Microtron® Printed Circuit Board Fuses

.122″ × .297″ (3.10mm × 7.54mm)

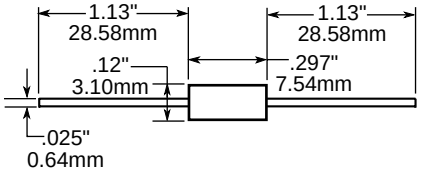
MCR

Actual Size

Product Name: MCR (Microtron®)
Characteristics: Fast Acting, Current Limiting
Construction: Solid Matrix
Packaging & Ordering Information:

Dimensional Data

*All tolerances: ±0.005" / ±0.13mm

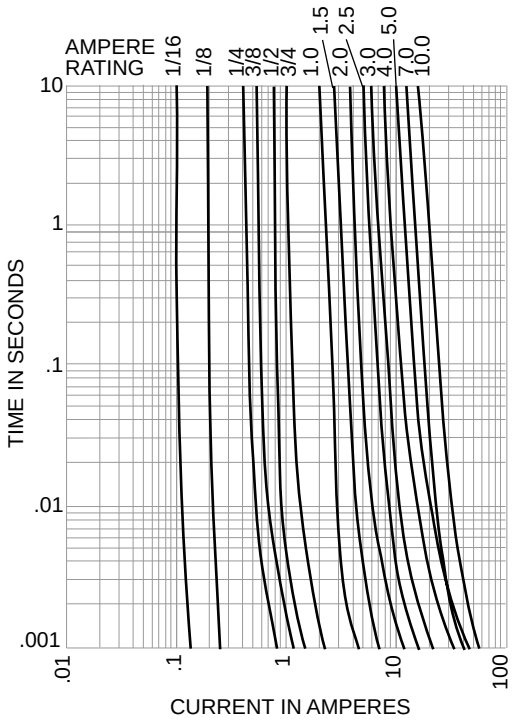


	MCR	(See Table)
Product	Rated Current Symbol	

Package Code
Blank 10 in
BK 500 in
TR/ Tape/Reel 2500 units, 52.4mm spacing
TR1/ Tape/Reel 5000 units, 52.4mm spacing
TR6/ Tape/Reel 1000 units, 52.4mm spacing
Radial leaded versions available (.4″, .6″ spacing)

Weight = 2.45 lbs/2500

Time-Current Characteristic Curves–Average Melt
(Full Size Curves Available)



Time-Current Characteristics:

Rated	Percent of Rating	
Current	100%	250%
0-10A	4 hrs. (min)	5 sec. (max)

CE logo denotes compliance with European Union Low Voltage Directive (50-1000 VAC, 75-1500 VDC). Refer to BIF document #8002 or contact Bussmann Application Engineering at 314-527-1270 for more information.

Electrical Characteristics

Current	Rated Voltage		Interrupting Rating[1]		Pre-arcing[2] I^2t (A^2sec)		Typical Total Clearing[2] I^2t (A^2sec)		Typical Voltage Drop Volts at 100% Rated Current	Agency* Approvals		
Rating	AC (Max.)	DC (Max.)	AC	DC	AC	DC	AC	DC		UR	CSA	JIS
1/16	125V	125V	50A	300A	1.1×10^{-6}	1.0×10^{-7}	1.8×10^{-6}	1.5×10^{-7}	2.33	•	•	
1/8	125V	125V	50A	300A	4.3×10^{-6}	7.1×10^{-7}	7.3×10^{-6}	8.7×10^{-7}	1.52	•	•	
1/4	125V	125V	50A	300A	8.0×10^{-5}	1.0×10^{-6}	1.2×10^{-4}	1.3×10^{-6}	.76	•	•	
3/8	125V	125V	50A	300A	9.7×10^{-5}	6.7×10^{-6}	1.1×10^{-4}	8.3×10^{-6}	.73	•	•	
1/2	125V	125V	50A	300A	7.4×10^{-4}	5.4×10^{-5}	6.2×10^{-3}	6.8×10^{-5}	.65	•	•	
3/4	125V	125V	50A	300A	1.3×10^{-3}	7.4×10^{-5}	7.5×10^{-2}	9.2×10^{-5}	.55	•	•	
1	125V	125V	50A	300A	.01	.01	.02	.01	.24	•	•	•
1½	125V	125V	50A	300A	.03	.02	.04	.03	.20	•	•	•
2	125V	125V	50A	300A	.09	.07	.11	.08	.16	•	•	•
2½	125V	125V	50A	300A	.19	.14	.25	.17	.15	•	•	•
3	125V	125V	50A	300A	.35	.28	.45	.32	.15	•	•	•
3½	125V	125V	50A	300A	.56	.37	.83	.43	.14	•	•	•
4	125V	125V	50A	300A	.96	.67	1.37	.77	.13	•	•	•
5	125V	125V	50A	300A	1.82	1.34	2.53	1.51	.11	•	•	•
7	60V	90V	50A	300A	1.48	.49	2.02	.58	.10	•	•	
10	60V	90V	50A	300A	3.62	1.16	4.41	1.38	.08	•	•	

