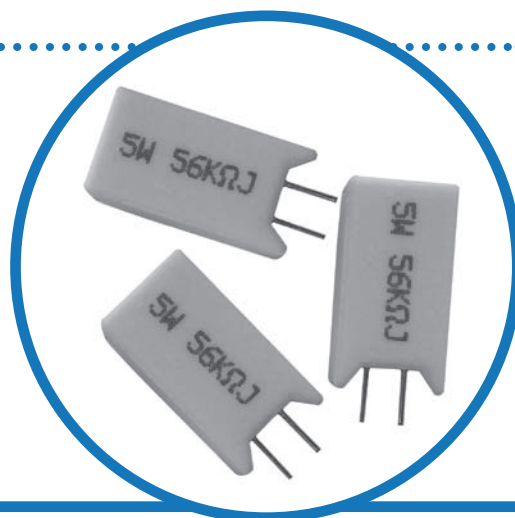


# Radial Ceramic Case Resistors Wirewound / Metal Oxide

## SQM Series

- 2 to 10 watts
- Resistance 0R1 to 200K
- High overload capability
- Flameproof case
- Small PCB footprint
- RoHS compliant

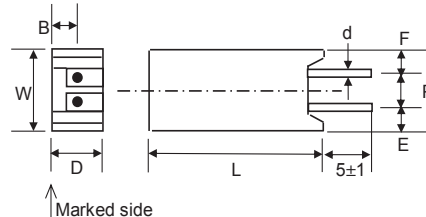


## Electrical Data

		SQM2	SQM3	SQM5	SQM7	SQM10
Power rating at 70°C	watts	2	3	5	7	10
Resistance range	ohms	<b>Wirewound</b>	0R1 - 27R	0R1 - 39R	0R1 - 47R	0R1 - 680R
		<b>Metal Oxide</b>	30R - 33K	43R - 56K	51R - 100K	750R - 200K
Limiting element voltage	volts dc or ac rms	150	300	350	500	750
Thermal impedance	°C/watt	50	45	30	28	23
Isolation voltage	volts	1000				
TCR	ppm/°C	<20R: ± 400, ≥20R: ± 350				
Resistance Tolerance	%	± 5				
Standard Values		E24				
Ambient temperature range	°C	-55 to +155°C				

## Physical Data (all dimensions in mm, weights in g)

Type	L ± 1.0	W ± 1.0	D ± 1.0	B ± 1.0	E ± 1.0	F ± 1.0	P ± 1.0	d ±0.05	Weight Nom.
SQM2	20	11.5	7.5	4.5	3.0	3.0	5	0.7	4.3
SQM3	25	12.5	8.5	4.5	4.0	4.0	5	0.7	5.6
SQM5	25	12.5	9	5.0	3.5	3.5	5	0.8	6.3
SQM7	38	12.5	9	5.0	2.75	5.0	5	0.8	10.7
SQM10	50	12.5	9	4.25	2.75	5.0	5	0.8	13.4



## Construction

A high purity ceramic rod, with force fit end caps onto which is wound a wire element: or a deposited metal oxide film (depending on value). The element is fitted into a ceramic case with fireproof insulation cement.

### 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.

Termination Details:

**Material** The 100% Sn finish copper lead wires are internally welded to the resistance element end caps.  
**Solderability** The terminations meet the requirements of IEC 115-1 Clause 4.17.3.2  
**Strength** The terminations meet the requirements of IEC 86.2.21

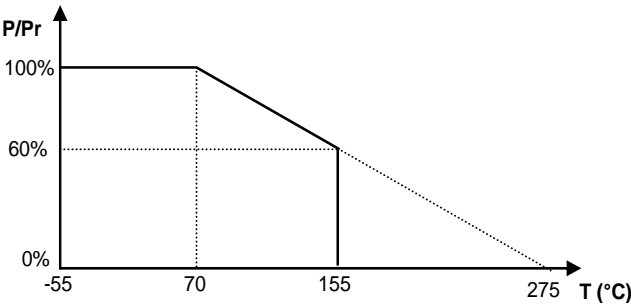
**Marking:** Type reference, resistance value and tolerance are legend marked onto the upper surface.  
**Flammability:** The resistor will not burn under any condition of applied temperature or overload.  
**Solvent resistance:** The body protection and marking are resistant to all normal industrial solvents suitable for printed circuits.

Performance Data

		Maximum
Load at rated power (1000hrs at 70°C)	ΔR	<100K, 5%; 100K, 10%
Derating from rated power at 70°C		See Graph
Short term overload *	ΔR	5% +0.05
Damp heat steady state (56 days, 40°C, ≥90% RH)	ΔR	5% +0.05
Temperature rapid change (5 cycles -55°C to +155°C)	ΔR	2% +0.05
Resistance to solder heat	ΔR	1% +0.05
Voltage Proof (1kV for 60s)		No evidence of flashover, mechanical damage, arcing or insulation breakdown
Solderability		Min. 95% coverage

\* Wirewound: the lower of 5x rated power, or 2.5x LEV for 5s    Metal Oxide: the lower of 6.25x rated power, or 2.5x LEV for 5s

Derating Curve



Ordering Procedure

Example: SQM3 at 1.2 kilohms and 5% tolerance bulk packed in a box of 3000 pieces –

**SQM3 – 1 K 2 J B 3**

Type \_\_\_\_\_

Value (use IEC62 code) \_\_\_\_\_

Tolerance (use IEC62 code) \_\_\_\_\_

J

5%

Packing \_\_\_\_\_

B3	Bulk	SQM2, 3	3000 / box	Standard
B2		SQM5	2000 / box	
B1		SQM7, 10	1000 / box	