SMD Thin-Film Fuse



Accu-Guard® II is a version of Accu-Guard® fuses for a wider range of current and voltage ratings. Constructed on alumina substrates, Accu-Guard® II fuses display superior electrical, mechanical and environmental properties. Accu-Guard® II dimensions are standard 0402, 0603, 0805, 1206 and 0612 chip sizes, see page 2.

ELECTRICAL SPECIFICATIONS

Operating temperature: -55°C to +125°C

Current carrying capacity:

For F0402E and F0603E at -55°C 107% of rating, at -25°C 100% of rating, at +125°C 80% of rating. For F0603C at -55°C is 107% of rating, at +25°C 100% of rating, at +85°C 90% of rating, at +125°C 75% of rating.

For F1206B and F0805B at -55°C is 107% of rating, at +25°C 100% of rating, at +85°C 93% of rating, at +125°C 90% of rating. For F0805B 2.50A and 3.00A at +85°C 90% of rating, at +125°C 90% of rating.

Interrupting rating: 50A.

Insulation resistance: $>20M\Omega$ guaranteed (after fusing at rated voltage).

For F0612D at -55°C 107% of rating, at +25°C 100% of rating, at +85°C 80% of rating, at +125°C 75% of rating.

		Current	Resistance	Voltage Drop	Fusing Current	Pre-Arc	Rated
Туре	Part Number	Rating	10% x I rated, 25°C	@1 x I rated, 25°C	(within 5 sec), 25°C	I ² t @ 50A	Voltage
		Α	Ω (max.)	mV (max.)	Α	A ² -sec	V
F0402E	F0402E0R25FSTR	0.25	0.650	220	0.625	0.00005*	32
	F0402E0R50FSTR	0.50	0.250	180	1.25	0.0003	32
	F0402E0R75FSTR	0.75	0.200	180	1.875	0.003	32
	F0402E1R00FSTR	1.00	0.130	160	2.50	0.008	32
	F0402E1R50FSTR	1.50	0.060	140	3.75	0.03	32
	F0402E2R00FSTR	2.00	0.040	120	5.00	0.06	32
	F0603E0R25FSTR	0.25	0.650	220	0.625	0.00005*	32
	F0603E0R37FSTR	0.375	0.450	220	0.940	0.0001	32
	F0603E0R50FSTR	0.50	0.250	180	1.25	0.0003	32
	F0603E0R75FSTR	0.75	0.200	180	1.875	0.003	32
	F0603E1R00FSTR	1.00	0.130	160	2.50	0.008	32
F0603E	F0603E1R25FSTR	1.25	0.090	140	3.125	0.01	32
	F0603E1R50FSTR	1.50	0.060	140	3.75	0.03	32
	F0603E1R75FSTR	1.75	0.050	120	4.375	0.04	32
	F0603E2R00FSTR	2.00	0.040	120	5.00	0.06	32
	F0603E2R50FSTR	2.50	0.035	100	6.25	0.12	32
	F0603E3R00FSTR	3.00	0.030	100	7.50	0.25	32
	F0603C0R25FWTR	0.25	0.800	280	0.50	0.00003*	32
	F0603C0R37FWTR	0.375	0.500	280	0.75	0.0001	32
	F0603C0R50FWTR	0.50	0.320	280	1.00	0.0002	32
	F0603C0R75FWTR	0.75	0.300	280	1.50	0.0015	32
	F0603C1R00FWTR	1.00	0.200	240	2.00	0.004	32
F0603C	F0603C1R25FWTR	1.25	0.170	240	2.50	0.007	32
	F0603C1R50FWTR	1.50	0.110	240	3.00	0.012	32
	F0603C1R75FWTR	1.75	0.090	240	3.50	0.02	24
	F0603C2R00FWTR	2.00	0.075	240	4.00	0.03	24
	F0603C2R50FWTR	2.50	0.055	200	5.00	0.05	16
	F0603C3R00FWTR	3.00	0.045	200	6.00	0.1	16
	F0805B0R25FW/STR	0.25	0.750	280	0.50	0.00003*	63
	F0805B0R50FW/STR	0.50	0.350	280	1.00	0.0002	63
	F0805B0R75FW/STR	0.75	0.270	280	1.50	0.001	63
	F0805B1R00FW/STR	1.00	0.220	280	2.00	0.003	63
F0805B	F0805B1R25FW/STR	1.25	0.170	280	2.50	0.007	63
	F0805B1R50FW/STR	1.50	0.120	240	3.00	0.010	63
	F0805B2R00FW/STR	2.00	0.080	220	4.00	0.030	63
	F0805B2R50FW/STR	2.50	0.060	220	5.00	0.050	63
	F0805B3R00FW/STR	3.00	0.050	220	6.00	0.10	63
	F1206B0R25FW/STR	0.25	0.750	280	0.50	0.00003	63
	F1206B0R50FW/STR	0.50	0.350	280	1.00	0.0002	63
F1206B	F1206B1R00FW/STR	1.00	0.180	240	2.00	0.003	63
	F1206B1R50FW/STR	1.50	0.120	240	3.00	0.010	63
	F1206B2R00FW/STR	2.00	0.080	220	4.00	0.030	63
	F1206B3R00FW/STR	3.00	0.050	220	6.00	0.10	63
F0612D	F0612D4R00FWTR	4.00	0.040	260	10	0.10	32
	F0612D5R00FWTR	5.00	0.025	200	12.5	0.25	32
*0			-1 6				

