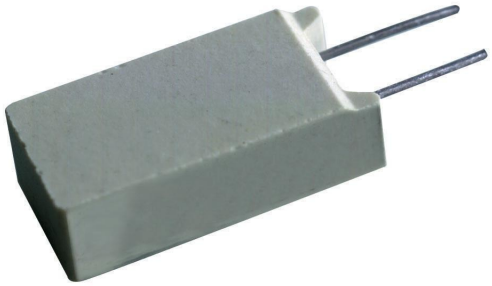
Radial Ceramic Case Resistors - Wirewound / Metal Oxide

SQM Series



Features:

- Ratings from 2W to 10W
- Resistance from 0R1 to 200K
- High overload capability
- Flameproof case
- Small PCB footprint

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

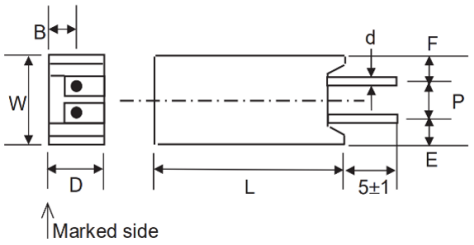
Electrical Data

		SQM2	SQM3	SQM5	SQM7	SQM10	SQM10A
Legacy type - wirewound		CVW2	CVW3	CVW5	CVW7	CVW10	-
Legacy type – oxide film		CVF2	CVF3	CVF5	CVF7	CVF10	-
Power rating @70°C	W	2	3	5	7	10	
Limiting element voltage	V	150	300	350	500	750	
Resistance range - wirewound	ohms	0R1 – 27R	0R1 – 39R	0R1 – 47R	0R1 – 680R	0R1 – 910R	0R1 – 560R
Resistance range – oxide film	ohms	30R – 33K	43R – 56K	51R – 100K	750R – 200K	1K0 – 200K	-
Resistance tolerance	%	5					
TCR	ppm/°C	<20R: 400, ≥20R: 350					
Isolation voltage	V	1000					
Standard values		E24 preferred					
Thermal impedance	°C/W	50	45	30	28	23	
Ambient temperature range	°C	-55 to 155					

Physical Data

Dimensions in mm and weight in g

Type	L ±1	W ±1	D ±1	B ±1	E ±1	F ±1	P ±1	d ±0.05	Wt. nom
SQM2	20	11.5	7.5	4.5	3		5	0.7	4.3
SQM3	25	12.5	8.5		4				5.6
SQM5			9	5	3.5			0.75	6.3
SQM7	38				2.75	5			10.7
SQM10	50			4.25					13.4
SQM10A	35	16	12	6	4.25		7.5		13.8



Construction

SQM resistors have a high purity ceramic rod, with force fit end caps. Depending on value, the element is either wirewound or a deposited metal oxide film. This has termination wires welded to the caps and is fitted into a ceramic case with fireproof insulation cement.

Marking

Power rating, resistance value and tolerance code are legend marked onto the surface shown in Physical Data.

Terminations

Material Tinned copper.
Strength The terminations meet the requirements of IEC 60115-1 clause 9.5.
Solderability The terminations meet the requirements of IEC 60115-1 clause 11.1.

Flammability

The resistor will not burn or emit incandescent particles 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.

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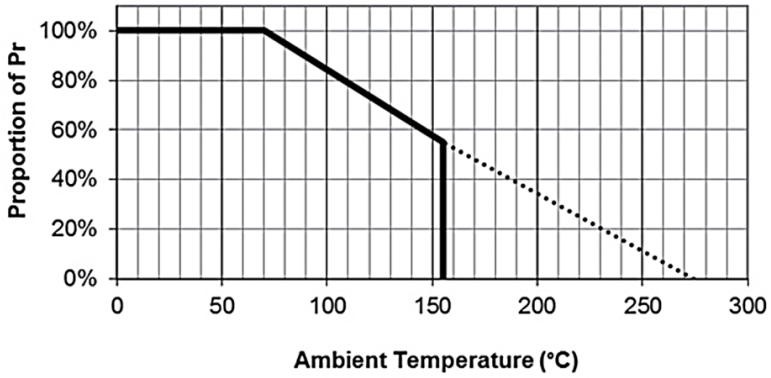
Performance Data

		Maximum (+R05)
Load at rated power: P_r for 1000 hours at 70°C	±ΔR%	<100K: 5, ≥100K: 10
Short term overload: Lesser of 6.25xP_r or 2.5xLEV for 5s	±ΔR%	5
Damp heat steady state: 56 days, 40°C, ≥90% RH	±ΔR%	5
Temperature rapid change: 5 cycles, -55/155°C	±ΔR%	2
Resistance to solder heat	±ΔR%	1
Voltage proof: 1kV for 60s		No evidence of flashover, mechanical damage, arcing or insulation breakdown
Solderability		≥95% coverage

Temperature Derating



Ordering Procedure

Global Part Number Example: SQM3-1K2JB3 (SQM3, 1.2 kilohms ±5%, Pb-free)

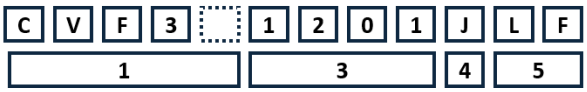
S	Q	M	3			-	1	K	2		J	B	3	
1							2				3	4		

1 Type	2 Value	3 Tolerance	4 Packing		
SQM2	E24 = 3/4 characters R = ohms K = kilohms	J = ±5%	B3	SQM2	3000/box
SQM3				SQM3	
SQM5			B2	SQM5	2000/box
SQM7			B1	SQM7	1200/box
SQM10				SQM10	
SQM10A			B09	SQM10A	720/box

Legacy Part Numbers

This product has a legacy part number format. This is still available for ordering, but for new designs use of the Global Part Number is recommended.

Legacy Part Number Example: CVF31201JLF (CVF3, 1.2 kilohms ±5%, Pb-free)



1 Type	2 Value	3 Tolerance	4 Termination	Packing	
CVW2, CVF2	3 digits + multiplier R = ohms for values <100 ohms	J = ±5%	LF = Pb-free	CV-2	3000/box
CVW3, CVF3				CV-3	
CVW5, CVF5				CV-5	2000/box
CVW7, CVF7				CV-7	1200/box
CVW10, CVF10				CV-10	