Effective July 2022 Supersedes April 2016

MDH-R

6.3 mm x 32 mm Ferrule and axial lead, high breaking capacity, high l²t ceramic tube fuses



Product features

- High breaking capacity and I²t
- High surge withstand: 20 cycles of 1.2/50 μs 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

Applications

Primary circuit protection:

- Lighting controls
- Surge protectors
- LED and general lighting

Agency information

• cURus Recognition file number: E19180, Vol 7

BUSSMANN



Environmental compliance



Ordering

· Use ordering number (see page 3 for details)

Packaging suffixes

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



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Electrical characteristics

I,	1.0l _n min hour	2.01 _n max minute
21 A	4	2

Product specifications

Part number ¹		Current	Voltage rating	Voltage rating	Interrupting rating at rated AC voltage (50 Hz)	Interrupting rating at rated DC voltage	Typical D C cold resistance	Typical pre-arcing ¹
Ferrule	Axial lead	rating (A)	(V _{AC})	(V _{DC})	(A _{AC})	(A _{DC})	(Ω)	ݲt (A²s)
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 $\ensuremath{\mathsf{D}}$ = $\ensuremath{\mathsf{C}}$ = $\ensuremath{\mathsf{P}}$ + $\ensuremath{\mathsf{U}}$ = $\ensuremath{\mathsf{N}}$

-R suffix = RoHS compliant

Dimensions-mm

Drawing not to scale





Α	В	С	D	E	F
31.75 ±1.12	6.35 ±0.3	32.72 ±1.12	38.1 (ref) for BK package;	6.985 ±0.3	1.20 ±0.05
			20.1 (ref) for TR package*		

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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			
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 tempera	ature (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 r	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

Powerina Business Worldwide

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

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