Fast Acting Fuse
SMD Thin Film

RoHS Compliant

Electrical Specifications

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

Current carrying capacity : For MCF0402E and MCF0603E at -55°C 107% of rating, at -25°C 100% of rating, at +125°C 80% of rating
For MCF0603C 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 MCF1206B and MCF0805B 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 MCF0805B 2.50A and 3.00A at +85°C 90% of rating, at +125°C 90% of rating

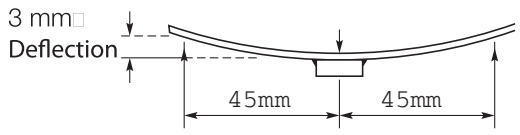
Interrupting rating : 50A

Insulation resistance : >20MΩ 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

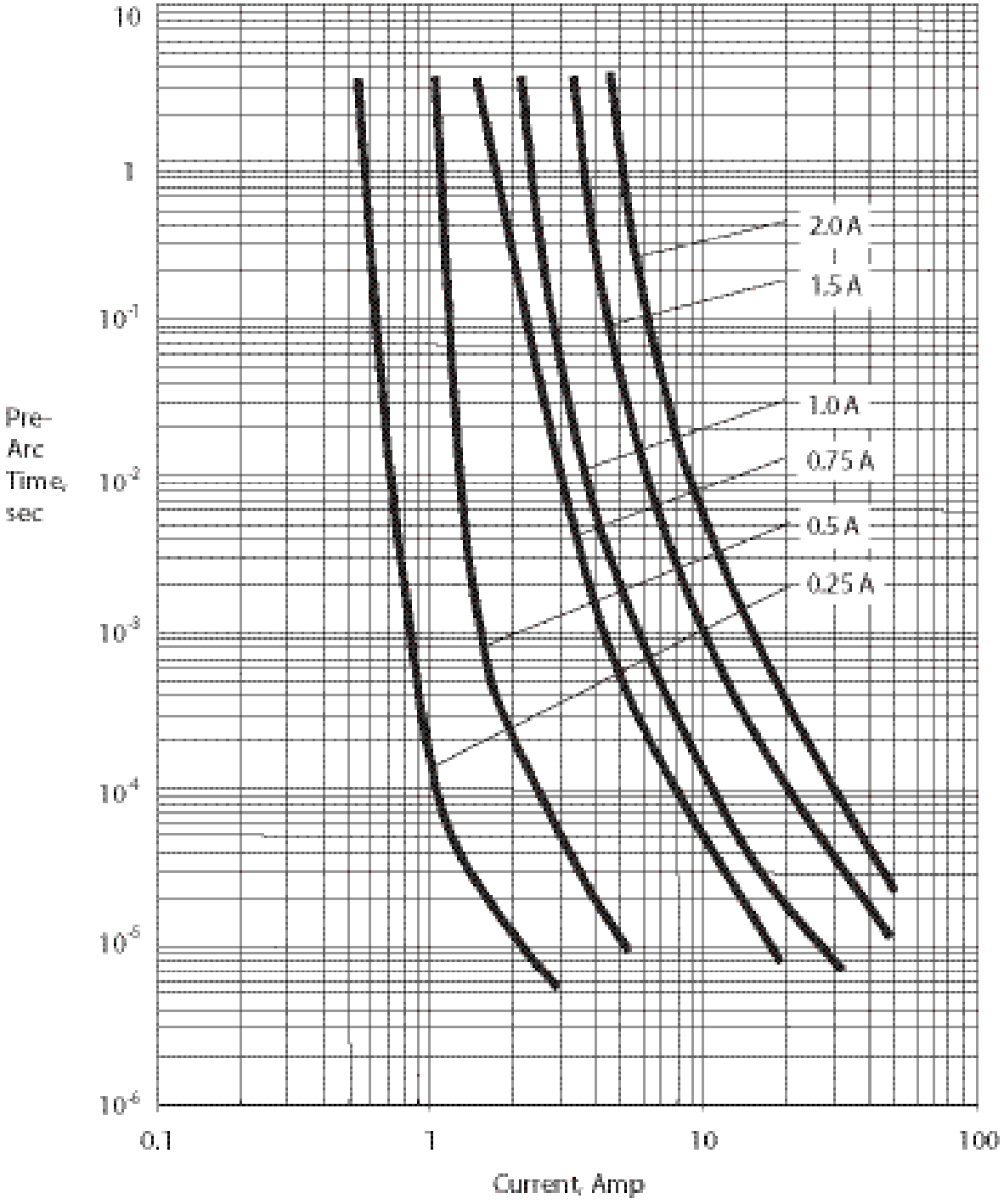
Type	Part Number	Current Rating A	Resistance 10% × I rated, 25°C Ω (max.)	Voltage Drop @1 × I rated, 25°C mV (max.)	Fusing Current (within 5 sec), 25°C A	Pre-Arc I^2t @ 50A A2-sec	Rated Voltage V
F0402E	MCF0402E0R25FSTR	0.25	0.65	220	0.625	0.00005*	32
	MCF0402E0R50FSTR	0.5	0.25	180	1.25	0.0003	32
	MCF0402E0R75FSTR	0.75	0.2	180	1.875	0.003	32
	MCF0402E1R00FSTR	1	0.13	160	2.5	0.008	32
	MCF0402E1R25FSTR	1.25	0.09	140	3.125	0.01	32
	MCF0402E1R50FSTR	1.5	0.06	140	3.75	0.03	32
	MCF0402E2R00FSTR	2	0.04	120	5	0.06	32
	MCF0603E0R25FSTR	0.25	0.65	220	0.625	0.00005*	32
	MCF0603E0R50FSTR	0.5	0.25	180	1.25	0.0003	32
	MCF0603E0R75FSTR	0.75	0.2	180	1.875	0.003	32
	MCF0603E1R00FSTR	1	0.13	160	2.5	0.008	32
F0603E	MCF0603E1R25FSTR	1.25	0.09	140	3.125	0.01	32
	MCF0603E1R50FSTR	1.5	0.06	140	3.75	0.03	32
	MCF0603E2R00FSTR	2	0.04	120	5	0.06	32
	MCF0805B0R25FSTR	0.25	0.75	280	0.5	0.00003*	63
	MCF0805B0R50FSTR	0.5	0.35	280	1	0.0002	63
	MCF0805B0R75FSTR	0.75	0.27	280	1.5	0.001	63
	MCF0805B1R00FSTR	1	0.22	280	2	0.003	63

F0805B	MCF0805B1R25FSTR	1.25	0.17	280	2.5	0.007	63
	MCF0805B1R50FSTR	1.5	0.12	240	3	0.01	63
	MCF0805B2R00FSTR	2	0.08	220	4	0.03	63
	MCF0805B2R50FSTR	2.5	0.06	220	5	0.05	63
	MCF0805B3R00FSTR	3	0.05	220	6	0.1	63
	MCF1206B0R20FSTR	0.2	0.75	280	0.5	0.00003	63
	MCF1206B0R50FSTR	0.5	0.35	280	1	0.0002	63
F1206B	MCF1206B1R00FSTR	1	0.18	240	2	0.003	63
	MCF1206B1R50FSTR	1.5	0.12	240	3	0.01	63
	MCF1206B2R00FSTR	2	0.08	220	4	0.03	63
	MCF1206B2R50FSTR	2.5	0.06	220	5	0.05	63
	MCF1206B3R00FSTR	3	0.05	220	6	0.1	63
F0612D	MCF0612D4R00FSTR	4	0.04	260	10	0.1	32
	MCF0612D5R00FSTR	5	0.025	200	12.5	0.25	32

