

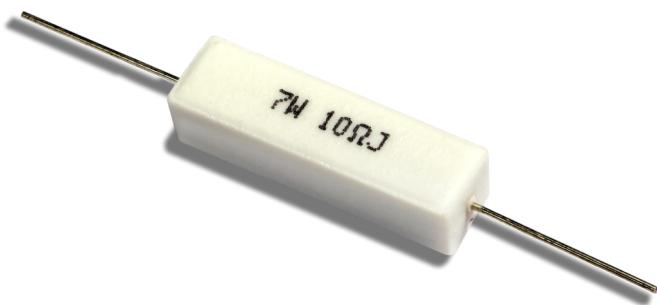
Ceramic Case Resistors - Wirewound / Metal Oxide



SQP Series

Features:

- Ratings from 2W to 25W
- Resistance from 0R1 to 200K
- High overload capability
- Flameproof ceramic case
- Inorganic potting material



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

Electrical Data

	SQP2	SQP3	SQP5	SQP7S	SQP7	SQP10	SQP15	SQP20	-
Legacy type - wirewound	CAW2	CAW3	CAW5	-	CAW7	CAW10	CAW15	CAW20	CAW25
Legacy type – oxide film	CAF2	CAF3	CAF5	-	CAF7	CAF10	CAF15	CAF20	-
Power rating @70°C	W	2	3	5	7	10	15	20	25
Limiting element voltage	V	250	300	350	500	700	750		
Resistance range - wirewound	ohms	0R1 – 27R	0R1 – 39R	0R1 – 47R	0R1 – 100R	0R1 – 680R	0R1 – 910R	1R0 – 1K0	2R0 – 1K2
Resistance range – oxide film	ohms	30R – 120K	43R – 150K	51R – 150K	110R – 150K	750R – 200K	1K0 – 200K	1K1 – 200K	1K3 – 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	26	21	16	12	10
Ambient temperature range	°C					-55 to 155			

Physical Data

Dimensions in mm and weight in g						
Type	L max	W max	H max	f min	d ±0.1	Wt. nom
SQP2	19		8	23		2.2
SQP3			9	27	0.7	3.5
SQP5	23	11				5
SQP7S	26	10				6
SQP7	36					8.2
SQP10		11				11
SQP15	50					17.4
SQP20	61					25
CAW25	65	15.5	14.5			26.7

Min bend radius, all types 1.6mm

Alternate body shape
CAW-A / CAF-A

Dimensions in mm: L (length), W (width), H (height), f (lead pitch), d (diameter). Weight in g: SQP2 (2.2), SQP3 (3.5), SQP5 (5), SQP7S (6), SQP7 (8.2), SQP10 (11), SQP15 (17.4), SQP20 (25), CAW25 (26.7). Min bend radius: 1.6mm. Alternate body shape: CAW-A / CAF-A.

Construction

SQP 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 upper surface.

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.

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.

Ceramic Case Resistors - Wirewound / Metal Oxide SQP Series

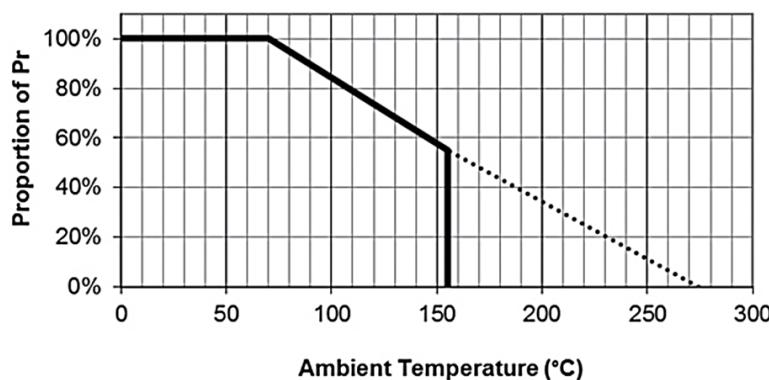


Electronics

Performance Data

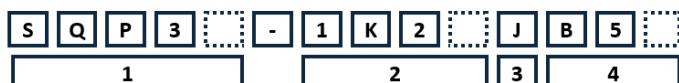
		Maximum (+R05)
Load at rated power: P_r for 1000 hours at 70°C	$\pm\Delta R\%$	$\leq 100K: 5, >100K: 10$
Short term overload: Lesser of $6.25 \times P_r$ or $2.5 \times LEV$ for 5s	$\pm\Delta R\%$	2
Damp heat steady state: 56 days, 40°C, $\geq 90\%$ RH	$\pm\Delta R\%$	2
Temperature rapid change: 5 cycles, $-55/155^\circ\text{C}$	$\pm\Delta R\%$	2
Resistance to solder heat	$\pm\Delta R\%$	1
Pulse handling		Data available by request

Temperature Derating



Ordering Procedure

Global Part Number Example: SQP3-1K2JB5 (SQP3, 1.2 kilohms ±5%, Pb-free)



1 Type	2 Value	3 Tolerance	4 Packing	
SQP2	E24 = 3/4 characters R = ohms K = kilohms	J = ±5%	SQP2	3600/box
SQP3			SQP3	3000/box
SQP5			SQP5	2400/box
SQP7S			SQP7S	2400/box
SQP7			SQP7	1800/box
SQP10			SQP10	1500/box
SQP15			SQP15	840/box
SQP20			SQP20	720/box

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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, where available, is recommended.

Legacy Part Number Example: CAF31201JLF (CAF3, 1.2 kilohms $\pm 5\%$, Pb-free)



1 Type	2 Body Shape	3 Value	4 Tolerance	5 Termination	Packing	
CAW2, CAF2	Omit for standard	3 digits + multiplier	J = $\pm 5\%$	LF = Pb-free	CA-2	3600/box
CAW3, CAF3	A = Alternate	R = ohms for values			CA-3	3000/box
CAW5, CAF5 (2, 5, 7 & 10W only)		<100 ohms			CA-5	2400/box
CAW7, CAF7					CA-7	1800/box
CAW10, CAF10					CA-10	1500/box
CAW15, CAF15					CA-15	840/box
CAW20, CAF20					CA-20	720/box
CAW25						