 $^{^\}star\text{Current}$ is limited to less than 50A at 32V due to internal fuse resistance.







ENVIRONMENTAL CHARACTERISTICS

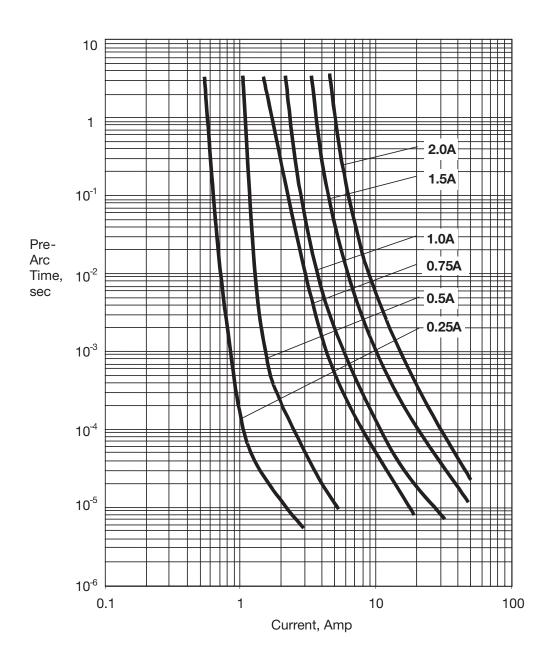
Test	Conditions	Requirement
Solderability	Components completely immersed in a	Terminations to be well tinned
	solder bath at 235 ±5°C for 2 secs.	No visible damage
Leach Resistance	Completely immersed in a solder bath	Dissolution of termination
	at 260 ±5°C for 60 secs.	≤ 25% of area
		ΔR/R<10%
Storage	12 months minimum with components	Good solderability
	stored in "as received" packaging.	
Shear	Components mounted to a substrate.	No visible damage
	A force of 5N applied normal to the	
	line joining the terminations and in	
	a line parallel to the substrate.	
Rapid Change of	Components mounted to a substrate.	No visible damage
Temperature	50 cycles -55°C to +125°C.	Δ R/R<10%
Vibration	Per Mil-Std-202F	No visible damage
	Method 201A and	ΔR/R<10%
	Method 204D Condition D.	
Bend	Tested as shown in diagram	No visible damage
		ΔR/R<10%
	3 mm□ ↓	
	Deflection	
	45mm 45mm	
Load Life	25°C, rated current, 20,000 hrs.	No visible damage
F0805B, F1206B		ΔR/R<10%