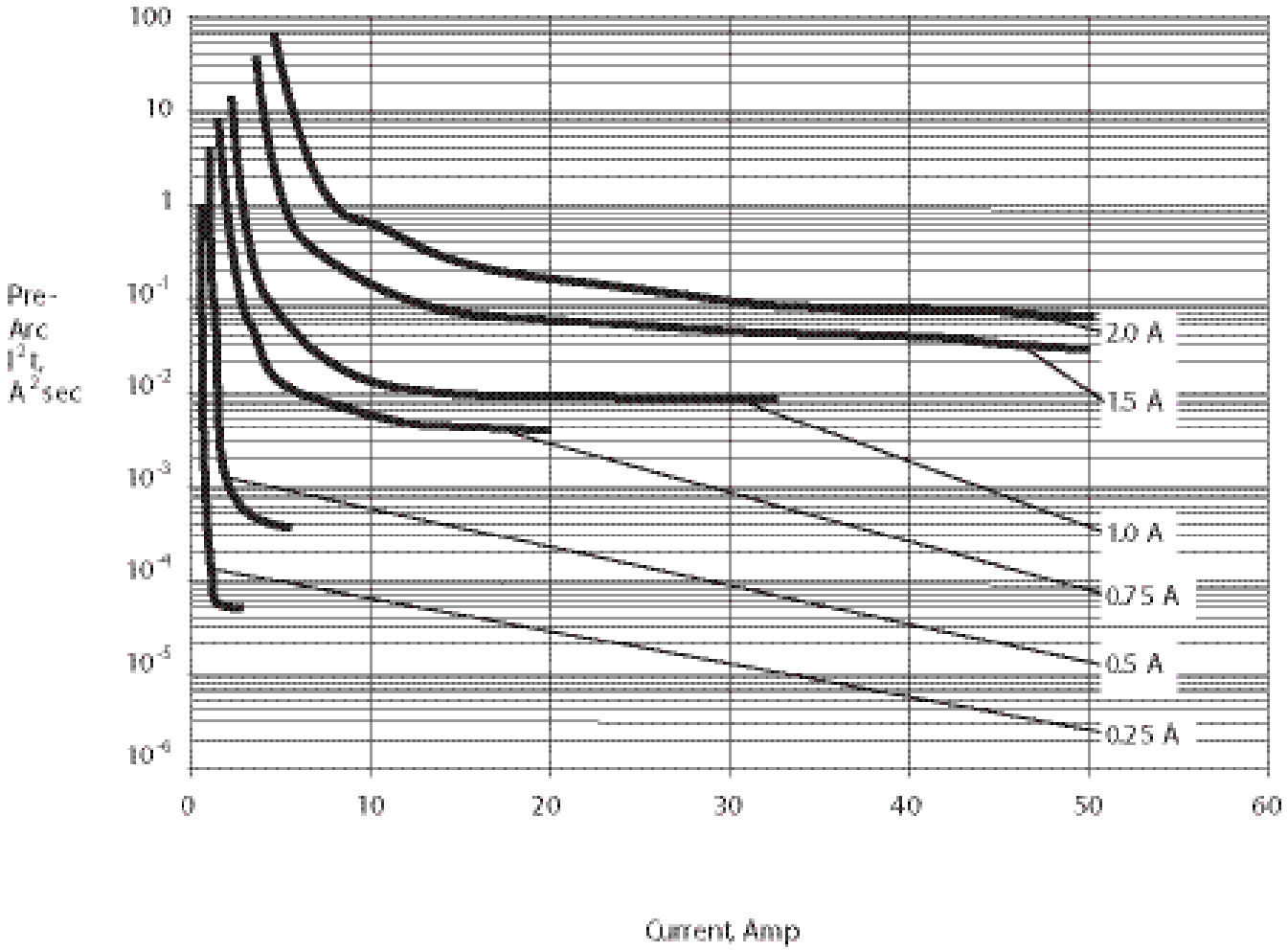
Environmental Characteristics

Test	Conditions	Requirement
Solderability	Components completely immersed in a solder bath at 235 ±5°C for 2 secs.	Terminations to be well tinned No visible damage
Leach Resistance	Completely immersed in a solder bath at 260 ±5°C for 60 secs.	Dissolution of termination ≤ 25% of area ΔR/R<10%
Storage	12 months minimum with components stored in “as received” packaging.	Good solderability
Shear	Components mounted to a substrate. A force of 5N applied normal to the line joining the terminations and in a line parallel to the substrate.	No visible damage
Rapid Change of Temperature	Components mounted to a substrate. 50 cycles -55°C to +125°C.	No visible damage Δ R/R<10%
Vibration	Per Mil-Std-202F Method 201A and Method 204D Condition D.	No visible damage ΔR/R<10%
Bend	Tested as shown in diagram 	No visible damage ΔR/R<10%
Load Life MCF0805B, MCF1206B	25°C, rated current, 20,000 hrs.	No visible damage ΔR/R<10%

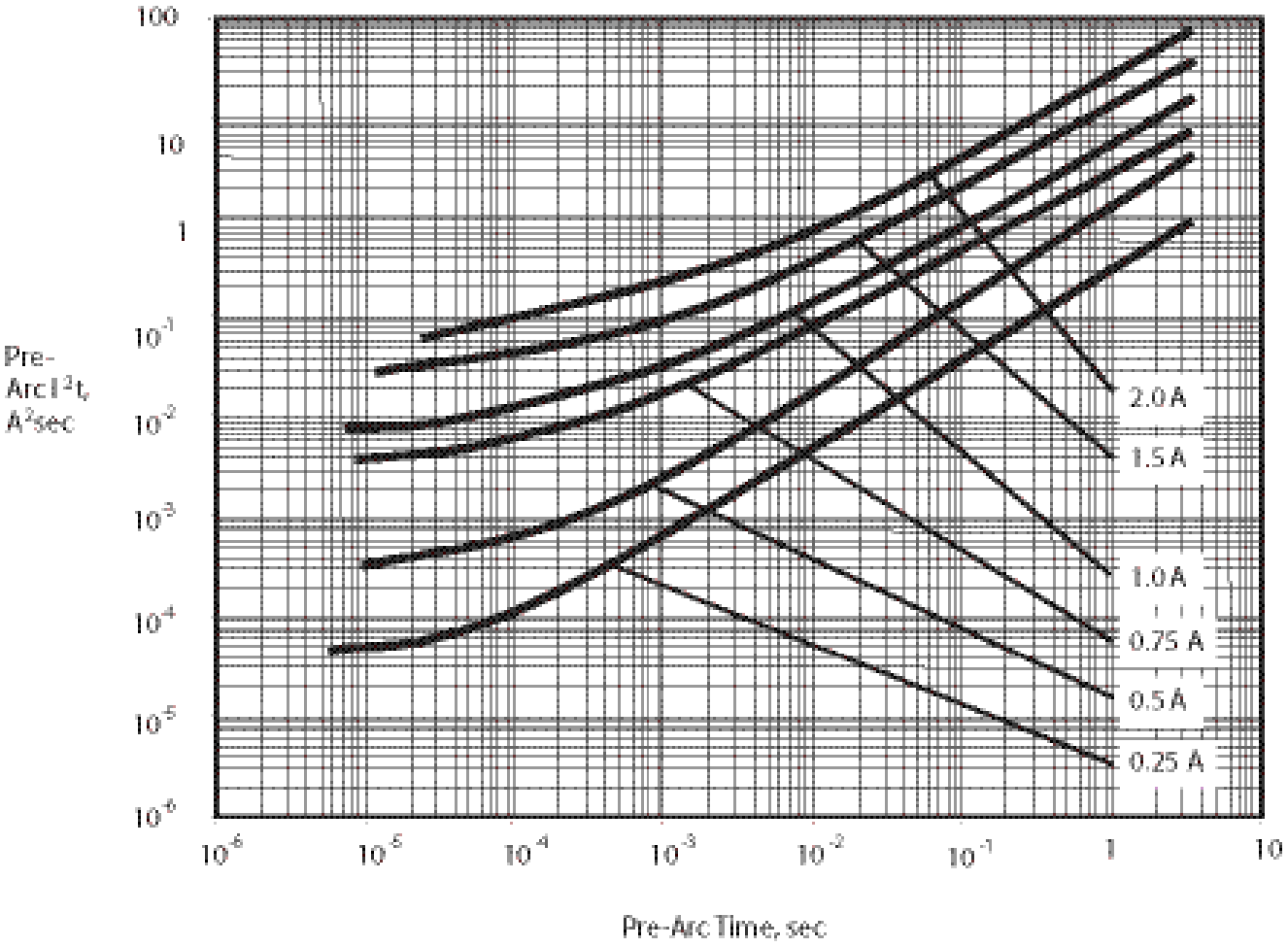
Fuse Time – Current Characteristics
for Type MCF0402E (Typical)



