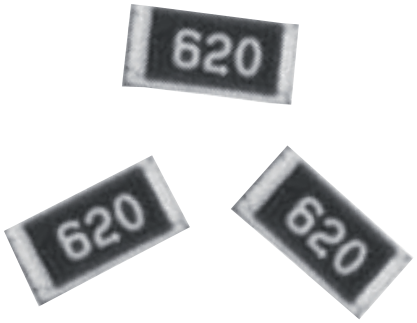
Resistors

Fusible Chip Resistors

FCR Series

- Fuses safely under defined overload conditions
- Combines inrush limit and board-level protection
- Standard chip formats for fast placement
- RoHS compliant matt tin finish



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

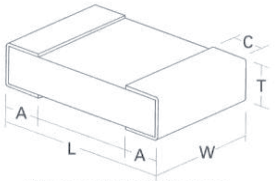
Electrical Data

		0603	0805	1206	1210	2010
Power rating @ 70ºC	watts	0.063	0.1	0.125	0.25	0.5
Resistance range	ohms	5R6 – 33R	10 – 82R		10 – 300R	10 – 100R
Minimum power for <60s fusing time	watts	2	2.5		10–27R: 3.75 30-300R: 3.0	4.5
Maximum post-fuse standoff (dc or ac peak)	volts	25	50		100	
TCR	ppm/ºC	±500				
Resistance tolerance	%	±5				
Ambient temperature range	ºC	-55 to +125				
Standard values		E24				

Physical Data

Dimensions (mm) and weight (g)

	L	W	C	A	T max
0603	1.6±0.15	0.8±0.2	0.25±0.2	0.25±0.2	0.65
0805	2.0±0.2	1.25±0.2	0.4±0.2	0.4±0.2	0.65
1206	3.2±0.15	1.6±0.15	0.5±0.2	0.5±0.2	0.70
1210	3.2±0.15	2.6±0.15	0.5±0.2	0.5±0.2	0.70
2010	5.0±0.15	2.5±0.2	0.6±0.25	0.6±0.25	0.71



Wrap-around terminations
(3 faces)

Construction

Conductors, resistive element and protection are applied to a 96% alumina substrate. The design and laser adjustment of the resistive element optimises the fusing performance of the resistor.

Terminations

The chips are supplied with wrap-around terminations suitable for soldering.

Solderability

The terminations have an electroplated nickel barrier and 100% matt tin finish. This ensures excellent 'leach' resistance properties and solderability.

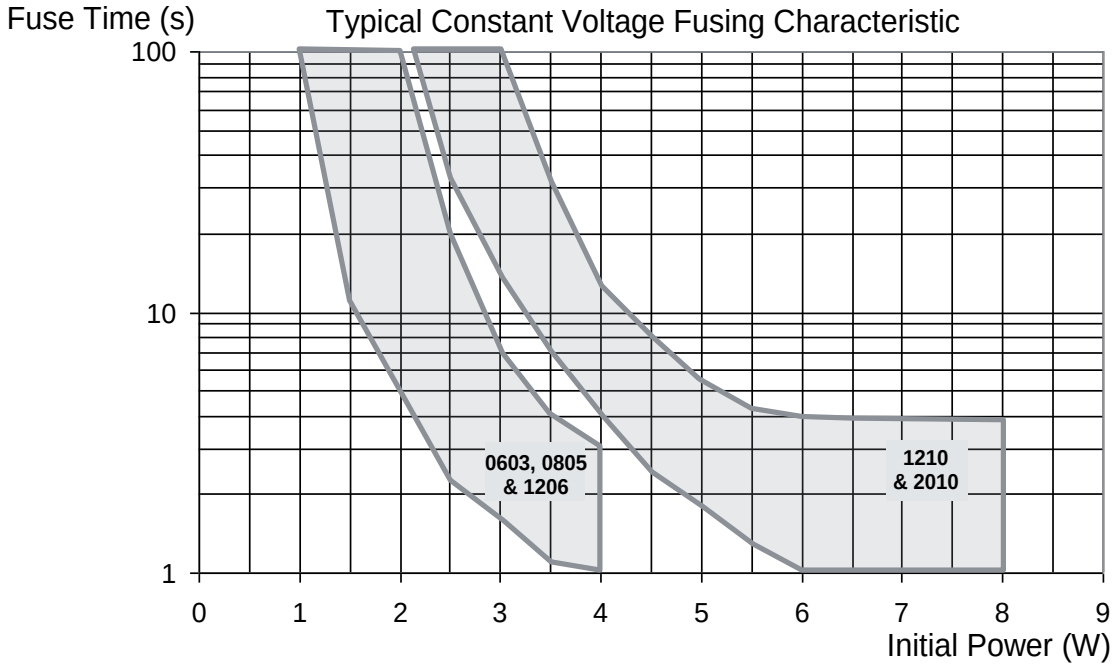
Marking

The body protection is resistant to all normal cleaning solvents suitable for printed circuits. All resistors are individually marked with 3 digits. The first two digits are the significant figures and the third defines the number of added zeros.

Performance Data

		Maximum	Typical
Load at rated power: 1000 hours cyclic load @ 70°C	ΔR%	1	0.1
Shelf life test: 12 months at room temperature	ΔR%	0.2	0.1
Derating from rated power at 70°C		Zero at 125°C	
Short term overload: 10 cycles of 6.25 x rated power for 5S	ΔR%	2.5	0.1
Climatic category		55/125/56	
Long term damp heat 56 days 85°C 85%RH	ΔR%	3	0.5
Temperature rapid change -55 to 125°C	ΔR%	1	0.1
Resistance to solder heat	ΔR%	2.5	1
Post-fuse leakage: 50Vdc (25Vdc for 0603)	mA	10	2
Voltage proof	volts	400	
Insulation resistance @ 100Vdc	ohms	>100M	

Fusing Performance



Note – actual fusing characteristics depend on mounting conditions. Reference conditions are FR4 substrate with 35• m (1oz) copper, pad and track width as follows: 0603 – 1.5mm, 0805 – 1.7mm, 1206 – 2mm, 1210 – 2.9mm, 2010 – 3mm.

Packaging

FCR Resistors are supplied taped and reeled on a 7" reel as per IEC 286-3. The width of the reel is 15.4±1mm for 2010 size and 11.4±1.1mm for the smaller sizes.

Ordering Procedure

Example: FCR1210-22RJI (FCR1210, 22 ohms ±5%, Pb-free)

F	C	R	1	2	1	0	-	2	2	R		J	I
1			2					3				4	5

1 Series	2 Size	3 Value	4 Tolerance	5 Packing			
FCR	0603	E24 = 3/4 characters	J = ±5%	I	Tape	0603, 0805, 1206, 1210	5000/reel
	0805	R = ohms				2010	4000/reel
	1206						
	1210						
	2010						