

FUSIBLE CHIP RESISTORS

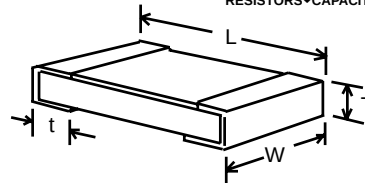
FC SERIES



Term.W is
RoHS
compliant
& 260°C
compatible



RESISTORS • CAPACITORS • COILS • DELAY LINES



- Industry's broadest range of fusible chip resistors- 7 standard sizes from 0402 to 2512, widest resistance range- 1Ω to 10K standard
- Perform like conventional chip resistors under normal conditions but fuse when subject to overloads
- Standard tolerance: ±5%,10% (1%,2% available)
- See MBW Series for additional SM fuse resistors (1/4W-3W)

OPTIONS

- Option ER: Group A screening per Mil-PRF-55342
- Customized fusing time and/or fusing power level

Surface Mount Circuit Protection!

RCD Series FC resistors offer a low cost approach to circuit protection in case of overload or component failure. The resistor is designed to act as a conventional resistor under normal operating conditions, but will quickly open when subjected to suitable continuous overload. Standard fusing characteristics can be altered to customer requirements.

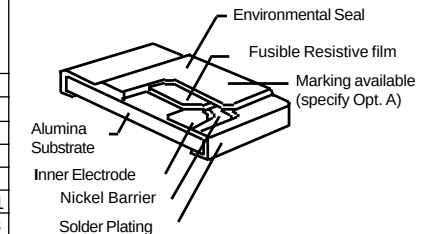
RCD Type	Wattage Rating	Max. Hold-Off Voltage	Resistance Range	DIMENSIONS			
				L	W	T	t
FC0402	.10W	50V ¹	1Ω to 1KΩ ²	.040 ± .004 [1.0 ± .10]	.020 ± .002 [0.5 ± .05]	.014 ± .004 [.35 ± .15]	.010 ± .005 [.25 ± .12]
FC0603	.125W	100V ¹	1Ω to 1.8KΩ ²	.063 ± .008 [1.6 ± .20]	.031 ± .005 [0.8 ± .13]	.018 ± .006 [.45 ± .15]	.012 ± .008 [.30 ± .20]
FC0805	.15W	150V ¹	1Ω to 3KΩ ²	.079 ± .008 [2.0 ± .20]	.050 ± .006 [1.25 ± .15]	.018 ± .006 [.45 ± .15]	.014 ± .008 [.35 ± .20]
FC1206	.25W	200V ¹	1Ω to 5.1KΩ ²	.126 ± .008 [3.2 ± .20]	.063 ± .008 [1.6 ± .20]	.020 ± .006 [.50 ± .15]	.020 ± .010 [.51 ± .25]
FC1210	.50W	250V ¹	1Ω to 6.2KΩ ²	.126 ± .008 [3.2 ± .20]	.098 ± .008 [2.5 ± .20]	.024 ± .008 [.61 ± .20]	.020 ± .010 [.51 ± .25]
FC2010	.75W	300V ¹	1Ω to 7.5KΩ ²	.197 ± .008 [5.0 ± .20]	.100 ± .008 [2.6 ± .20]	.024 ± .008 [.61 ± .20]	.020 ± .010 [.51 ± .25]
FC2512	1.0W	400V ¹	1Ω to 10KΩ ²	.248 ± .008 [6.3 ± .20]	.124 ± .010 [3.2 ± .25]	.024 ± .008 [.61 ± .20]	.030 ± .018 [.75 ± .46]

¹Open circuit voltage (consult factory for increased voltage rating) ²Extended resistance range available

TYPICAL PERFORMANCE CHARACTERISTICS

REQUIREMENTS	CHARACTERISTICS	TEST METHOD
Min. Fusing Power	FC0402 <30 sec at 2.5W FC0603 <30 sec at 3W FC0805 <30 sec at 3.25W FC1206 <30 sec at 5W FC1210 <30 sec at 7.5W FC2010 <30 sec at 11.25W FC2512 <30 sec at 15W	Unmounted, 25°C, residual resistance to be a minimum of 100X the original value.
Temperature Coefficient	200ppm/°C (<5Ω=250ppm)	25°C to +125°C
Resistance to Soldering Heat	± 0.25%	260 ± 5°C, 3 seconds
High Temperature Exposure	± 0.5%	100 hours @ +125°C
Low Temp. Operation	± 0.5%	-55°C, 1 hour
Moisture Resistance	± 1.5%	MIL-PRF-55342
Load Life (1000 hours)	± 5%	Rated W per MIL-PRF-55342 4.8.11.1
Thermal Shock	± 0.5%	-55°C to +125°C, 0.5 hours, 5 cycles
Solderability	95% (Min.)	MIL-Std-202, Method 208
Dielectric Withstanding Voltage	250V (100V 0402 & 0603)	60 Seconds, terminal to ceramic
Operating Temp. Range	-55°C to +125°C	
Derating (above 70°C)	derate W & V by 1.18%/°C	

CONSTRUCTION



APPLICATION NOTES:

- Fault level must be suitable to safely open the resistor. If insufficient the resistor may reach elevated temp. For this reason, the fusing load must be relatively large compared to rated W, 30-60x is common for most circuits, and should be at least equal to the minimum fusing power listed in Performance Chart. Fusing may still occur at W levels below these but not as consistently (fast-blow models available).
- Don't exceed volt rating or 200x W rating, whichever is less. Customers should evaluate product for suitability under all possible overload scenarios. Customized fusing characteristics are available. Fusing times vary depending on the amount of "heat sinking" involved, i.e. PCB material, pad size, trace thickness, etc.
- Customers should evaluate fusing in actual-use conditions. Exercise care when testing fuse resistors.

P/N DESIGNATION:

FC1206 - **102** - **J** **T** **W**

RCD Type _____

Option Codes: ER, A, etc. (leave blank if standard)

Resis.Code 1%: 3 signif. figures & multiplier (1R00=1Ω, 10R0=10Ω, 1000=100Ω, 1001=1K, 1002=10K)

Resis.Code 2%-10%: 2 signif. figures & multiplier, (1R0=1Ω, 100=10Ω, 101=100Ω, 102=1K, 103=10K)

Tolerance Code: F= 1%, J= 5%, K=10%

Packaging: B = Bulk, T = Tape & Reel

Termination: W= Lead-free, Q= Tin/Lead (leave blank if either is acceptable, in which case RCD will select based on lowest price and quickest delivery)