BUSSMANN electronic fuses

COOPER Electronic Technologies

Subminiature Through Hole
MCR Series, Fast Acting, Solid Matrix

OBSOLETE - Recommended replacement with MCRW, Data Sheet 4074 - OBSOLETE

Description

- Axial Leaded
- Fast Acting, Solid Matrix Construction
- High Temperature Thermoplastic Body, UL 94 VO
- Tin-lead plated copper Lead Wires, .025" diameter

ELECTRICAL CHARACTERISTICS	
% of Amp Rating (0-10A)	Opening Time
100%	4 hours minimum
250%	5 seconds maximum

Agency Information

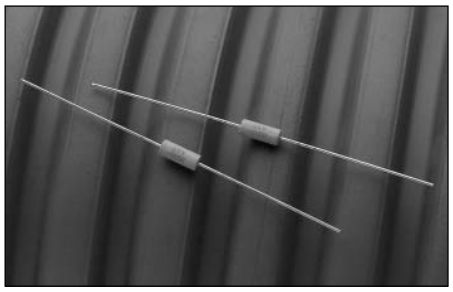
- UL Recognition Guide & File Numbers: JDYX2 & E19180
- CSA Certification File & Class Numbers: 053787 C 00 & 1422 30 (0 - 1/8A); 053787 C 00 & 1422 01 (1/4A - 8A)

Ordering

- Specify product code and packaging code

Environmental Data

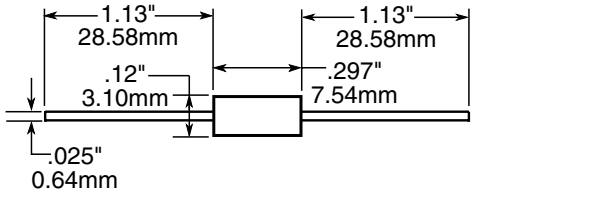
- Life Test: 2000 hours at 80% rated current, 55°C
- Moisture Resistance: MIL-STD-202, Method 106, 90% relative humidity at 65°C.
- Operating Temperature: -55°C to 125°C with proper fuse derating
- Resistance to Soldering Heat: MIL-STD-202, Method 210, Test Condition C (260°C)
- Salt Spray: MIL-STD-202, 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.

Dimensions mm/(inches)