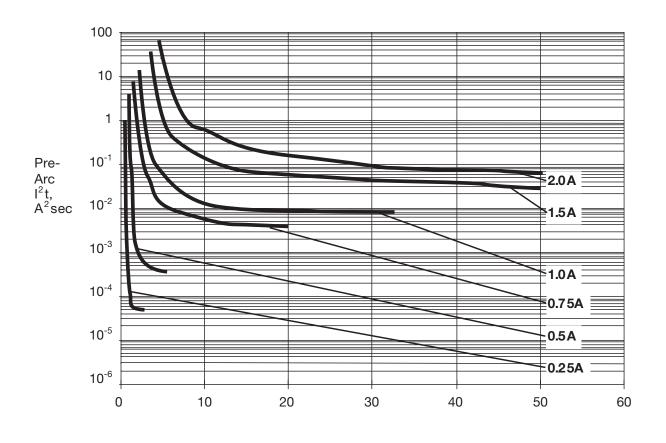
FUSE TIME – CURRENT CHARACTERISTICS FOR TYPE F0402E (TYPICAL)







FUSE PRE-ARC JOULE INTEGRALS VS CURRENT FOR TYPE F0402E (TYPICAL)

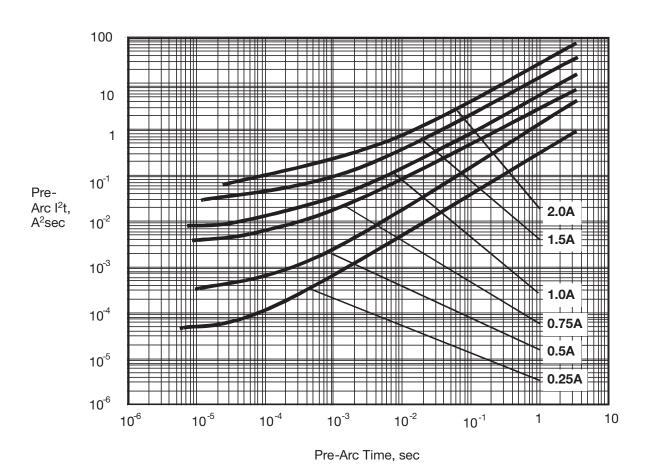


Current, Amp





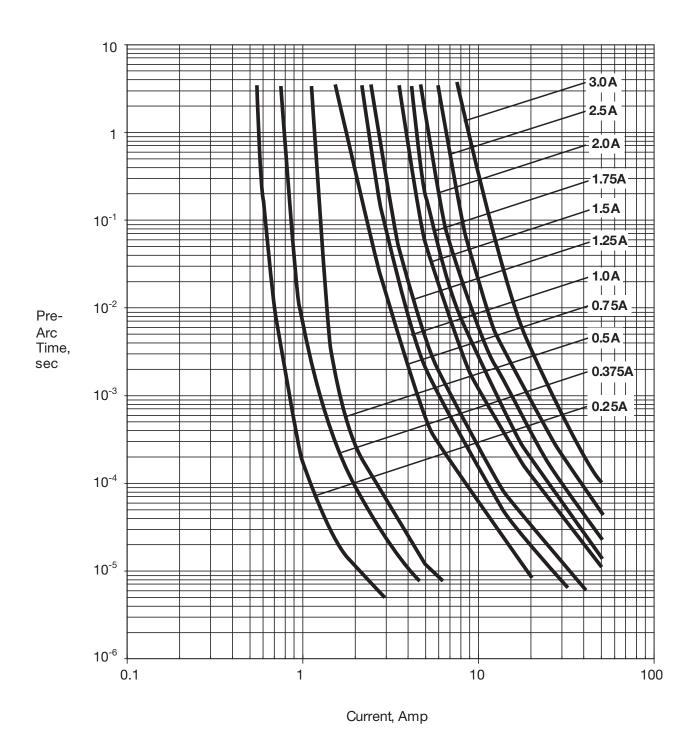
FUSE PRE-ARC JOULE INTEGRALS VS PRE-ARC TIME FOR TYPE F0402E (TYPICAL)







