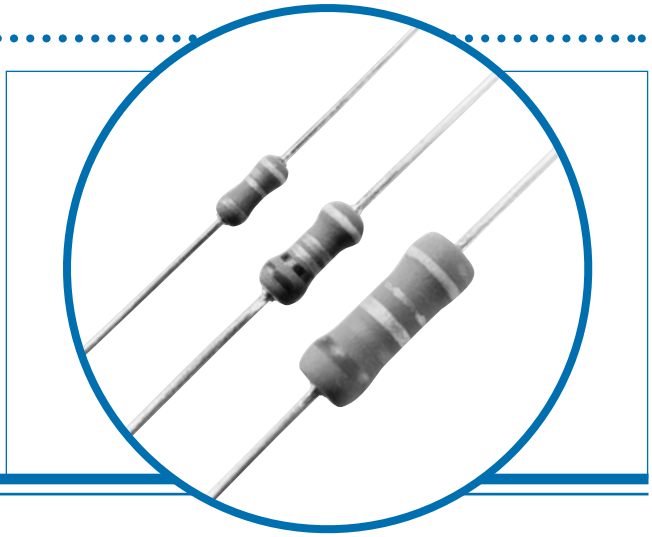
Fusible Metal Film Resistors

TT electronics
Welwyn Components

FA8025 series

- **Predictable fusing characteristics**
- **Flameproof protection**



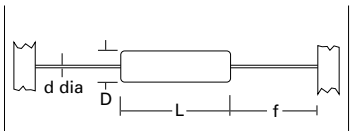
Electrical Data

		FA8225	FA8325	FA8425
Power rating at 70˚C	watts	0.25	0.5	1.5
Resistance range	ohms	0R1 - 10k	0R1 - 27k	0R15 - 22k
Limiting element voltage	volts	250	350	500
TCR	ppm/˚C	250	250	250
Resistance tolerance	%		5	
Standard values			E24 preferred	
Thermal impedance	˚C/watt	150	120	90
Ambient temperature range	˚C		-55 to 155	

Physical Data

Dimensions (mm) & Weight (g)

Type	L max	D max	f min	d nom	PCB mounting centres	Min. bend radius	Wt. nom
FA8225	6.2	2.5	21	0.6	10.2	0.6	0.3
FA8325	9.0	3.4	19.6	0.8	12.7	1.2	0.6
FA8425	14.5	5.1	23.8	0.8	20.3	1.2	1.1



Construction
The metal film is deposited on a high purity ceramic rod. End caps are force fitted and termination wires welded to the caps. The resistive film is adjusted to the required value by a helical cut; finally the cement protection is applied to the resistor body and marked with indelible ink.

Terminations
Material Solder-coated copper wire.

Strength The terminations meet the requirements of IEC 68.2.21.

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

Marking
Resistors are colour coded with five bands. Four of the bands are used to indicate value and tolerance, with IEC 62 colours being used. On FA8325 and FA8425 types a fifth yellow band denotes constant voltage fusibility.

Solvent Resistance
The body protection and marking are resistant to all normal industrial cleaning solvents suitable for printed circuits.

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

Welwyn
A subsidiary of
TT electronics plc

Telephone: +44 (0) 1670 822181 · Facsimile: +44 (0) 1670 829465 · Email: info@welwyn-tt.com · Website: www.welwyn-tt.com

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Performance Data

		Maximum	Typical
Load: 1000 hours at 70˚C	ΔR%	2	0.5
Shelf life: 12 months at room temperature	ΔR%	0.5	0.2
Derating from rated power at 70˚C		zero at 155˚C	
Temperature rapid change	ΔR%	0.5	0.2
Resistance to solder heat	ΔR%	0.5	0.2