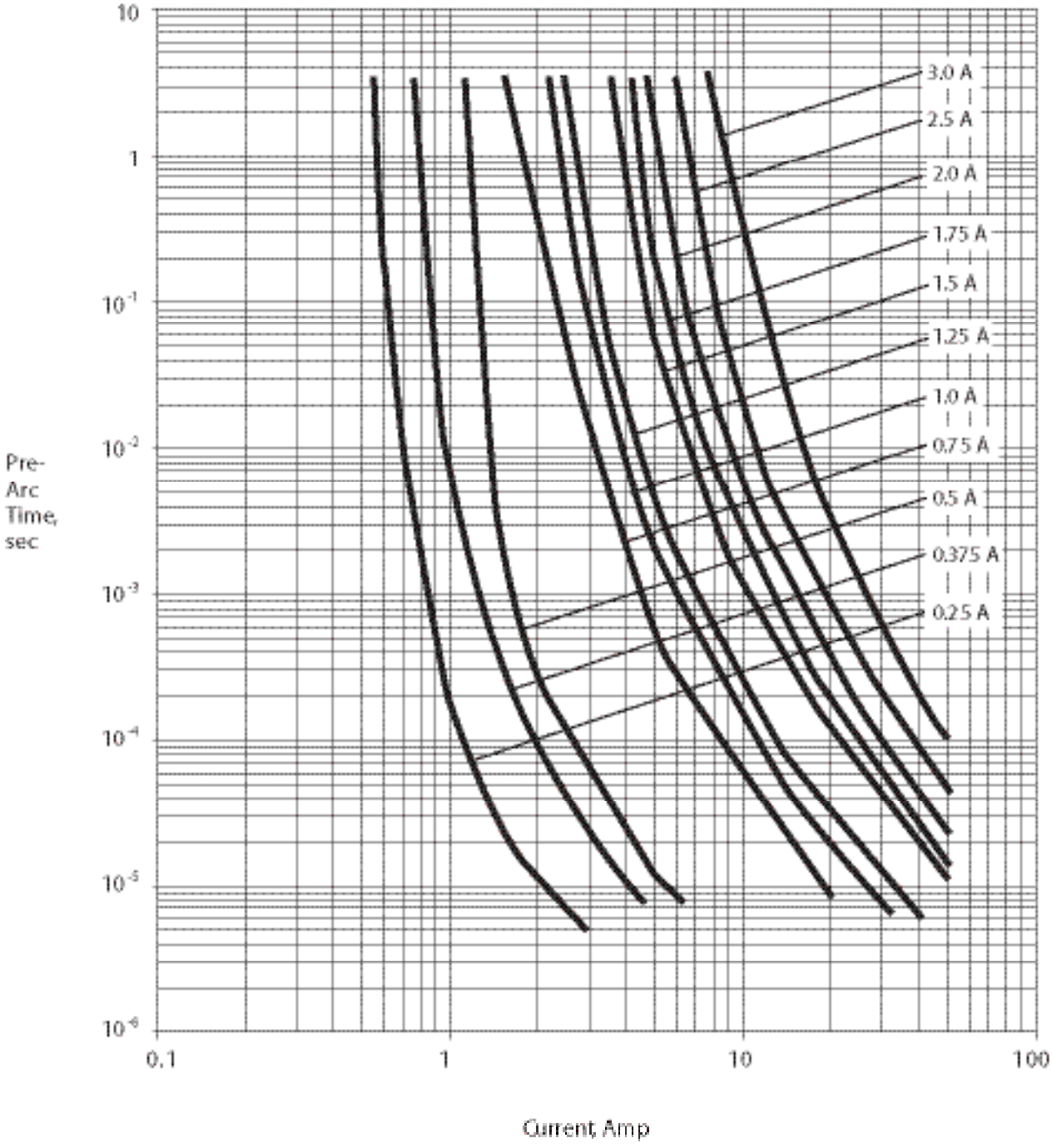
Fuse Pre-Arc Joule Integrals vs Current
for Type MCF0402E (Typical)



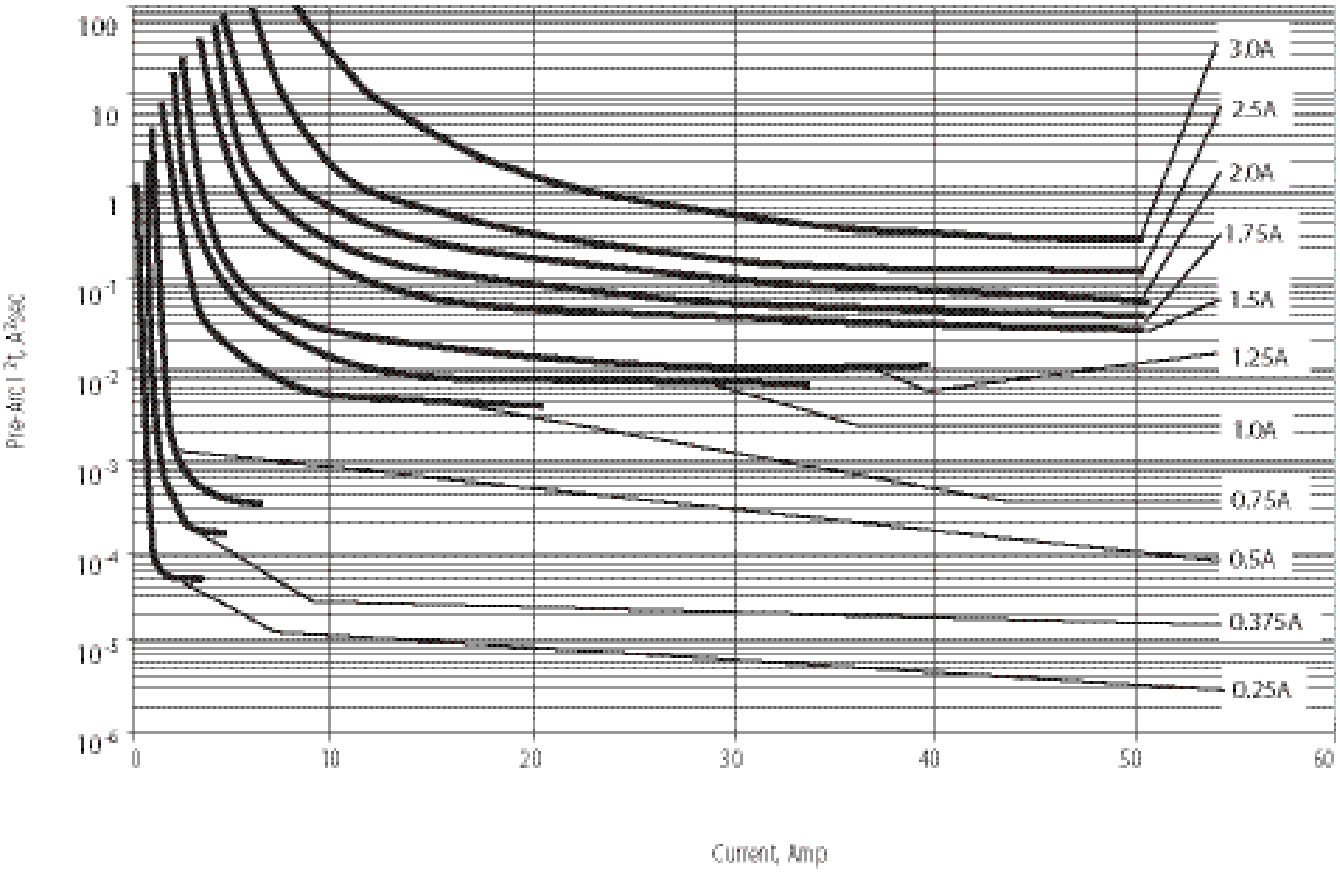
Fuse Pre-Arc Joule Integrals vs Pre-Arc Time
for Type MCF0402E (Typical)