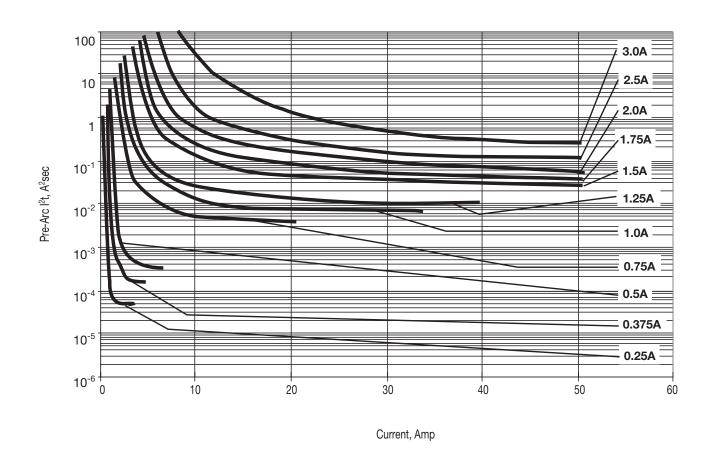
FUSE TIME – CURRENT CHARACTERISTICS FOR TYPE F0603E (TYPICAL)







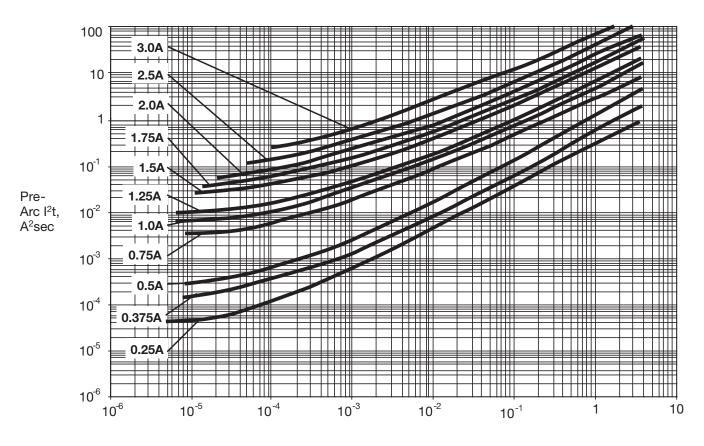
FUSE PRE-ARC JOULE INTEGRALS VS CURRENT FOR TYPE F0603E (TYPICAL)



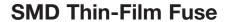




FUSE PRE-ARC JOULE INTEGRALS VS PRE-ARC TIME FOR TYPE F0603E (TYPICAL)

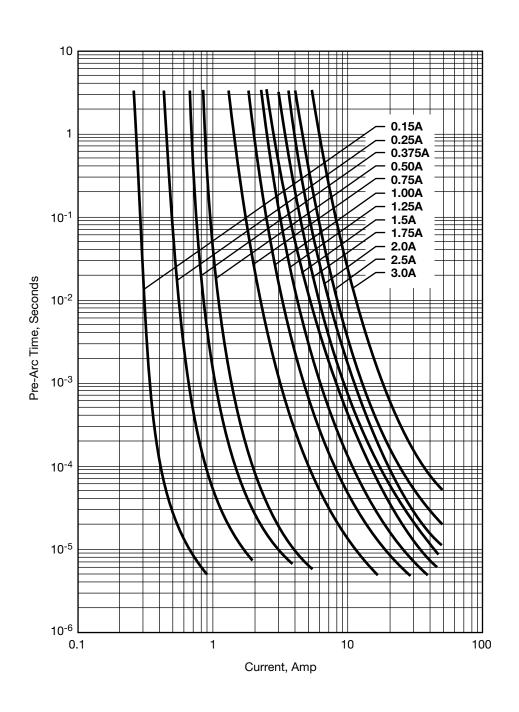


Pre-Arc Time, sec





FUSE TIME - CURRENT CHARACTERISTICS FOR TYPE F0603C (TYPICAL)

