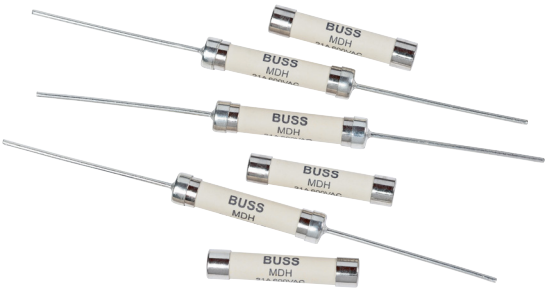
MDH-R

6.3 mm x 32 mm Ferrule and axial lead, high breaking capacity, high I^2t ceramic tube fuses



Applications

Primary circuit protection:

- Lighting controls
- Surge protectors
- LED and general lighting

Agency information

- cURus Recognition file number: E19180, Vol 7

Ordering

- Use ordering number (see page 3 for details)

Packaging suffixes

- BK (100 parts per carton)
- TR (500 parts per roll)

Product description

- High breaking capacity and I^2t
- High surge withstand: 20 cycles of 1.2/50 µs - 8/20 µs, 20 kV/10 kA surge
- UL248-14 compliant
- Ceramic tube, nickel plated brass end cap
- 6.3 mm x 32 mm form factor
- Ferrule and axial lead options
- Halogen free, lead free, RoHS compliant

MDH-R
6.3 mm x 32 mm Ferrule and axial lead, high breaking capacity, high I²t ceramic tube fuses

Electrical characteristics

I_n	$1.0I_n$ min hour	$2.0I_n$ max minute
21A	4	2

Product specifications

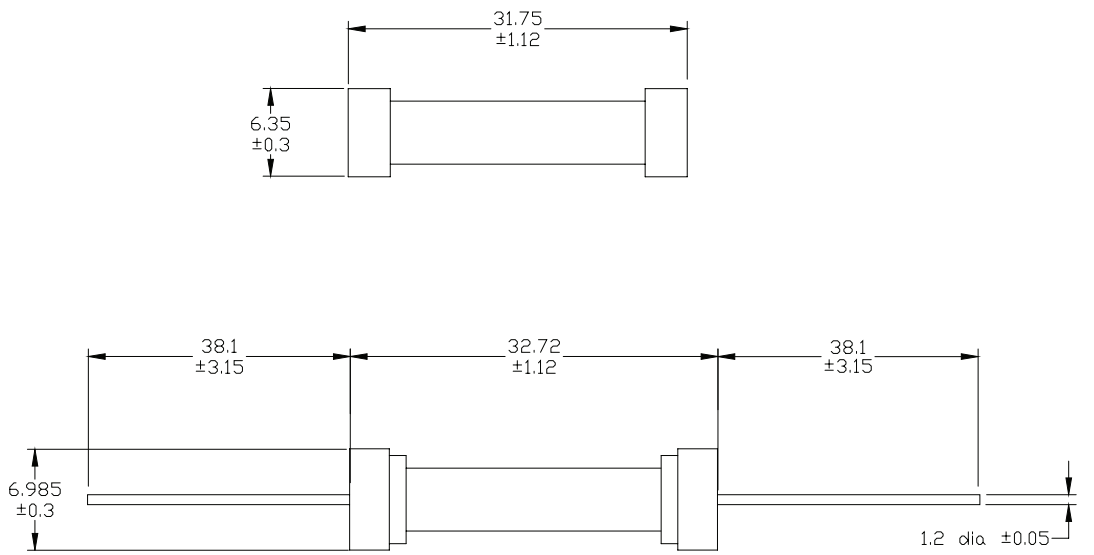
Part number[1] Ferrule	Axial lead	Current rating (A)	Voltage rating (V_{AC})	Voltage rating (V_{DC})	Interrupting rating at rated AC voltage (50 Hz) (A_{AC})	Interrupting rating at rated DC voltage (A_{DC})	Typical D C cold resistance (Ω)	Typical pre-arcing[1] I^2t (A^2s)
MDH- 21-R	MDH-V- 21-R	21	600	150	200	200	0.0024	5100

