.01Ω (R > 10Ω)	MIL-PRF-55342E Par 4.7.4 (-65°C @ working voltage)
Short Time Overload	±1.0% +0.01Ω (R ≤ 10Ω) ±0.5% +0.01Ω (R > 10Ω)	MIL-PRF-55342E Par 4.7.5 (2.5 x $\sqrt{PxR}$ for 5 seconds)
High Temperature Exposure	±1.0% +0.01Ω (R ≤ 10Ω) ±0.5% +0.01Ω (R > 10Ω)	MIL-PRF-55342E Par 4.7.6 (+150°C for 100 hours)
Resistance to Bonding	±1.0% +0.01Ω (R ≤ 10Ω) ±0.5% +0.01Ω (R > 10Ω)	MIL-PRF-55342E Par 4.7.7 (Reflow soldered to board @ 260°C for 10 seconds)
Solderability	95% minimum coverage	MIL-STD-202, Method 208 (245°C for 5 seconds)
Moisture Resistance	±1.0% +0.01Ω (R ≤ 10Ω) ±0.5% +0.01Ω (R > 10Ω)	MIL-PRF-55342E Par 4.7.8 (10 cycles, total 240 hours)
Life Test	±1.0% +0.01Ω (R ≤ 10Ω) ±0.5% +0.01Ω (R > 10Ω)	MIL-PRF-55342E Par 4.7.10 (2000 hours @ 70°C 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	-55°C to +150°C	

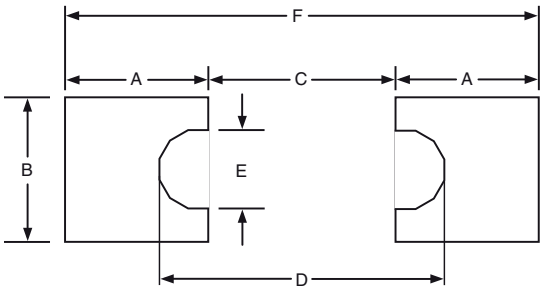
General Note
TT Electronics reserves the right to make changes in product specification without notice or liability.
All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

Physical Data



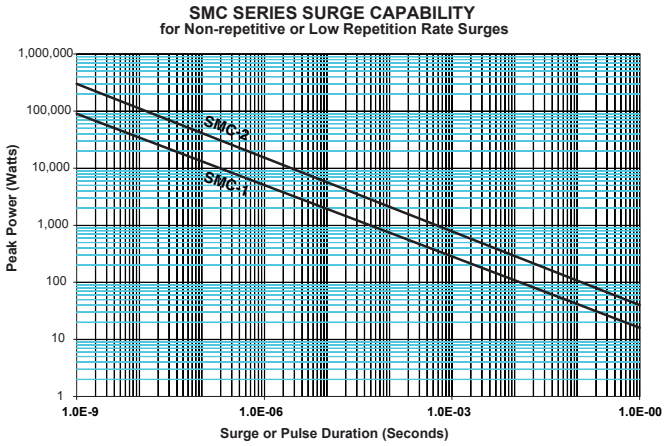
Dimensions (Inches and (mm))				
Industry Footprint	**IRC Type**	**L (Length)**	**W (Width/Diameter)**	**C (Termination Width)**
2512	SMC-1	0.250 ±0.010 (6.35 ±0.25)	0.122 ±0.003 (3.10 ±0.08)	0.060 ±0.010 (1.50 ±0.25)
3610	SMC-2	0.367 ±0.010 (9.32 ±0.25)	0.122 ±0.003 (3.10 ±0.08)	0.060 ±0.010 (1.50 ±0.25)

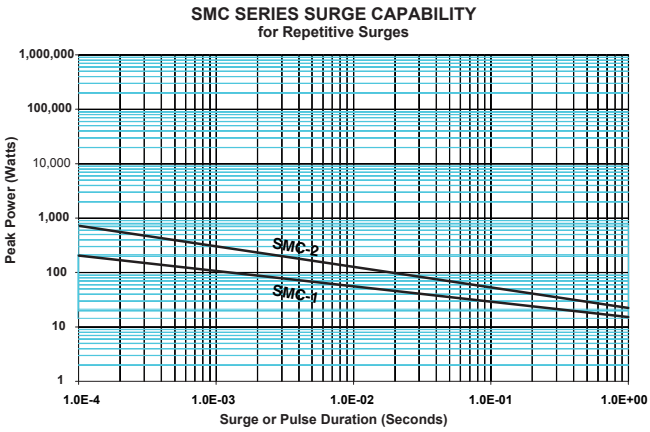
Recommended Solder Pad Dimensions (Reflow):



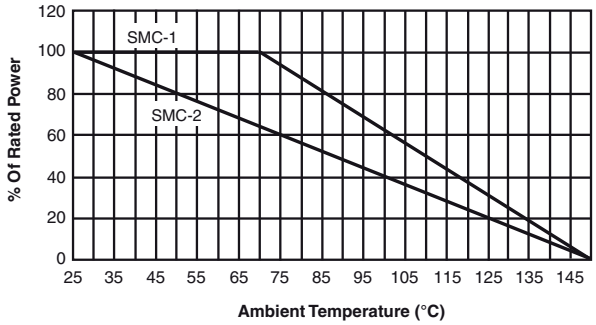
Industry Footprint	**Dimensions (Inches and mm))**					
	A	**B**	**C**	**D**	**E**	**F**
2512	0.121 (3.07)	0.126 (3.20)	0.127 (3.23)	0.183 (4.65)	0.040 (1.02)	0.369 (9.37)
3610	0.170 (4.32)	0.160 (4.06)	0.213 (5.41)	0.273 (6.93)	0.044 (1.12)	0.553 (14.05)

Surge Capabilities





Power Derating Curve



Standard Reel Packaging per EIA-481:

Industry Footprint	Reel Diameter*	Quantity Per Reel	Carrier Tape Width	Component Pitch
SMC-1 2512	7″	750	12mm	4mm
	13"	2,500		
SMC-2 3610	13″	2,000	24mm	4mm

*The 13″ reel is considered standard and will be supplied unless otherwise specified.

Ordering Data

Sample Part No. SMC1 | 100 | 2003 | F | LF | XXX | 13

IRC Type
(SMC1 or SMC2)

Temperature Coefficient
(100 or 200 ppm)

Resistance Value
(First three significant figures plus fourth digit multiplier)
Example: 2203 = 220 KΩ
51R0 = 51 Ω
2R00 = 2.0 Ω

Tolerance
F = ±1.0%, G = ±2.0%, J = ±5.0%

LF
Provides clear "Lead Free" Designation

Specification Number (Optional)
Custom design identifier for non-standard products

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

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

TT Electronics:

SMC11004990FLF SMC11004991FLF SMC21001000FLF SMC210049R9FLF SMC21004990FLF