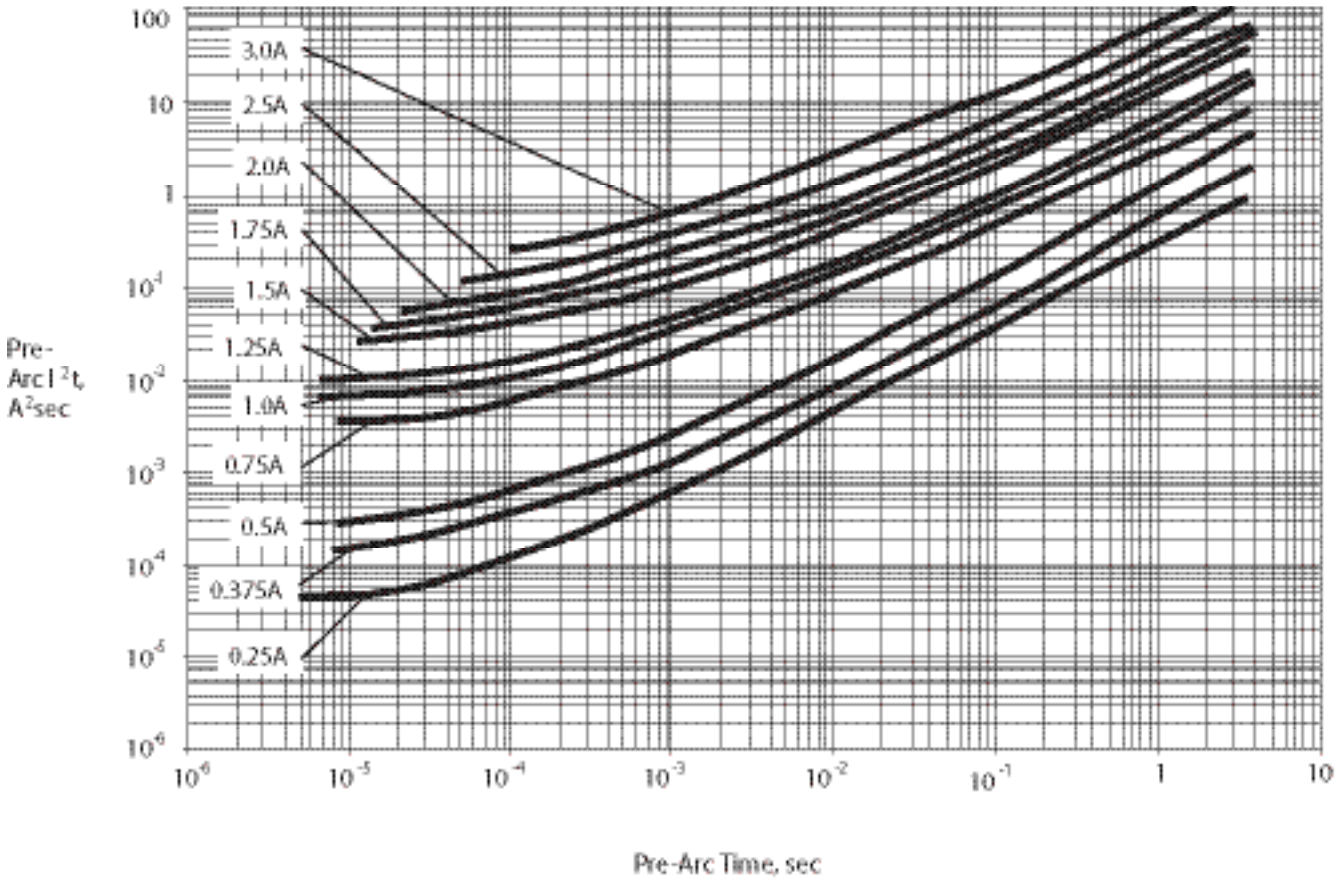
Fuse Time – Current Characteristics for Type MCF0603E (Typical)



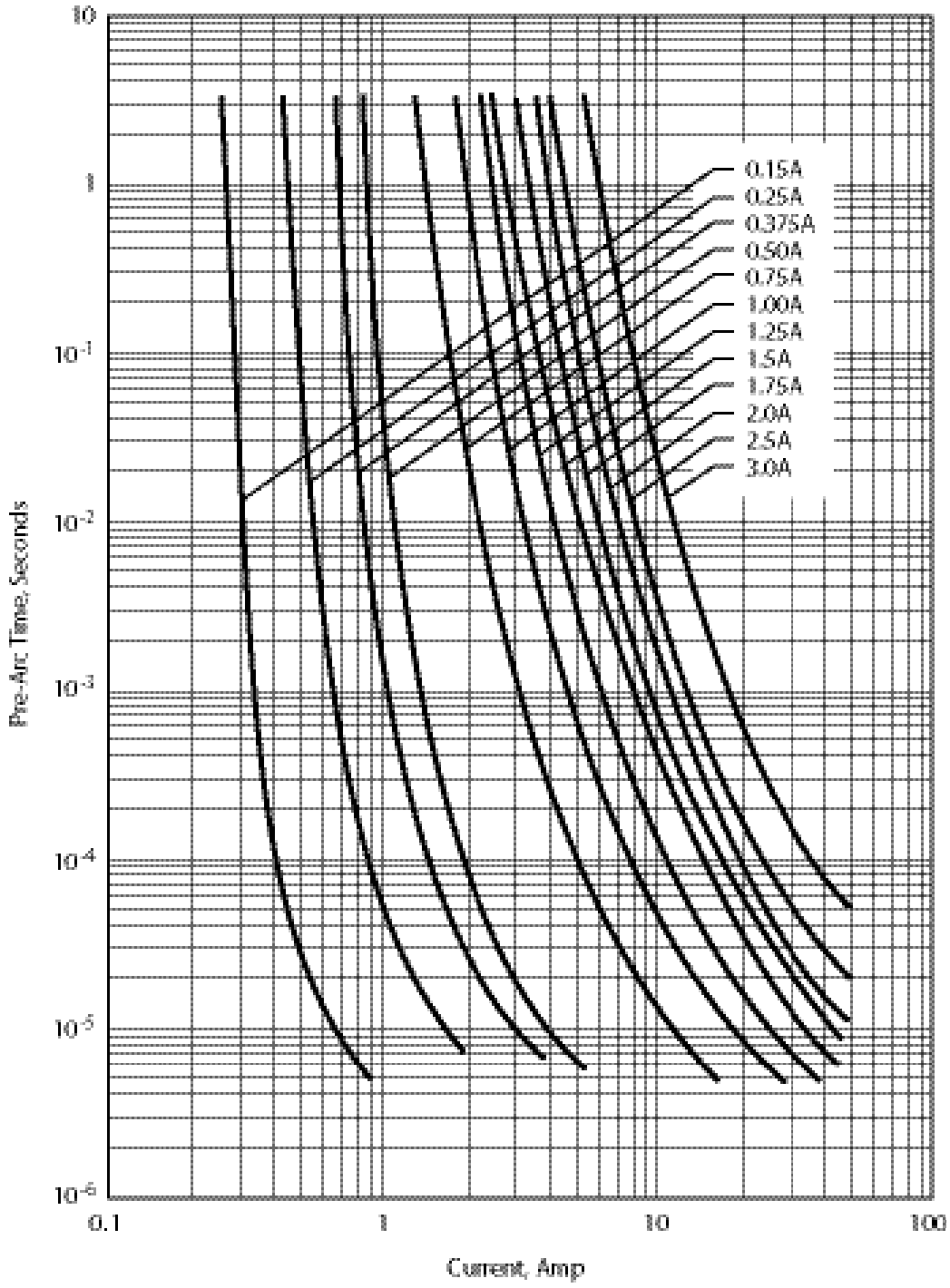
Fuse Pre-Arc Joule Integrals vs Current
for Type MCF0603E (Typical)



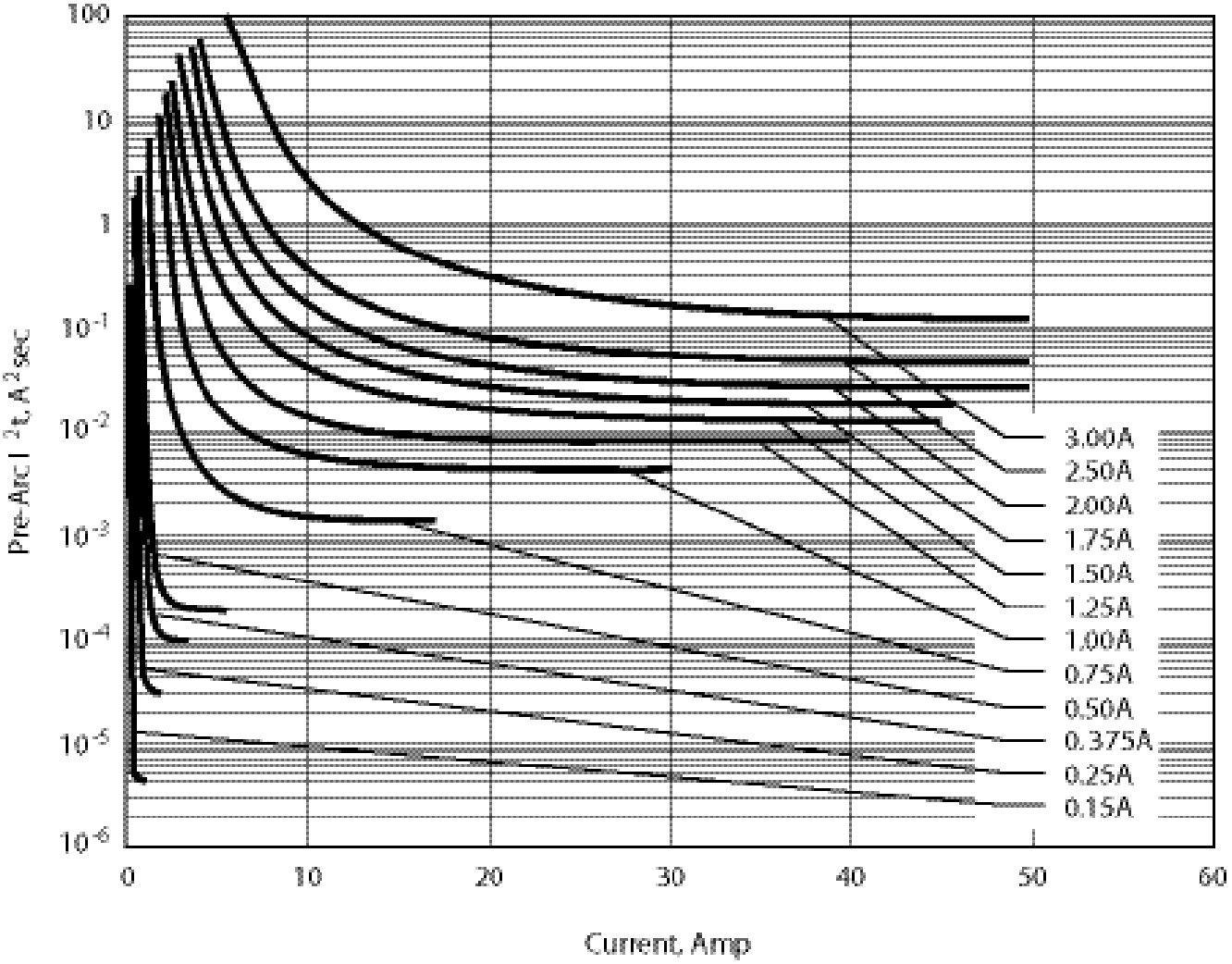
Fuse Pre-Arc Joule Integrals vs Pre-Arc Time
for Type MCF0603E (Typical)