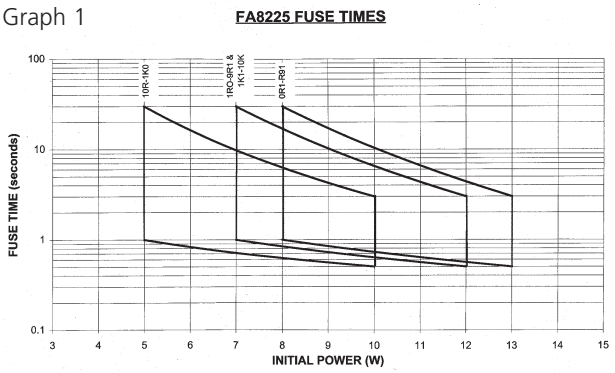
Predicting Fusing Time For Defined Power Input

Graphs 1 to 3.

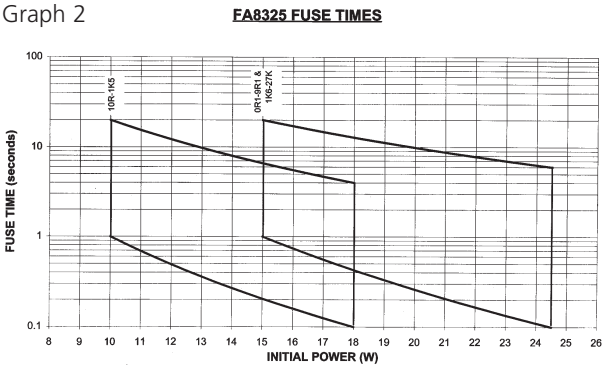
Fusing:

After fusing the final resistance value will be ≥50 times the initial value. See graph for explanation of fusing curves.

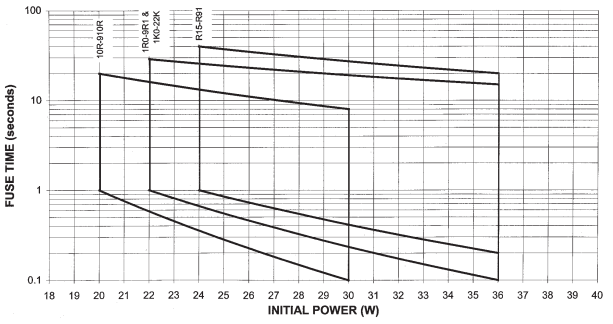
Graph 1



Graph 2

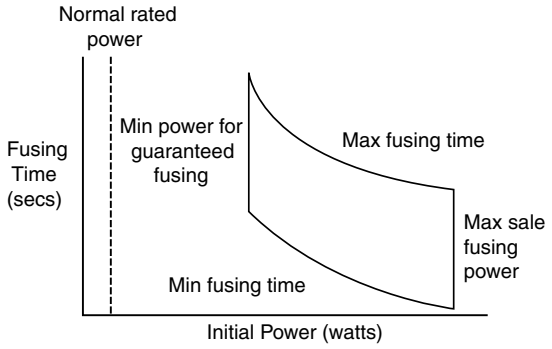


Graph 3



Fusible Resistors: Typical Fusing Window

Graph 4.



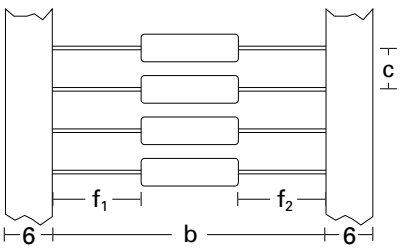
Packaging

The preferred method of packaging is taped and ammo packed, see figure 1 for critical dimensions.

Alternative packaging is available by special request.

Lead Formed resistors can also be supplied. Standard options of Lancet, Radial and Goalpost forming are shown in Lead Form Information section.

Figure 1



Body Location $f_1 - f_2 \leq 1.4$ mm

Type	FA82*	FA82/FA83	FA84
b	26	52	67
c	5	5	10

Standard Quantities Per Package

Type	FA8225	FA8325	FA8425
Ammopack	5000	2500	1000

 Bedlington, Northumberland NE22 7AA, UK
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