

Axial Lead & Cartridge Fuses

5×20 mm > Medium-Acting > 233 Series

Temperature Re-rating Curve



Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

Average Time Current Curves



Soldering Parameters - Wave Soldering



Recommended Process Parameters:

Wave Parameter	Lead-Free Recommendation		
Preheat:			
(Depends on Flux Activation Temperature)	(Typical Industry Recommendation)		
Temperature Minimum:	100°C		
Temperature Maximum:	150°C		
Preheat Time:	60-180 seconds		
Solder Pot Temperature:	260°C Maximum		
Solder Dwell Time:	2-5 seconds		

Recommended Hand-Solder Parameters:

Solder Iron Temperature: 350°C +/- 5°C Heating Time: 5 seconds max.

Note: These devices are not recommended for IR or **Convection Reflow process.**

Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width	
233 Series					
Bulk	N/A	1000	MX	N/A	
Bulk	N/A	1000	MXE	N/A	
Reel and Tape	EIA 296-E	1000	MRET1	T1=53mm (2.087")	
Bulk	N/A	1000	MXB	N/A	

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Product Characteristics

Materials	Body: Glass Cap: Nickel–plated brass Leads: Tin–plated Copper
Terminal Strength	MIL-STD-202, Method 211, Test Condition A
Solderability	MIL-STD-202 Method 208
Product Marking	Cap 1: Brand logo, current and voltage rating Cap 2: Series and agency approval markings
Packaging	Available in Bulk (M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel)

Operating Temperature	–55°C to +125°C
Thermal Shock	MIL-STD-202, Method 107, Test Condition B: (5 cycles –65°C to +125°C)
Vibration	MIL-STD-202, Method 201
Humidity	MIL-STD-202, Method 103, Test Condition A. high RH (95%) and elevated temp (40°C) for 240 hours
Salt Spray	MIL-STD-202, Method 101, Test Condition B

Part Numbering System



Dimensions



Notes: * Ratings above 6.3A have 0.8±0.05 diameter lead.

Recommended Accessories

Accessory Type	Series	Description	Max Application Voltage	Max Application Amperage
	<u>345_ISF</u>	ISF Panel Mount Shock-Safe Fuseholder		10
Holder	<u>345</u>	Shock-Safe Fuseholder with PC Mount, Solder Mount and Panel Mount options		20
	<u>830</u>	PC Mount Shock-Safe Miniature Fuseholder		16
Block	<u>520</u>	Metric OMNI-BLOK® Fuse Block		10
	<u>646</u>	PC Mount Miniature Fuse Block	250	6.3
	<u>658</u>	Surface Mount Miniature Fuse Block	-	10
Clip	<u>520_W</u>	PC Mount Miniature Fuse Clip		6.3
	<u>111</u>	PC Board Mount Fuse Clip		10
	<u>445</u>	PC Board Mount Fuse Clip		10

Notes:

Do not use in applications above rating.
Please refer to fuseholder data sheet for specific re-rating information.

3. Please contact factory for applications greater than the max voltage and amperage shown.

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