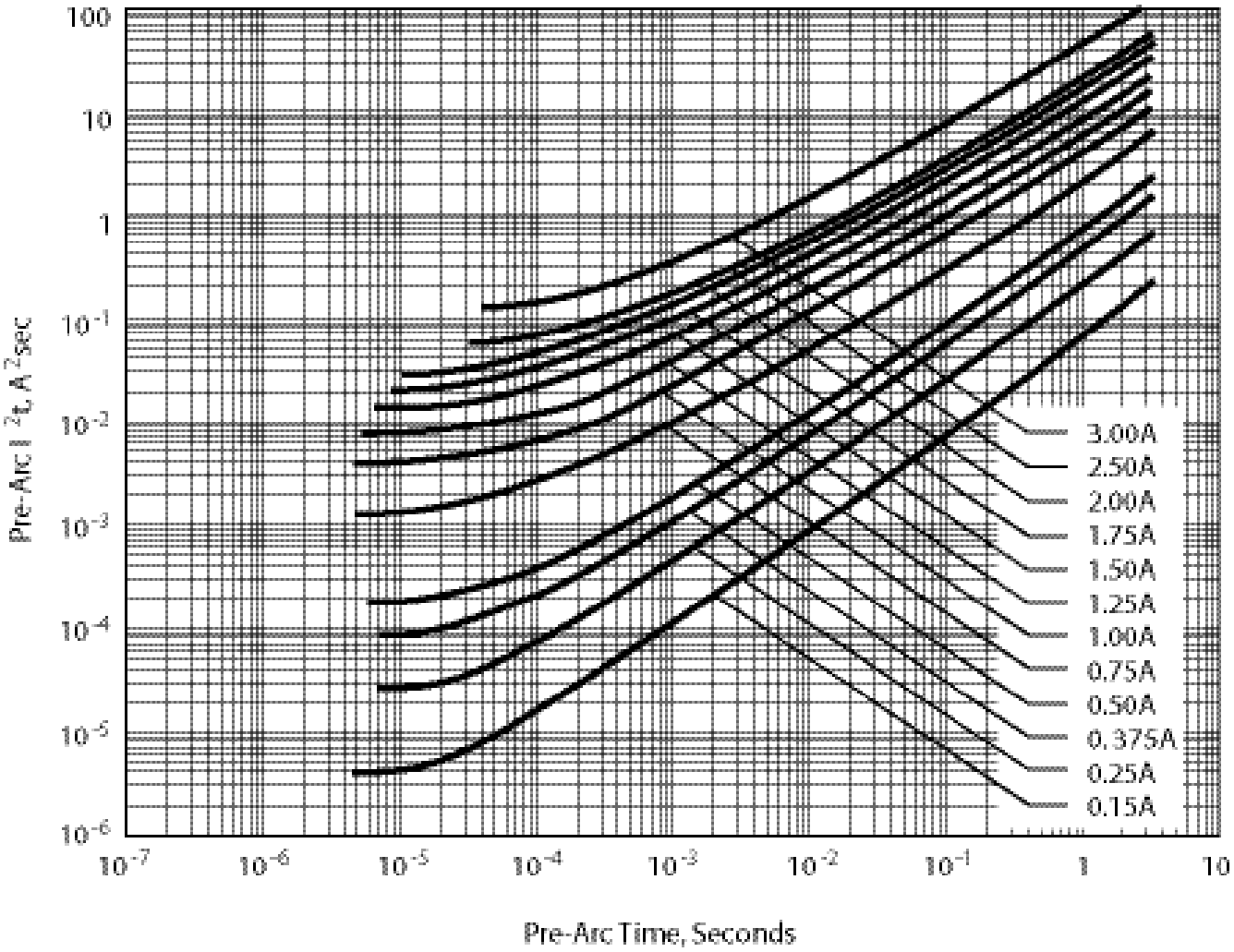
Fuse Time - Current Characteristics for Type MCF0603C (Typical)



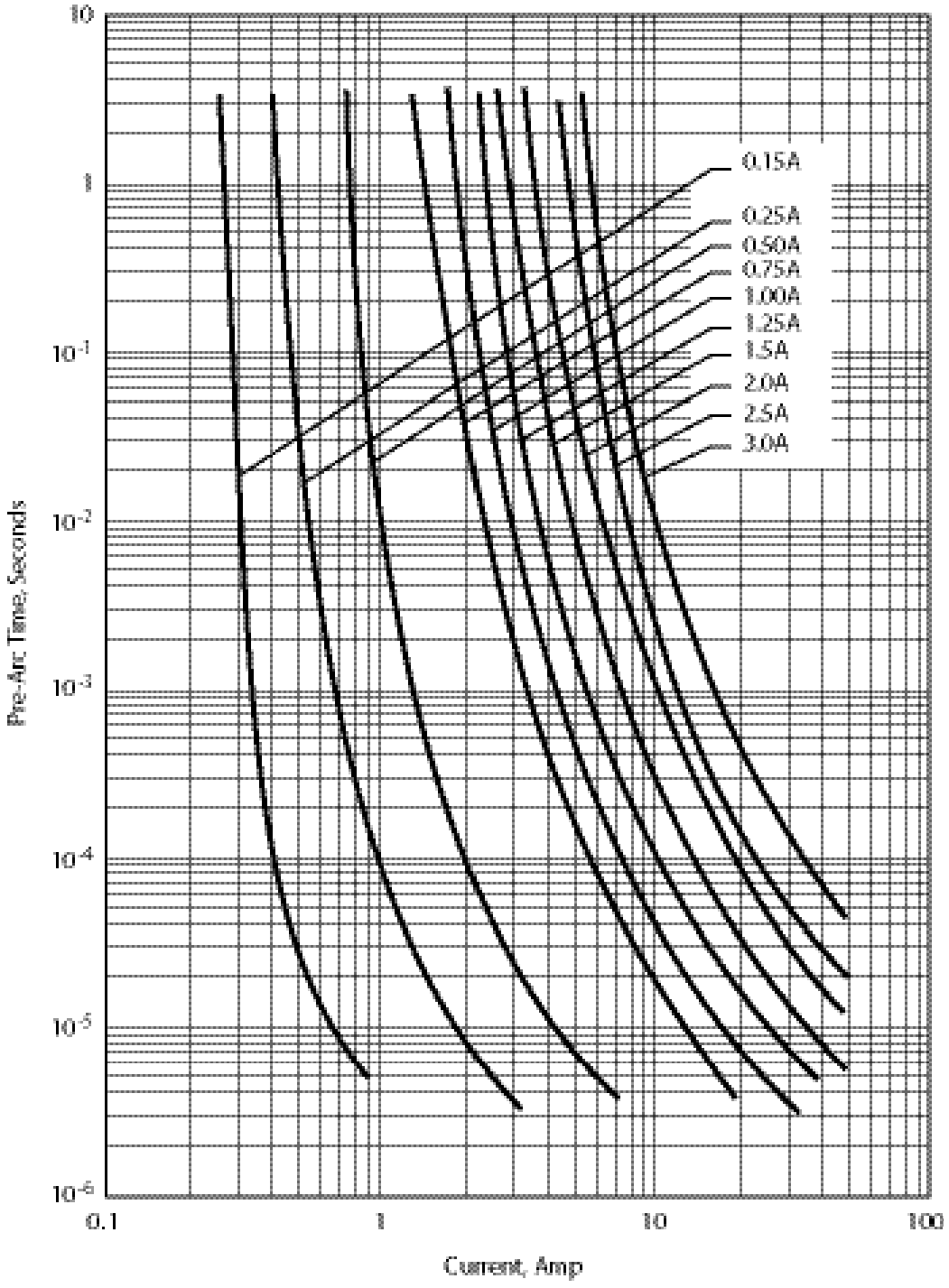
Fuse Pre-Arc Joule Integrals vs. Current
for Type MCF0603C (Typical)



