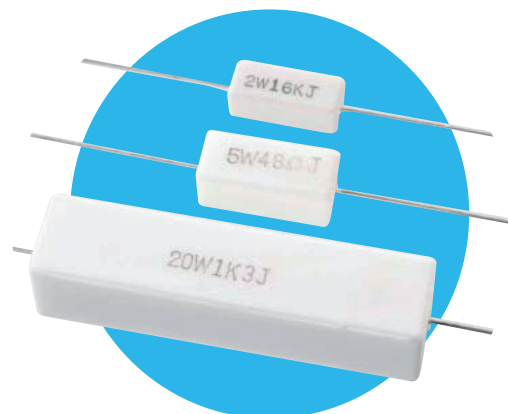


Ceramic Case Resistors – Wirewound / Metal Oxide

SQP / CAF / CAW Series

- 2 watts to 25 watts
- Resistance 0R1 to 200K
- High overload capability
- RoHS compliant
- Flameproof ceramic case with inorganic potting material



 All parts are Pb-free and comply with EU Directive 2011/65/EU (RoHS2)

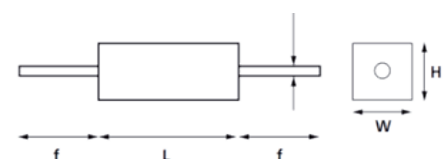
Electrical Data

		SQP2 / CA-2	SQP3 / CA-3	SQP5 / CA-5	SQP7 / CA-7	SQP7S	SQP10 / CA-10	SQP15 / CA-15	SQP20 / CA-20	CAW25
Power rating at 70°C	watts	2	3	5	7	7	10	15	20	25
Resistance range – wirewound (CAW)	ohms	0R1-27R	0R1-39R	0R1-47R	0R1-680R	1R0-100R	0R1-910R	1R0-1K0	2R0-1K2	2R0-1K2
Resistance range – oxide (CAF)	ohms	28R-120K	40R-150K	48R-150K	681R-200K	101R-150K	911R-200K	1K1-200K	1K3-200K	-
Resistance tolerance	%	5, 10								
TCR	ppm/°C	<20R: 400 ≥20R: 350								
Isolation voltage	volts	1000								
Standard values		E24 preferred								
Thermal impedance	°C/W	50	45	30	26	26	21	16	12	10
Ambient temperature range	°C	-55 to +155								

No Limiting Element Voltage applies to this series; the Rated Voltage is $\sqrt{V(P.R.)}$.

Physical Data

Dimensions (mm) and weight (g)						
Type	L max.	W max.	H max.	f min.	d (±0.1)	Wt. nom.
SQP2 / CA-2	19	8	8	23	0.7	2.2
SQP3 / CA-3	23	9	9	27	0.7	3.5
SQP5 / CA-5	23	11	10	30	0.75	5
SQP7 / CA-7	36	11	10	30	0.75	8.2
SQP7S	26	10	10	30	0.75	6
SQP10 / CA-10	50	11	10	30	0.75	11
SQP15 / CA-15	50	13.5	12.5	30	0.75	17.4
SQP20 / CA-20	61	15.5	14.5	30	0.75	25
CAW25	65	15.5	14.5	30	0.75	26.7



Min bend radius, all types 1.6 mm



Alternate body shape (CAW-A / CAF-A)

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.

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.

Termination Details

Material The tinned copper lead wires are internally welded to the resistance element end caps.

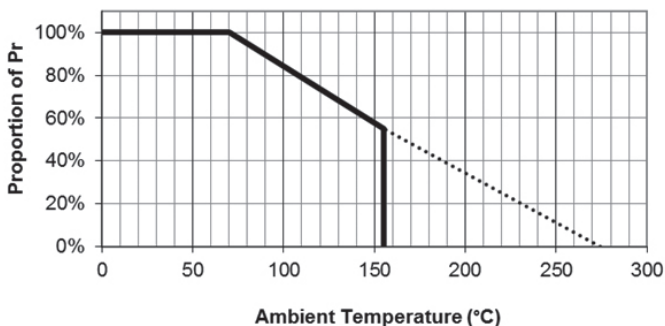
Solderability The terminations meet the requirements of IEC 115-1 Clause 4.17.3.2

Strength The terminations meet the requirements of IEC 86.2.21

Performance Data

		Maximum
Load at rated power (1000hrs at 70°C)	ΔR%	≤100K: 5% +0.05Ω, >100K: 10%
Derating from rated power at 70°C		See Graph
Short term overload (6.25xPr for 5s)	ΔR%	2% +0.05Ω
Damp heat steady state (56 days, 40°C, ≥90% RH)	ΔR%	2% +0.05Ω
Temperature rapid change	ΔR%	2% +0.05Ω
Resistance to solder heat	ΔR%	1% +0.05Ω
Pulse handling		Data available by request

Temperature Derating



Marking

Type reference, resistance value and tolerance are legend marked onto the upper surface.

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.

Ordering Procedure

This product has two valid part numbers:

European (Welwyn) Part Number: SQP3-1K2JB5 (SQP3, 1.2 kilohms $\pm 5\%$, Pb-free)

S	Q	P	3	-	1	K	2	J	B	5
1			2			3	4			

1 Type	2 Value	3 Tolerance	4 Packing & Termination Finish	
SQP2, SQP3, SQP5, SQP7 SQP7S, SQP10, SQP15, SQP20	E24 = 3/4 characters R = ohms K = kilohms	J = $\pm 5\%$	Pb-free only	
		K = $\pm 10\%$	B5	SQP2 3600/box
				SQP3 3000/box
				SQP5 2400/box
			B15	SQP7 1800/box
				SQP7S 2400/box
				SQP10 1500/box
			B1	SQP15 840/box
				SQP20 720/box

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

C	A	F	3	1	2	0	1	J	L	F
1		2	3	4		5	6			

1 Type	2 Size	3 Body Shape	4 Value	5 Tolerance	6 Termination Finish	Packing	
CAF, CAW	2	Omit for standard	3 digits + multiplier R = ohms for values <100 ohms	J = ±5%	LF = Pb-free	2	3600/box
	3	A= Alternate		K = ±10%		3	3000/box
	5	(2, 5, 7 & 10W only)				5	2400/box
	7			7		1800/box	
	10			10		1500/box	
	15			15		840/box	
	20			20		720/box	
CAW	25						

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.