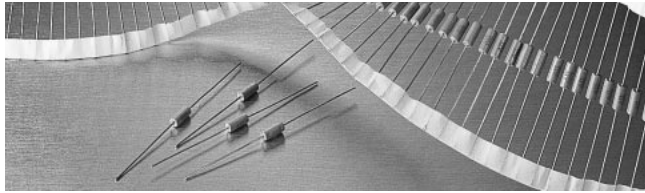


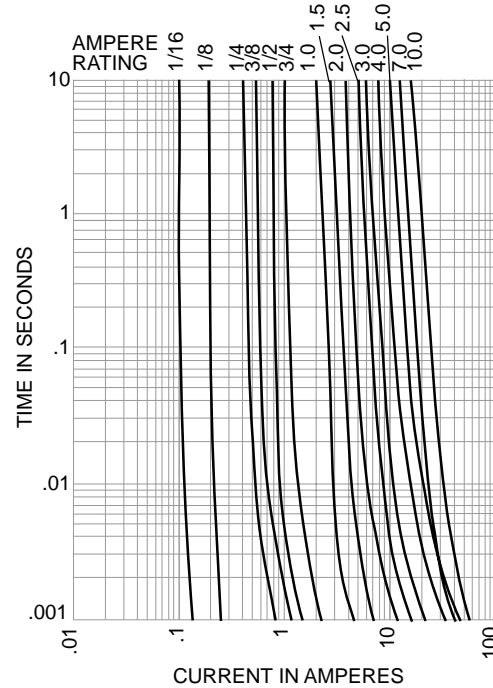
# Microtron® Printed Circuit Board Fuses

.122" x .297" (3.10mm x 7.54mm)

MCR

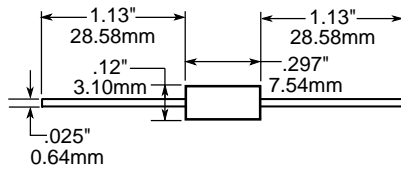


**Time-Current Characteristic Curves—Average Melt**  
(Full Size Curves Available)



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

**Dimensional Data** \*All tolerances:  $\pm 0.005"$   
 $\pm 0.13\text{mm}$



<b>Product</b>	<b>MCR</b>	<b>(See Table)</b>
<b>Package Code</b>	<b>Rated Current Symbol</b>	
<b>Blank</b> 10 in		
<b>BK</b> 500 in		
<b>TR/</b> Tape/Reel 2500 units, 52.4mm spacing		
<b>TR1/</b> Tape/Reel 5000 units, 52.4mm spacing		
<b>TR6/</b> Tape/Reel 1000 units, 52.4mm spacing		
Radial leaded versions available (.4", .6" spacing)		

**Weight = 2.45 lbs/2500**

**Time-Current Characteristics:**

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

CE 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 Rating	Rated Voltage		Interrupting Rating <sup>1</sup>		Pre-arcing <sup>2</sup> I <sup>2</sup> t (A <sup>2</sup> sec)		Typical Total Clearing <sup>2</sup> I <sup>2</sup> t (A <sup>2</sup> sec)		Typical Voltage Drop Volts at 100% Rated Current	Agency* Approvals		
	AC (Max.)	DC (Max.)	AC	DC	AC	DC	AC	DC		UR	CSA	JIS
1/16	125V	125V	50A	300A	1.1 × 10 <sup>-6</sup>	1.0 × 10 <sup>-7</sup>	1.8 × 10 <sup>-6</sup>	1.5 × 10 <sup>-7</sup>	2.33	•	•	
1/8	125V	125V	50A	300A	4.3 × 10 <sup>-6</sup>	7.1 × 10 <sup>-7</sup>	7.3 × 10 <sup>-6</sup>	8.7 × 10 <sup>-7</sup>	1.52	•	•	
1/4	125V	125V	50A	300A	8.0 × 10 <sup>-5</sup>	1.0 × 10 <sup>-6</sup>	1.2 × 10 <sup>-4</sup>	1.3 × 10 <sup>-6</sup>	.76	•	•	
3/8	125V	125V	50A	300A	9.7 × 10 <sup>-5</sup>	6.7 × 10 <sup>-6</sup>	1.1 × 10 <sup>-4</sup>	8.3 × 10 <sup>-6</sup>	.73	•	•	
1/2	125V	125V	50A	300A	7.4 × 10 <sup>-4</sup>	5.4 × 10 <sup>-5</sup>	6.2 × 10 <sup>-3</sup>	6.8 × 10 <sup>-5</sup>	.65	•	•	
3/4	125V	125V	50A	300A	1.3 × 10 <sup>-3</sup>	7.4 × 10 <sup>-5</sup>	7.5 × 10 <sup>-2</sup>	9.2 × 10 <sup>-5</sup>	.55	•	•	
1	125V	125V	50A	300A	.01	.01	.02	.01	.24	•	•	•
1 1/2	125V	125V	50A	300A	.03	.02	.04	.03	.20	•	•	•
2	125V	125V	50A	300A	.09	.07	.11	.08	.16	•	•	•
2 1/2	125V	125V	50A	300A	.19	.14	.25	.17	.15	•	•	•
3	125V	125V	50A	300A	.35	.28	.45	.32	.15	•	•	•
3 1/2	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<sup>2</sup>t 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.



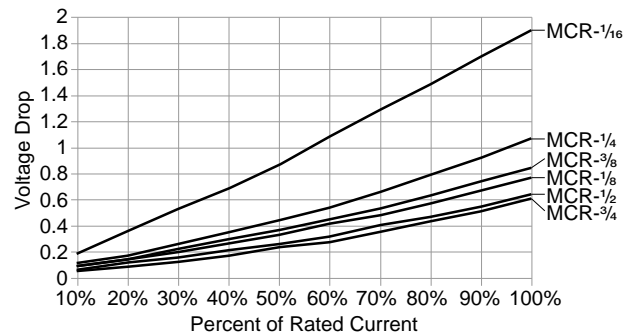
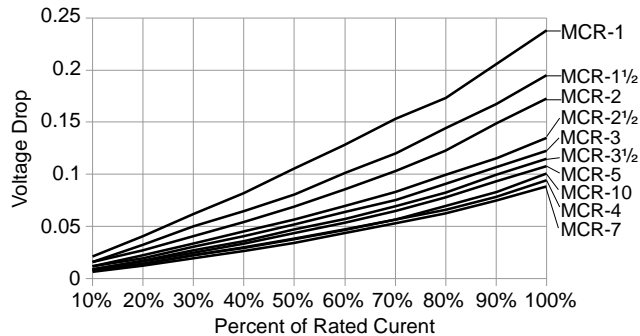
# Microtron® Printed Circuit Board Fuses

**.122" x .297" (3.10mm x 7.54mm)**

**MCR**



**Typical Voltage Drop (At 25° C Ambient Temperature)**



**Microtron fuses are designed to meet the following specifications:**

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

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