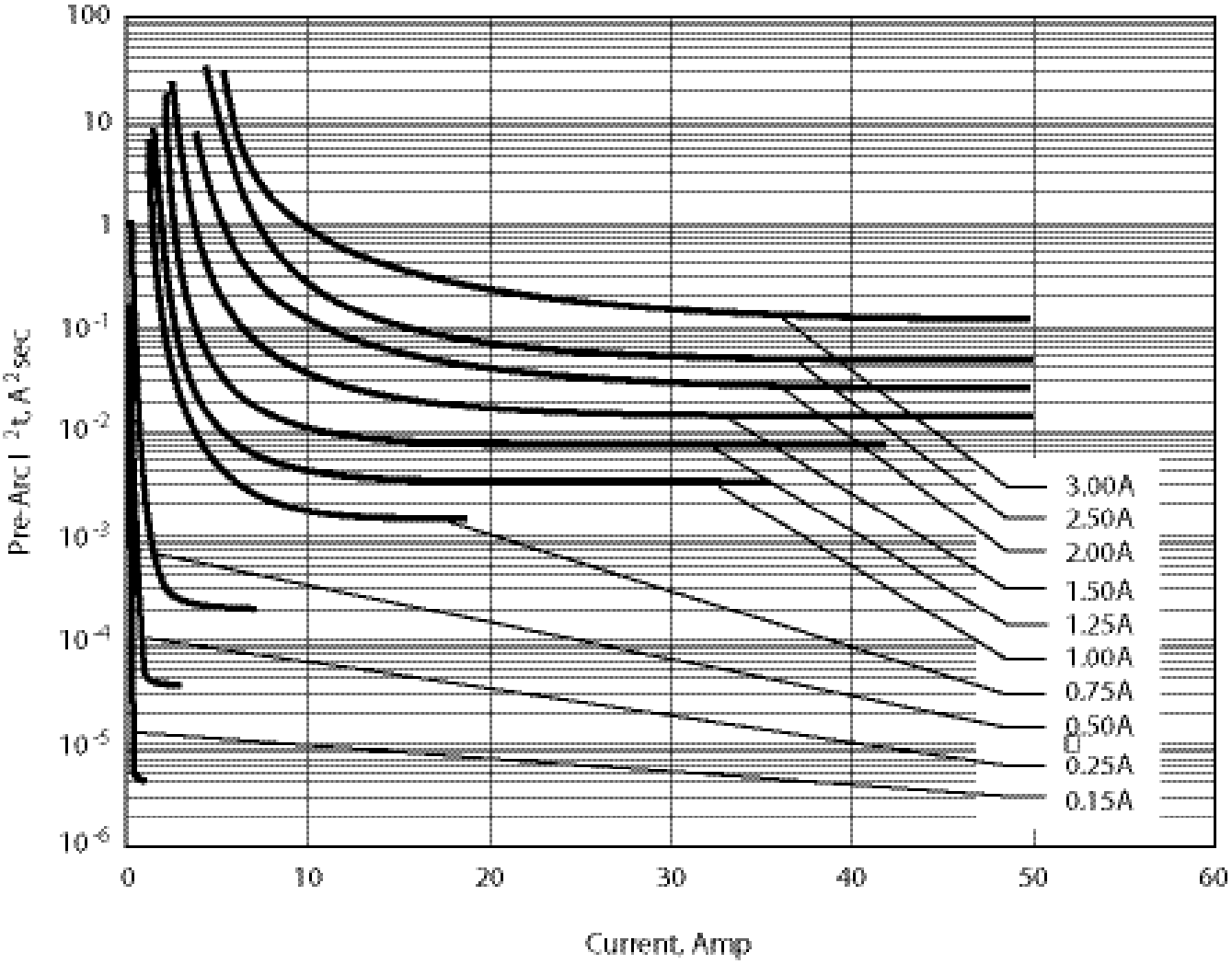
Fuse Pre-Arc Joule Integrals vs. Pre-Arc Time
for Type MCF0603C (Typical)



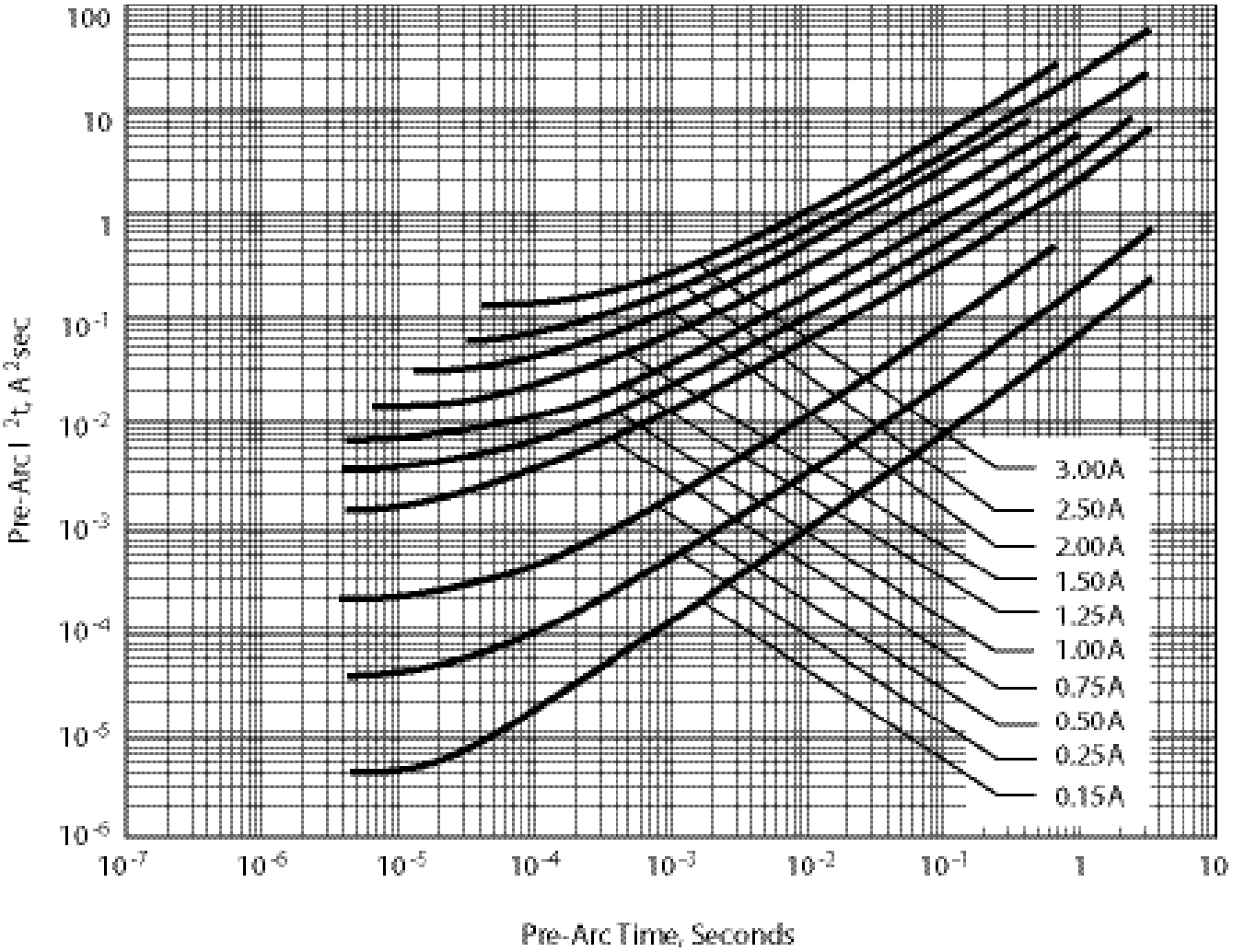
Fuse Time - Current Characteristics
for Types MCF0805B and MCF1206B (Typical)



