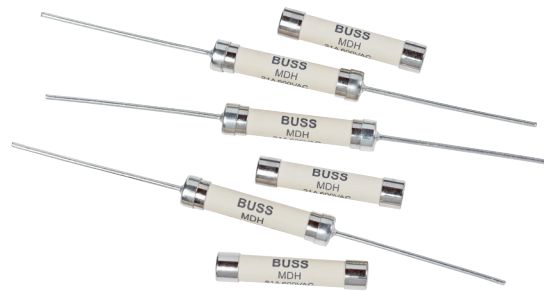


# MDH-R

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



## Environmental compliance



## Ordering

- Use ordering number (see page 3 for details)

## Packaging suffixes

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

## Product features

- High breaking capacity and  $I^2t$
- High surge withstand: 20 cycles of 1.2/50  $\mu$ s - 8/20  $\mu$ s, 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



Powering Business Worldwide

Electrical characteristics

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

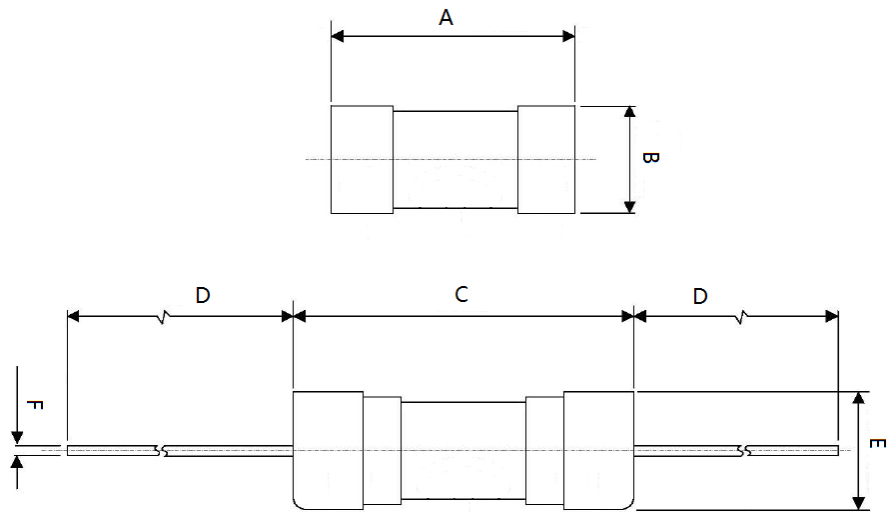
Product specifications

Part number <sup>1</sup>	Axial lead	Current rating (A )	Voltage rating (V <sub>AC</sub> )	Voltage rating (V <sub>DC</sub> )	Interrupting rating at rated AC voltage (50 Hz) (A <sub>AC</sub> )	Interrupting rating at rated DC voltage (A <sub>DC</sub> )	Typical D C cold resistance (Ω)	Typical pre-arcing <sup>1</sup> I <sup>2</sup> t (A <sup>2</sup> s)
MDH- 21-R	MDH-V- 21-R	21	600	150	200	200	0.0024	5100

1. Typical I<sup>2</sup>t 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

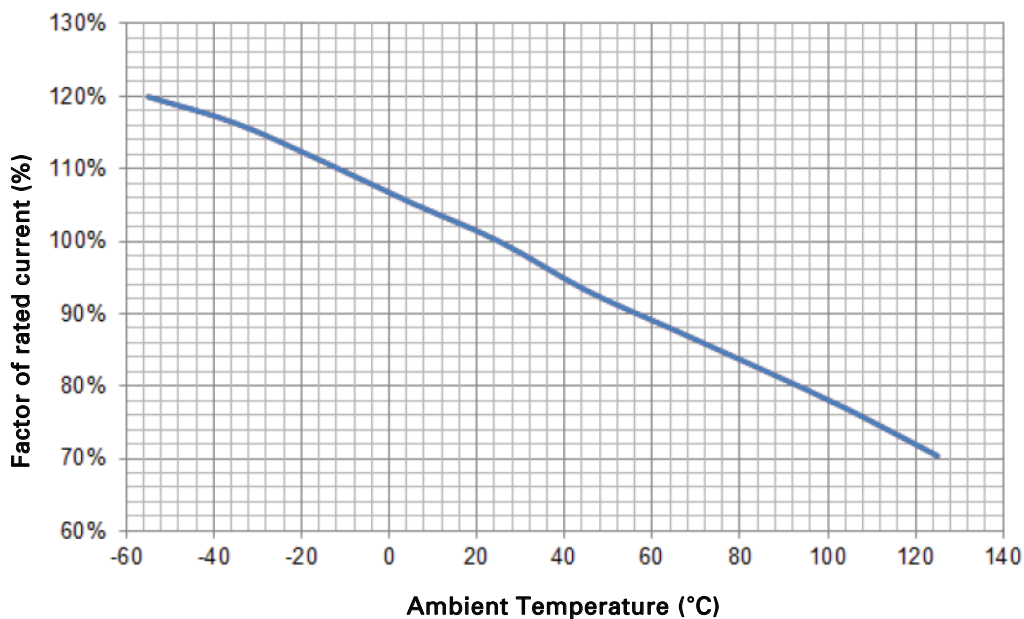
Dimensions–mm

Drawing not to scale



A	B	C	D	E	F
31.75 ±1.12	6.35 ±0.3	32.72 ±1.12	38.1 (ref) for BK package; 20.1 (ref) for TR package*	6.985 ±0.3	1.20 ±0.05

### Temperature derating curve



### General specifications

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.

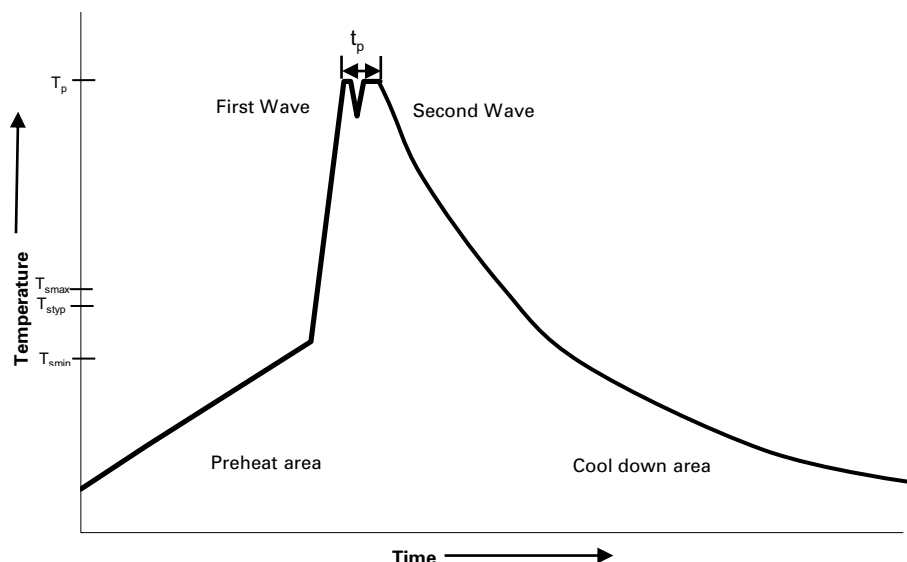
### Packaging suffixes

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

Ordering codes		
Part number	BK option	TR option
<b>Ferrule</b>		
MDH-21-R	MDH-21-R-BK	
<b>Axial lead</b>		
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
$\Delta$ preheat to max Temperature	150°C max.	150°C max.
Peak temperature ( $T_p$ )*	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.

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