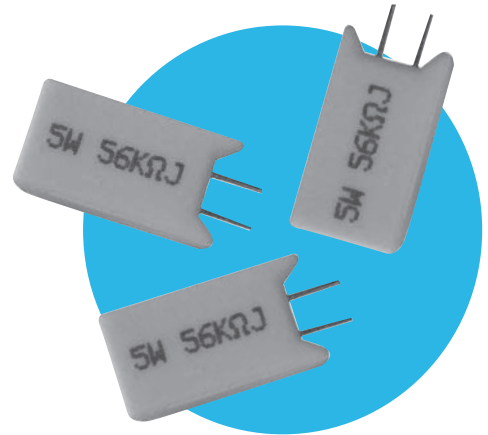


Radial Ceramic Case Resistors

Wirewound / Metal Oxide

SQM / CVF / CVW Series

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



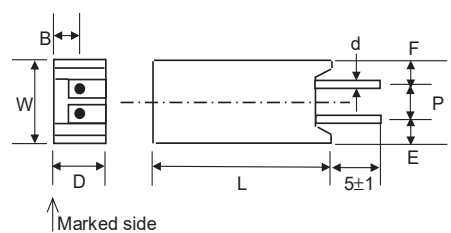
All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

Electrical Data

		SQM2 / CV-2	SQM3 / CV-3	SQM5 / CV-5	SQM7 / CV-7	SQM10 / CV-10	SQM10A / CV-10
Power rating at 70°C	watts	2	3	5	7	10	10
Resistance range – wirewound (CVW)	ohms	0R1 - 27R	0R1 - 39R	0R1 - 47R	0R1 - 680R	0R1 - 910R	0R1 - 560R
Resistance range – oxide (CVF)	ohms	30R - 33K	43R - 56K	51R - 100K	750R - 200K	1K0 - 200K	
Limiting element voltage	volts dc or ac rms	150	300	350	500	750	750
Thermal impedance	°C/watt	50	45	30	28	23	23
Isolation voltage	volts	1000					
TCR	ppm/°C	<20R: ± 400, ≥20R: ± 350					
Resistance Tolerance	%	± 5 ± 10					
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 / CV-2	20	11.5	7.5	4.5	3.0	3.0	5	0.7	4.3
SQM3 / CV-3	25	12.5	8.5	4.5	4.0	4.0	5	0.7	5.6
SQM5 / CV-5	25	12.5	9	5.0	3.5	3.5	5	0.8	6.3
SQM7 / CV-7	38	12.5	9	5.0	2.75	5.0	5	0.8	10.7
SQM10 / CV-10	50	12.5	9	4.25	2.75	5.0	5	0.8	13.4
SQM10A / CV-10	35	16.0	12	6.0	4.25	4.25	7.5	0.8	13.8



Construction

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

General Note

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Termination Details:

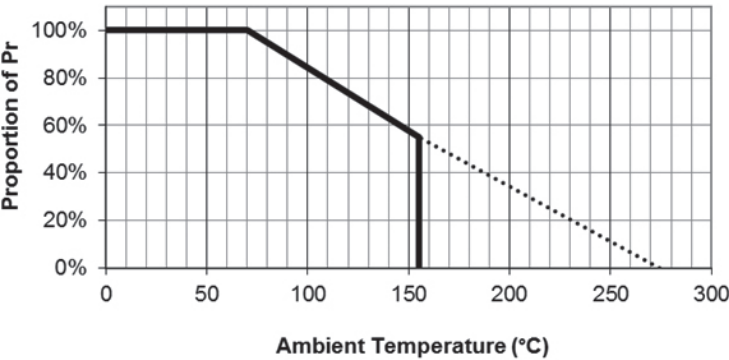
Material The 100% Sn finish copper lead wires are internally welded to the resistance element end caps.
Solderability The terminations meet the requirements of IEC 115-1 Clause 4.17.3.2
Strength The terminations meet the requirements of IEC 86.2.21

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% $\geq$ 100K: 10%
Derating from rated power at 70°C		See Graph
short term overload (lesser of 6.25 x Pr or 2.5 x LEV for 5s)	ΔR	5% +0.05 Ω
Damp heat steady state (56 days, 40°C, $\geq$ 90% RH)	ΔR	5% +0.05 Ω
Temperature rapid change (5 cycles -55°C to +155°C)	ΔR	2% +0.05 Ω
Resistance to solder heat	ΔR	1% +0.05 Ω
Voltage Proof (1kV for 60s)		No evidence of flashover, mechanical damage, arcing or insulation breakdown
Solderability		Min. 95% coverage

Temperature Derating



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Ordering Procedure

This product has two valid part numbers:

European (Welwyn) Part Number: SQM3-1K2JB3 (SQM3, 1.2 kilohms $\pm 5\%$, Pb-free)

S	Q	M	3	-	1	K	2	J	B	3
1		2		3	4					

1 Type	2 Value	3 Tolerance	4 Packing & Termination Finish		
SQM2, SQM3, SQM5, SQM7 SQM10, SQM10A	E24 = 3/4 characters R = ohms K = kilohms	J = $\pm 5\%$	Pb-free only		
		K = $\pm 10\%$	B3	SQM2, SQM3	3000/box
			B2	SQM5	2000/box
			B1	SQM7, SQM10	1000/box
			B09	SQM10A	900/box

USA (IRC) Part Number: CVF31201JLF (CVF3, 1.2 kilohms $\pm 5\%$, Pb-free)

C	V	F	3	1	2	0	1	J	L	F
1	2	3		4	5					

1	2	3	4	5		
Type	Size	Value	Tolerance	Termination Finish	Packing	
CVF, CVW	2	3 digits + multiplier	J = ±5%	LF = Pb-free	2, 3	3000/box
	3	R = ohms for values	K = ±10%		5	2000/box
	5	<100 ohms			7, 10	1000/box
	7					
	10					

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