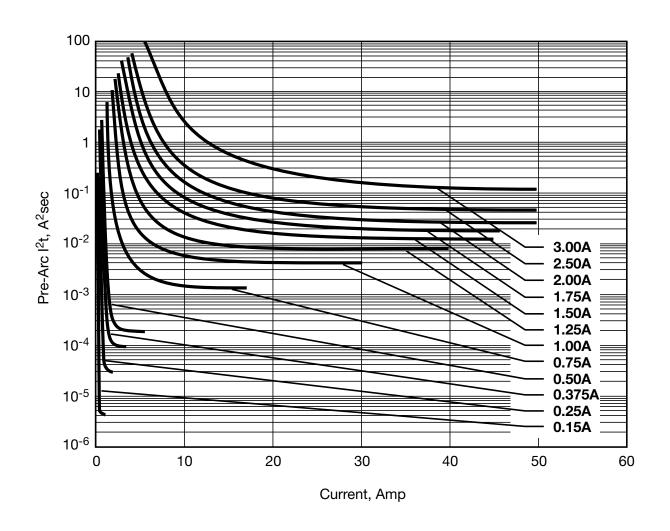








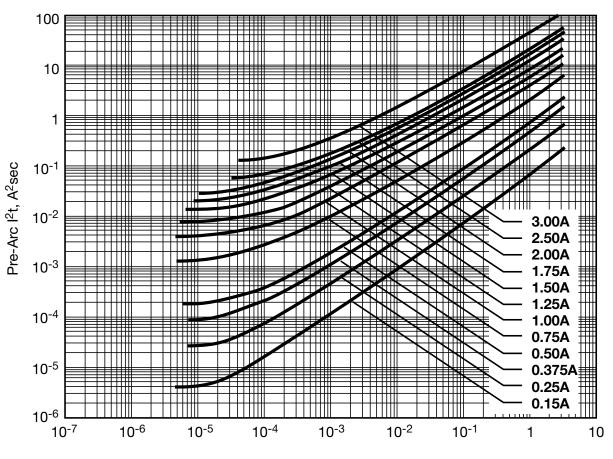
FUSE PRE-ARC JOULE INTEGRALS VS. CURRENT FOR TYPE F0603C (TYPICAL)







FUSE PRE-ARC JOULE INTEGRALS
VS. PRE-ARC TIME FOR TYPE F0603C (TYPICAL)

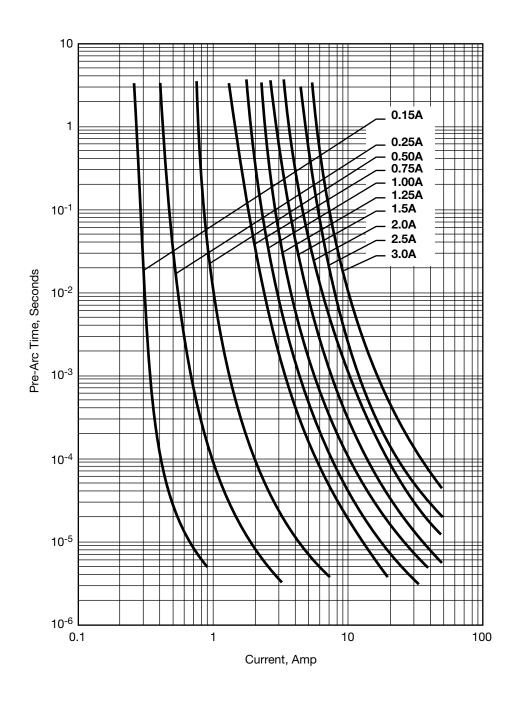


Pre-Arc Time, Seconds

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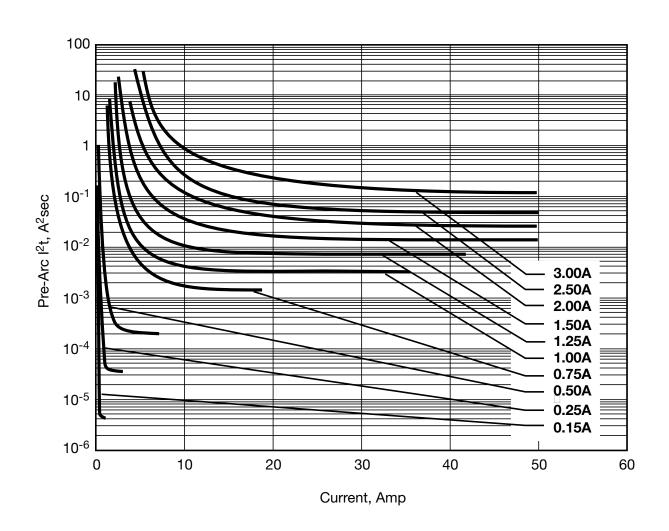
FUSE TIME - CURRENT CHARACTERISTICS FOR TYPES F0805B AND F1206B (TYPICAL)