*Approvals: UL Recognition STD 248-14, Guide JDYX2, File E19180; CSA Certification, Class 1422-01, File 53787.
JIS (Japanese Industrial Standard) Reg. No. 2221, Authorization No. 32-1516.

1. Interrupting ratings were measured at 100% (1/16 to 5) and 100% (7, 10) power factors on AC, and a time constant less than 1ms. on D.C.
2. I^2t was measured at 50 amps 125 VAC, .95PF, (random closing angle) and 300 amps 125 VDC, TC <1ms. for 1/16 through 5 amps and 50 amps 60 VAC, .95PF, (random closing angle), and 300 amps 90 VDC, TC <1ms. for the 7 and 10 amp fuses.

Note: All values shown above are typical.

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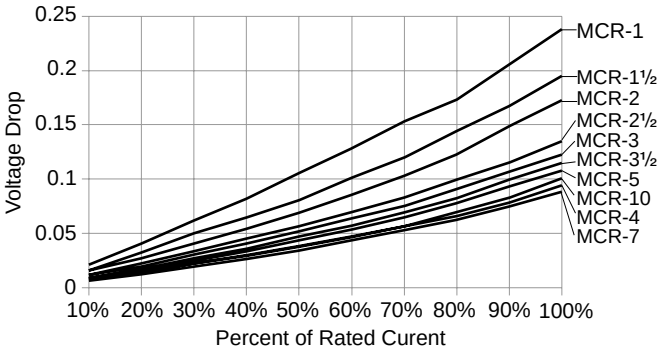
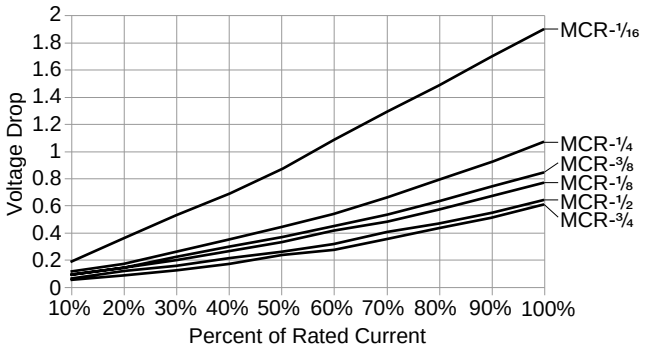
Typical Voltage Drop (At 25° C Ambient Temperature)





Microtron fuses are designed to meet the following specifications:

Body	High temperature thermoplastic, flammability rating UL 94 VO.
Electrical Characteristics	Carry 100% rated current for 4 hours minimum. Open at 250% of rated current in 5 seconds maximum.
Element	Solid Matrix, gold or silver element encapsulated in ceramic.
Leads	Tin-plated copper, .64mm (.025″) diameter.
Lead Bend Test	With a two pound weight attached, 90° one direction, back to original position, then 90° opposite direction; fuse will withstand two cycles.
Life Test	2000 hours at 80% rated current, 55°C.
Moisture Resistance	MIL-STD-202, Method 106, 90% relative humidity at 65°C.
Operating Temperature	-55°C to 125°C with proper fuse derating.
Packaging	EIA-STD-296-E.
Resistance to Soldering Heat	MIL-STD-202, Method 210, Test Condition C (260°C).
Salt Spray	MIL-STD-202, Method 101, Test Condition B.
Shock	MIL-STD-202, Method 213, Test Condition I, 100G's for 6 milliseconds.
Solderability	MIL-STD-202, Method 208.
Terminal Strength	MIL-STD-202, Method 211, Test Condition A, will withstand 7 lb. axial pull test.
Thermal Shock	MIL-STD-202, Method 107, Test Condition B, -65°C to 125°C.
Thermal Cycle	EIA-STD-RS-186-C, Test Condition A, -55°C to 85°C.
Vibration	MIL-STD-202, Method 204, Test Condition C, (55 to 2000 HZ, 10G's peak).
Wave Soldering	Maximum reservoir temperature 260°C, 10 second maximum exposure, .125" from body.