*All tolerances: ±0.005" / ±0.13mm



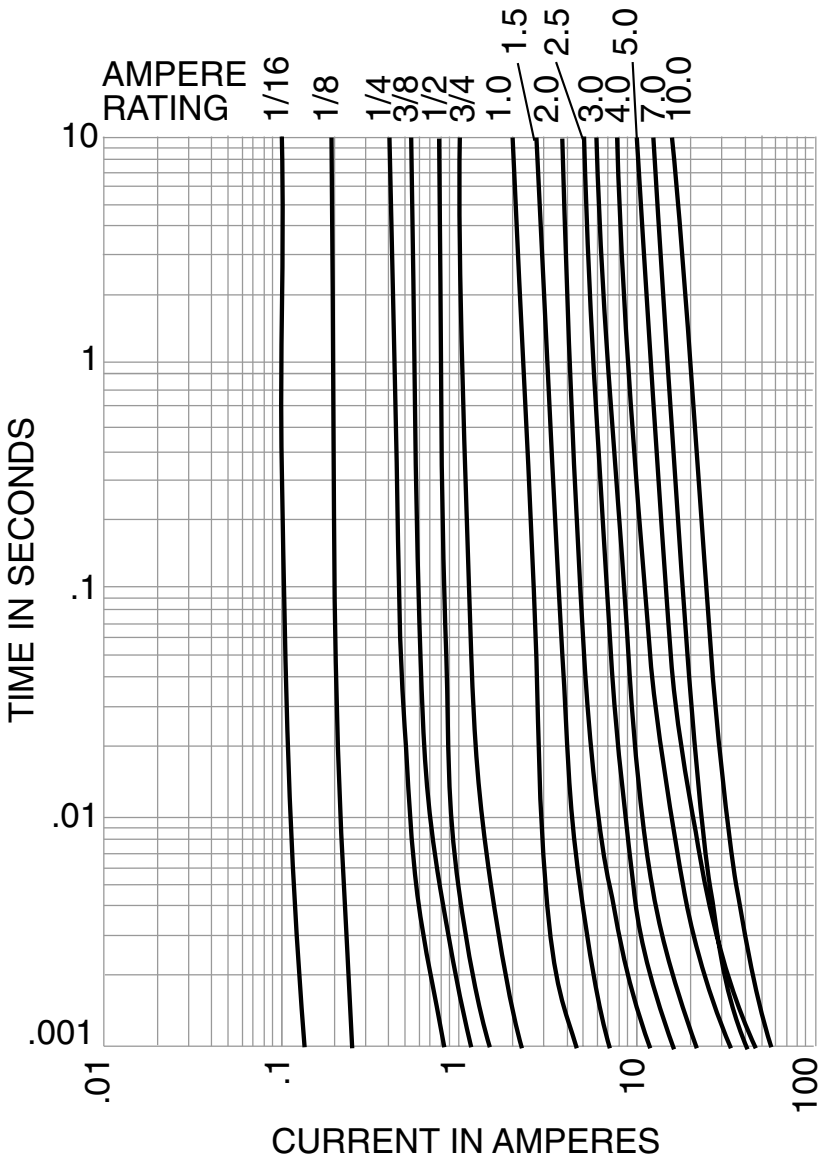
SPECIFICATIONS									
Product Code	Rated Voltage AC	Rated Voltage DC	Interrupting Rating[1] AC	Interrupting Rating[1] DC	Pre-arching[2] I²t (A²sec) AC	Pre-arching[2] I²t (A²sec) DC	Typical Total Clearing[2] I²t (A²sec) AC	Typical Total Clearing[2] I²t (A²sec) DC	Typical Voltage Drop Volts at 100% Rated
MCR-1/16	125V	125V	50A	300A	1.1×10^{-6}	1.0×10^{-7}	1.8×10^{-6}	1.5×10^{-7}	2.33
MCR-1/8	125V	125V	50A	300A	4.3×10^{-6}	7.1×10^{-7}	7.3×10^{-6}	8.7×10^{-7}	1.52
MCR-1/4	125V	125V	50A	300A	8.0×10^{-5}	1.0×10^{-6}	1.2×10^{-4}	1.3×10^{-6}	.76
MCR-3/8	125V	125V	50A	300A	9.7×10^{-5}	6.7×10^{-6}	1.1×10^{-4}	8.3×10^{-6}	.73
MCR-1/2	125V	125V	50A	300A	7.4×10^{-4}	5.4×10^{-5}	6.2×10^{-3}	6.8×10^{-5}	.65
MCR-3/4	125V	125V	50A	300A	1.3×10^{-3}	7.4×10^{-5}	7.5×10^{-2}	9.2×10^{-5}	.55
MCR-1	125V	125V	50A	300A	.01	.01	.02	.01	.24
MCR-1 1/2	125V	125V	50A	300A	.03	.02	.04	.03	.20
MCR-2	125V	125V	50A	300A	.09	.07	.11	.08	.16
MCR-2 1/2	125V	125V	50A	300A	.19	.14	.25	.17	.15
MCR-3	125V	125V	50A	300A	.35	.28	.45	.32	.15
MCR-3 1/2	125V	125V	50A	300A	.56	.37	.83	.43	.14
MCR-4	125V	125V	50A	300A	.96	.67	1.37	.77	.13
MCR-5	125V	125V	50A	300A	1.82	1.34	2.53	1.51	.11
MCR-7	60V	90V	50A	300A	1.48	.49	2.02	.58	.10
MCR-10	60V	90V	50A	300A	3.62	1.16	4.41	1.38	.08

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 1 ms. on DC.
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.

- Device designed to carry rated current for four hours minimum. An operating current of 80% or less of rated current is recommended, with further derating required at elevated ambient temperatures.

TIME CURRENT CURVE



PACKAGING CODE	
Packaging Code	**Description**
Blank	10 units
BK	500 units
TR	2,500 pieces on tape and reel per EIA-296, 52.4mm spacing

OC-2544 Rev. A 5/02

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Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Cooper Bussmann:

BK/MCR-4 BK/MCR-1/2 BK/MCR-1-1/2 BK/MCR-1/8 BK/MCR-1 BK/MCR-1/4 BK/MCR-10A BK/MCR-3 BK/MCR-5 BK/MCR-2

Eaton:

MCR-1/16 MCR-2-1/2 MCR-3/4 MCR-7A MCR-7A_