

FAW Series

c AU[®] US

Features:

- UL1412 recognised fusing*
- Compact flameproof construction
- Failsafe mains fusing at 120 / 240Vrms
- Specified surge performance

* UL file number E234469

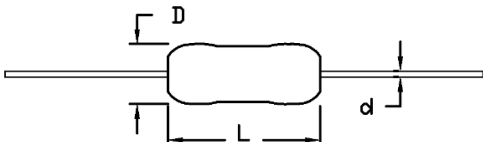


All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863

Electrical Data

		FAW1
Power rating at 70°C	W	1
5s overload rating	W	6.25
Resistance range	Ω	1R0 to 220R
Resistance tolerance	%	5
TCR	ppm/°C	±200
UL recognised standard values	Ω	Any value in the range 1R0 to 220R is recognised. E24 preferred.
Ambient temperature range	°C	-55 to +155

Physical Data

Dimensions in mm and weight in g					
Type	L ±1	D ±1	d ±0.05	Wt. nom.	
FAW1	10	3.5	0.7	0.3	

Construction

A high purity ceramic substrate is assembled with interference fit end caps to which are welded the terminations. The resistive element is wound on the substrate and welded to the caps. Flameproof silicone cement coating is applied prior to marking with indelible ink.

Flammability

The resistor coating will not burn or emit incandescent particles under any condition of applied temperature or power overload.

Marking

FAW1 resistors are marked with five colour bands on a grey body. The first four indicate value and the fifth indicates tolerance in conformance with IEC60062.

Solvent Resistance

The component is resistant to all normal industrial cleaning solvents suitable for printed circuits.

Terminations

Terminations are hot tin dipped copper wire. They meet the strength requirements of IEC 60115-1 clause 9.5 and the solderability requirements of IEC 60115-1 clause 11.1.

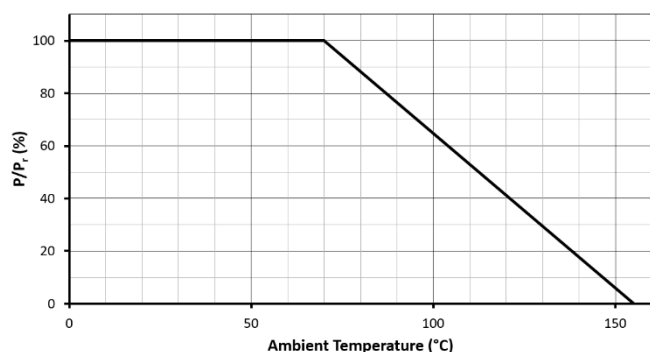
General Note

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.

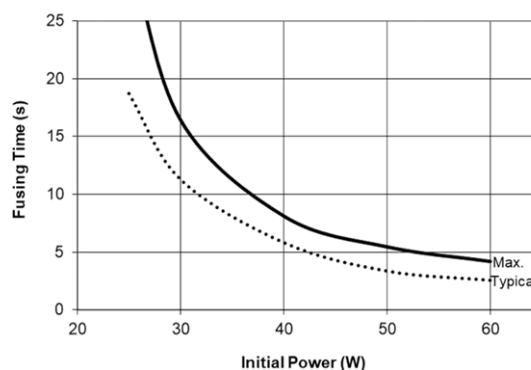
Performance Data

Test	Method	Maximum / Pass Criterion
Load life	1000 hours, cyclic load at 70°C	±ΔR%
Short term overload	$6.25 \times P_r$ for 5 s	±ΔR%
Resistance to solder heat	$350 \pm 10^\circ\text{C}$, $3 \pm 0.5\text{s}$	±ΔR%
Long term damp heat	56 days, 40°C/95%RH	±ΔR%
Temperature cycling	100 cycles, -55 to 155°C	±ΔR%
Single pulse	See Pulse Energy Limits graph below	±ΔR%
Surge 1.2/50μs	See Surge Performance graph below	±ΔR%
Fusing performance	See Fusing Characteristic graph below	
Solderability	$245 \pm 3^\circ\text{C}$, $3 \pm 0.5\text{s}$	>95% coverage

Temperature Derating



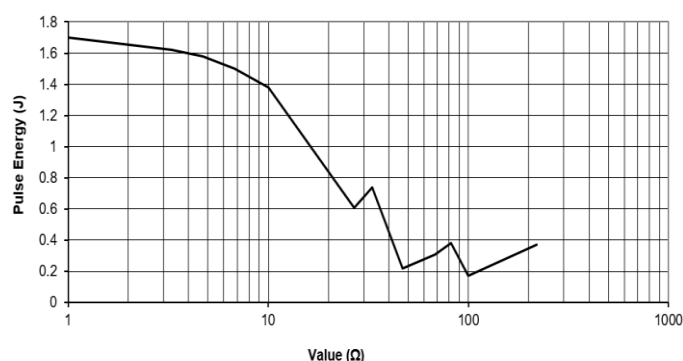
Fusing Characteristic



Note: After fusing the ohmic value is at least 100 times the initial value, provided initial power $\geq 28\text{W}$ is applied.

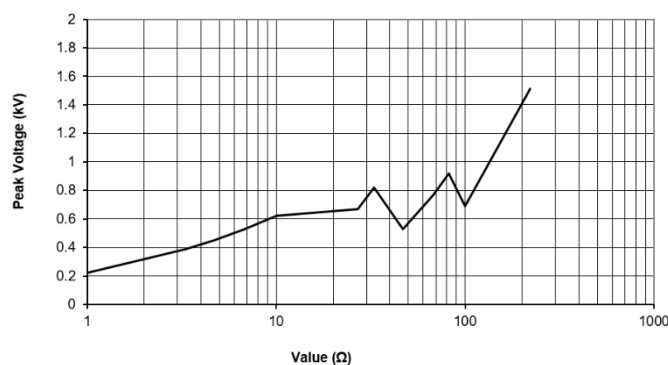
Pulse Energy Limits

(single pulse or low repetition rate, $|\Delta R| < 5\%$)



Surge Performance

(1.2/50μs, 10 pulses at 60s intervals, $|\Delta R| < 5\%$)



Application Notes

For the purposes of UL approval and safe fusing performance, the following points should be observed:

1. To protect against fire under all conditions of overload, a positive clearance of 13mm should be provided between the body of the resistor and any combustible materials.
2. A positive clearance of 13mm should be provided between the resistor and uninsulated parts of opposite polarity or uninsulated dead metal parts.
3. Limited Short Circuit testing should be performed in the complete appliance.

Packaging

Packing Dimensions in mm										
Type	O ± 3	P ± 0.3	L1 nom.	L2 nom.	L1-L2	T ± 1	Z max.	R max.	t ± 1	S max.
FAW1	58	5	24		± 1	6	1	0	4	0.5
FAW1U			17	31	-					

FAW1 is standard symmetrically taped whilst FAW1U is a variant taping option with an unequal lead length which is suitable for vertical radial preforming. Taped product is then packed into ammo boxes.

Ordering Procedure

Example: FAW1-47RJA1 (47 ohms $\pm 5\%$, Pb-free)

F	A	W	1	-	4	7	R	J	A	1
1	2	3	4	5						

1 Type	2 Variant	3 Value	4 Tolerance	5 Packing
FAW1	Blank = Standard U = Unequal lead length	E24 3/4 characters R = ohms	J = $\pm 5\%$	A1 = Ammo, 1000/box