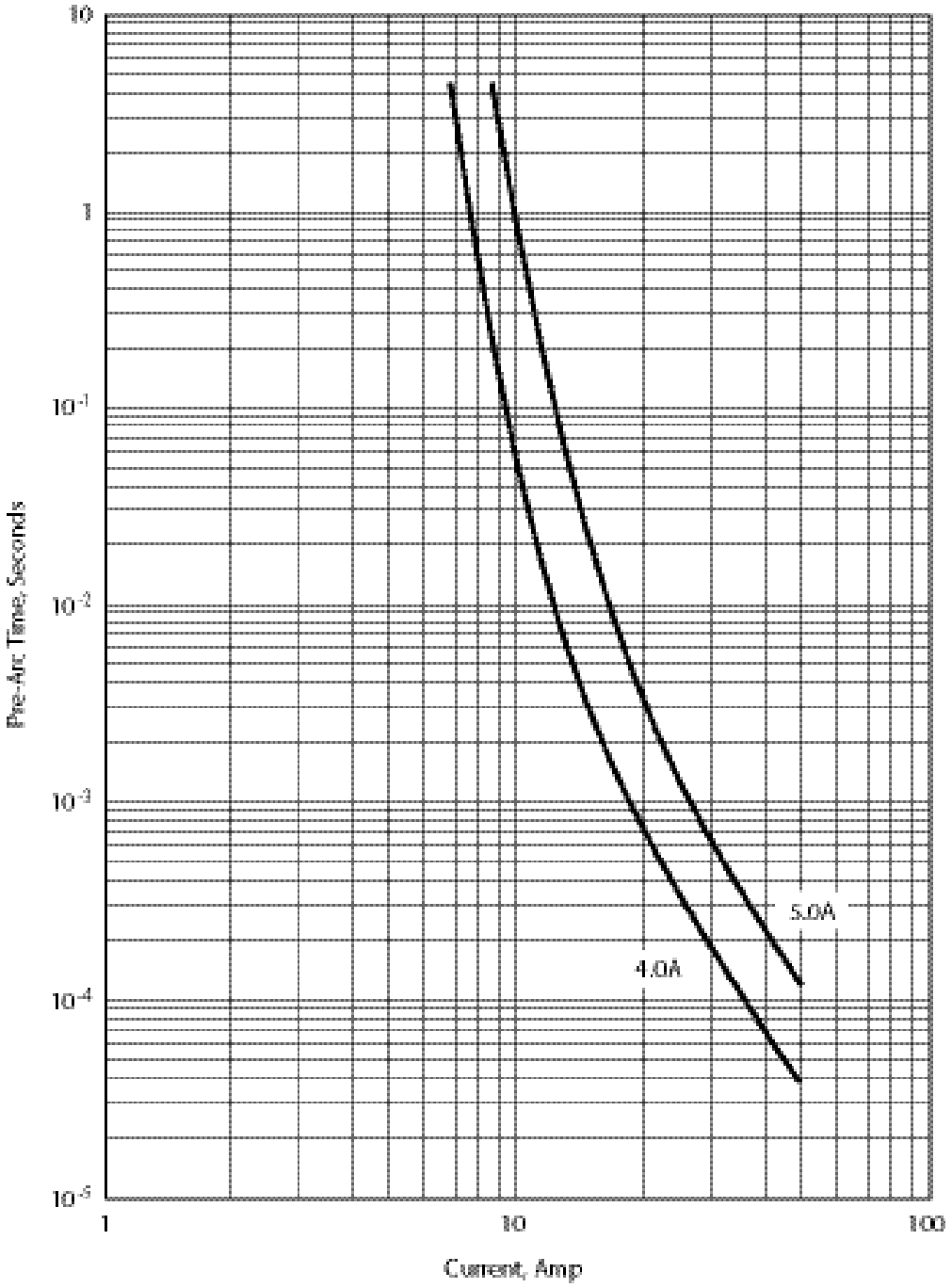
Fuse Pre-Arc Joule Integrals vs. Current Time
for Types MCF0805B and MCF1206B (Typical)



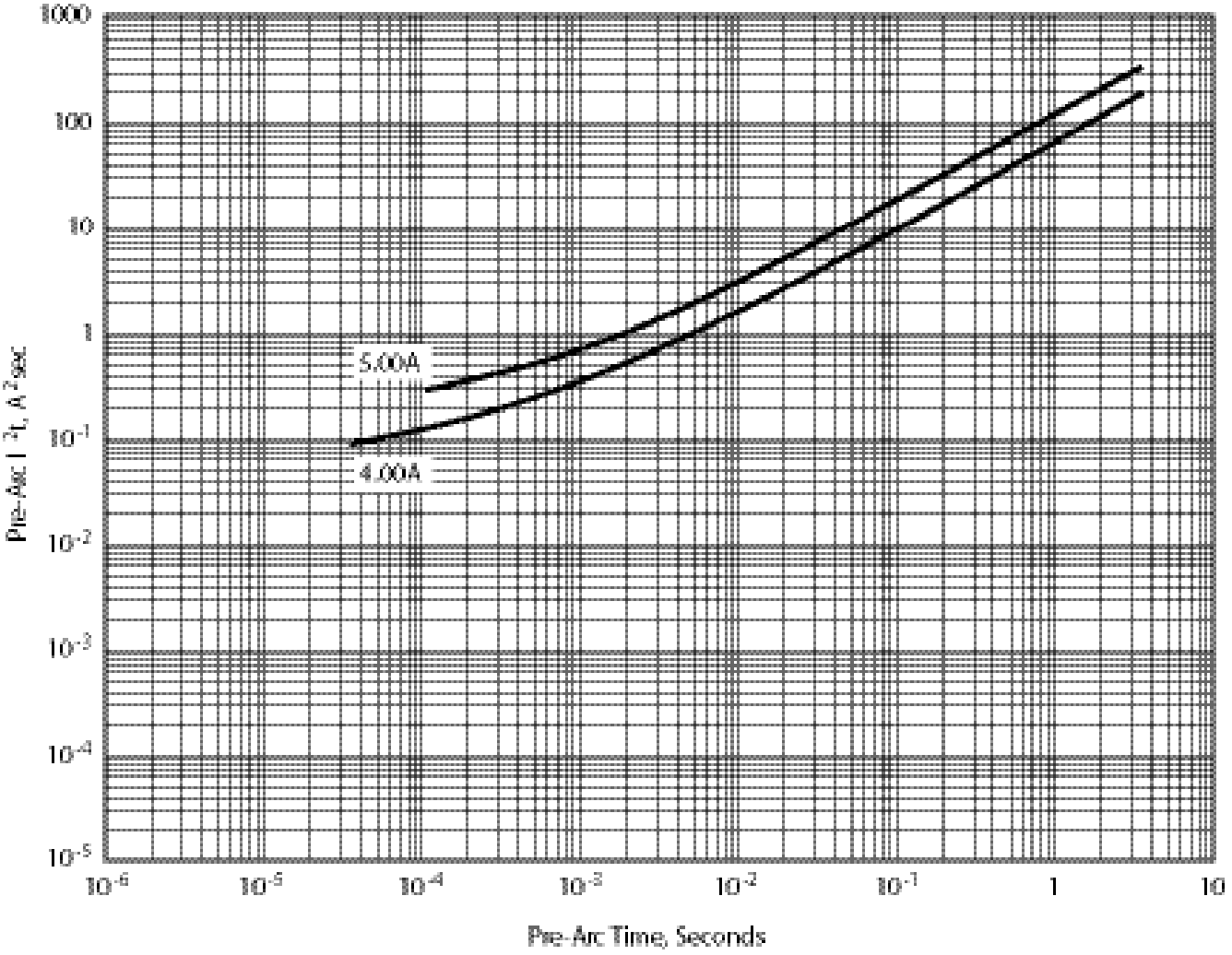
Fuse Pre-Arc Joule Integrals vs. Pre-Arc Time
for Types MCF0805B and MCF1206B (Typical)