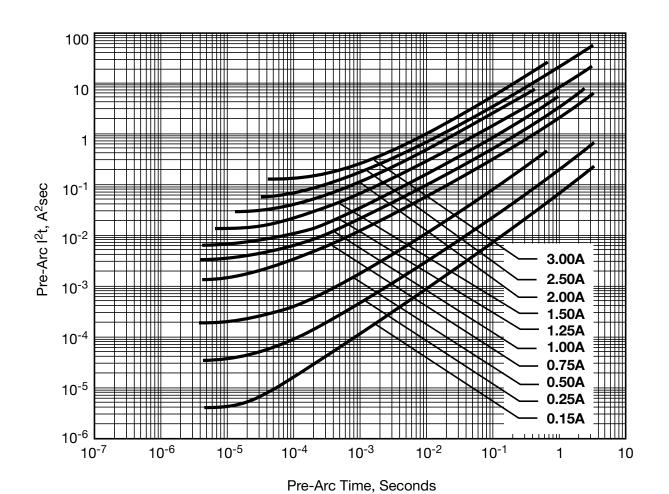
FUSE PRE-ARC JOULE INTEGRALS
VS. CURRENT TIME FOR TYPES F0805B AND F1206B (TYPICAL)

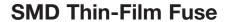






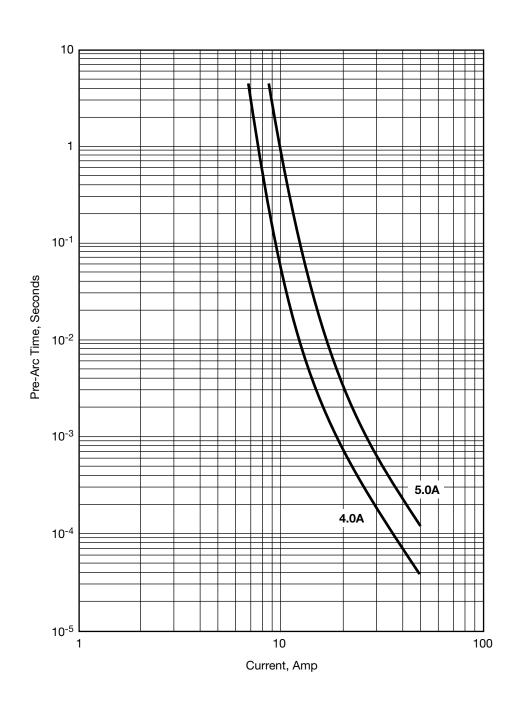
FUSE PRE-ARC JOULE INTEGRALS
VS. PRE-ARC TIME FOR TYPES F0805B AND F1206B (TYPICAL)







FUSE TIME - CURRENT CHARACTERISTICS FOR TYPE F0612D (TYPICAL)

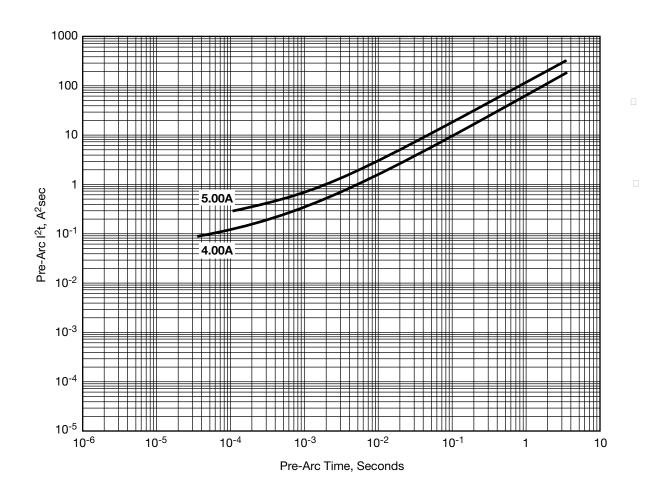








FUSE PRE-ARC JOULE INTEGRALS
VS. PRE-ARC TIME FOR TYPE F0612D (TYPICAL)







FUSE PRE-ARC JOULE INTEGRALS VS. CURRENT FOR TYPE F0612D (TYPICAL)