1. Typical I²t value measured at 10 times of rated current under DC.

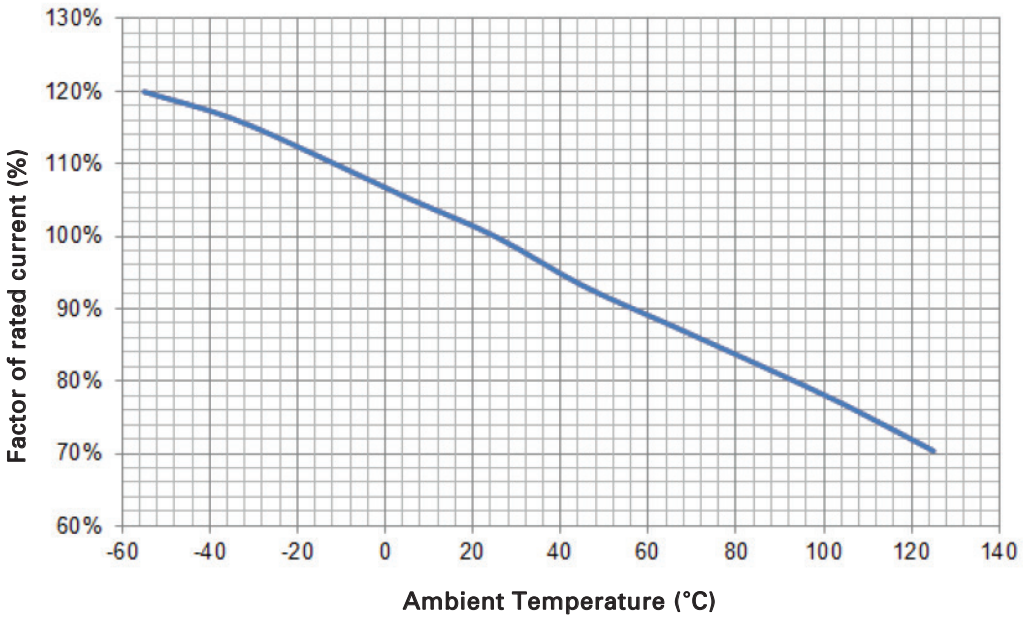
2. Part Number Definition: MDH-x-xx-R
   x = Use "V" code for axial lead, leave blank for ferrule
   xx= Ampere rating
   -R suffix = RoHS compliant

Dimensions–mm

Drawing not to scale



Temperature derating curve



Environmental data

Operating temperature: - 55 °C to 125 °C (with derating)
Thermal shock: MIL-STD- 202G, Method 107G, test condition B (5 cycles - 65 °C to 125 °C)
Vibration: MIL-STD- 202G, Method 201A
Mechanical shock: MIL-STD- 202, Method 213, test condition A
Humidity: MIL-STD- 202G, Method 103B, Test condition A
High surge withstand: 20 cycles of 1.2/50 µs - 8/20 µs, 20 kV/10 kA surge

Ordering codes

The ordering code is the part number replacing the "." with a "-" plus adding the packaging suffix as shown.

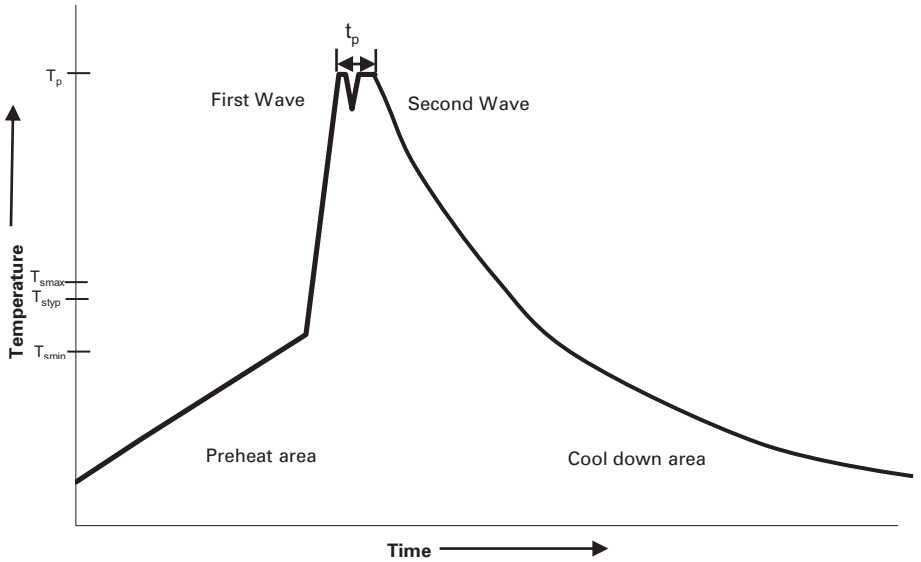
Packaging suffixes

- BK (100 parts per carton)
- TR (500 parts per roll)

	Ordering codes	
Part number	**BK option**	**TR option**
Ferrule		
MDH-21-R	MDH-21-R-BK	
Axial lead		
MDH-V-21-R	MDH-V-21-RBK	MDH-V-21-RTR

Through-hole wave solder profile (axial lead only)

Reflow soldering not recommended



Reference EN 61760-1:2006

Profile Feature		Standard SnPb Solder	Lead (Pb) Free Solder
Preheat	• Temperature min. (T_{smin})	100°C	100°C
	• Temperature typ. (T_{styp})	120°C	120°C
	• Temperature max. (T_{smax})	130°C	130°C
	• Time (T_{smin} to T_{smax}) (t_s)	70 seconds	70 seconds
Δ preheat to max Temperature		150°C max.	150°C max.
Peak temperature (Tp)*		235°C – 260°C	250°C – 260°C
Time at peak temperature (t_p)		10 seconds max 5 seconds max each wave	10 seconds max 5 seconds max each wave
Ramp-down rate		~ 2 K/s min ~3.5 K/s typ ~5 K/s max	~ 2 K/s min ~3.5 K/s typ ~5 K/s max
Time 25°C to 25°C		4 minutes	4 minutes

Manual solder

350°C, 4-5 seconds. (by soldering iron), generally manual, hand soldering is not recommended.

Eaton
Electronics Division
1000 Eaton Boulevard
Cleveland, OH 44122
United States
www.eaton.com/elx

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