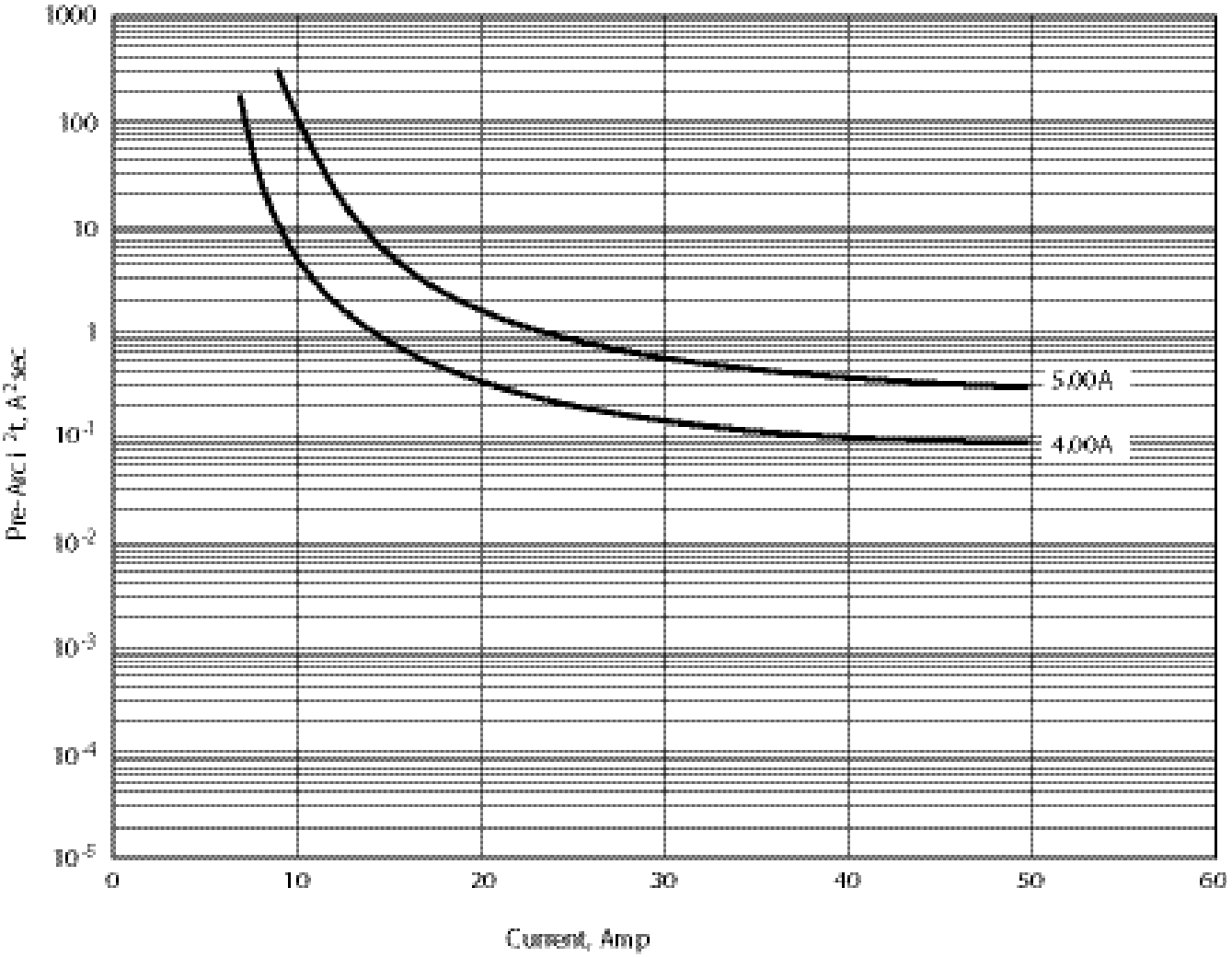
Fuse Time - Current Characteristics for Type MCF0612D (Typical)



Fuse Pre-Arc Joule Integrals vs. Pre-Arc Time
for Type MCF0612D (Typical)



Fuse Pre-Arc Joule Integrals vs. Current
for Type MCF0612D (Typical)



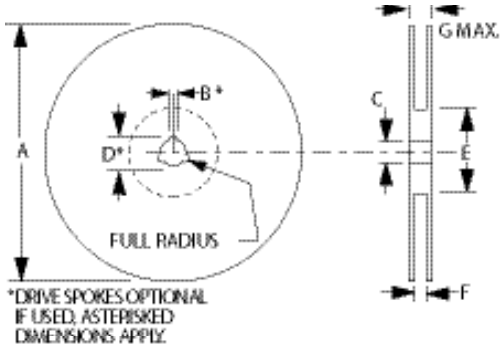
Packaging

Automatic Insertion Packaging

Tape & Reel: All tape and reel specifications are in compliance with EIA 481-1

8mm carrier

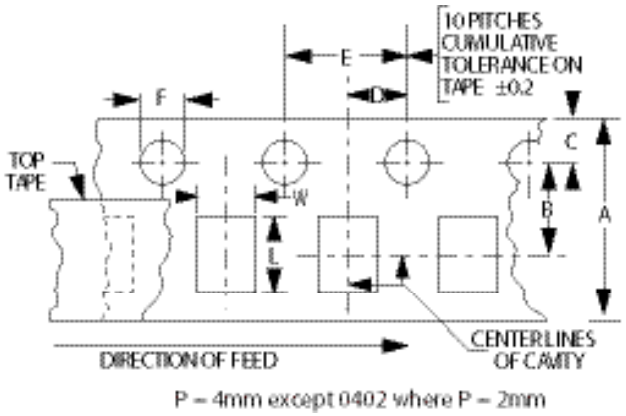
Reeled quantities: Reels of 3,000 or 10,000 pieces
(for MCF0402: 5,000 or 20,000 pieces)



Reel Dimensions:

A(1)	B*	C	D*	E	F	G
180 + 1.0 (7.087 + 0.039)	1.5 min. (0.059 min.)	13 ± 0.2 (0.512 ± 0.008)	20.2 min. (0.795 min.)	50 min. (1.969 min.)	9.4 ± 1.5 (0.370 ± 0.050)	14.4 max. (0.567 max.)
Metric dimensions will govern. Inch measurements rounded for reference only. (1) 330mm (13 inch) reels are available.						

Dimensions: Millimeter (Inch)



P = 4mm except 0402 where P = 2mm

Carrier Dimensions:

A	B	C	D	E	F
8.0 ± 0.3 (0.315 ± 0.012)	3.5 ± 0.05 (0.138 ± 0.002)	1.75 ± 0.1 (0.069 ± 0.004)	2.0 ± 0.05 (0.079 ± 0.002)	4.0 ± 0.1 (0.157 ± 0.004)	$1.5^{+0.1}$ ($0.059^{+0.004}$)
Note: The nominal dimensions of the component compartment (W,L) are derived from the component size.					

Dimensions: Millimeter (Inch)

Part Number Table

Description	Part Number
Fuse, SMD, 0402, 0.25A	MCF0402E0R25FSTR
Fuse, SMD, 0402, 0.5A	MCF0402E0R50FSTR
Fuse, SMD, 0402, 0.75A	MCF0402E0R75FSTR
Fuse, SMD, 0402, 1A	MCF0402E1R00FSTR
Fuse, SMD0402 1.25A	MCF0402E1R25FSTR
Fuse, SMD, 0402, 1.5A	MCF0402E1R50FSTR
Fuse, SMD, 0402, 2A	MCF0402E2R00FSTR
Fuse, SMD, 0603, 0.25A	MCF0603E0R25FSTR
Fuse, SMD, 0603, 0.5A	MCF0603E0R50FSTR
Fuse, SMD, 0603, 0.75A	MCF0603E0R75FSTR
Fuse, SMD, 0603, 1A	MCF0603E1R00FSTR
Fuse, SMD, 0603, 1.25A	MCF0603E1R25FSTR
Fuse, SMD, 0603, 1.5A	MCF0603E1R50FSTR
Fuse, SMD, 0603, 2A	MCF0603E2R00FSTR
Fuse, SMD, 0805, 0.25A	MCF0805B0R25FSTR
Fuse, SMD, 0805, 0.5A	MCF0805B0R50FSTR

Description	Part Number
Fuse, SMD, 0805, 0.75A	MCF0805B0R75FSTR
Fuse, SMD, 0805, 1A	MCF0805B1R00FSTR
Fuse, SMD, 0805, 1.25A	MCF0805B1R25FSTR
Fuse, SMD, 0805, 1.5A	MCF0805B1R50FSTR
Fuse, SMD, 0805, 2A	MCF0805B2R00FSTR
Fuse, SMD, 0805, 2.5A	MCF0805B2R50FSTR
Fuse, SMD, 0805, 3A	MCF0805B3R00FSTR
Fuse, SMD, 1206, 0.20A	MCF1206B0R20FSTR
Fuse, SMD, 1206, 0.5A	MCF1206B0R50FSTR
Fuse, SMD1206 1A	MCF1206B1R00FSTR
Fuse, SMD, 1206, 1.5A	MCF1206B1R50FSTR
Fuse, SMD, 1206, 2A	MCF1206B2R00FSTR
Fuse, SMD1206 2.5A	MCF1206B2R50FSTR
Fuse, SMD, 1206, 3A	MCF1206B3R00FSTR
Fuse, SMD0612 4A	MCF0612D4R00FSTR
Fuse, SMD0612 5A	MCF0612D5R00FSTR