



**THE DATASHEET OF  
021302.5MXEP**



# 213 Series

## 5x20 mm, Time-Lag Fuse



### Description

The 213 Series is a 5x20mm time-lag, surge-withstand, glass body cartridge fuse that is designed to IEC specifications.

### Features & Benefits

- Conforms to EN/IEC/K/J 60127-1 and EN/IEC/K/J 60127-2
- Available in cartridge and axial lead form
- Meets the IEC 60127-2, Sheet 3 specification for time-Lag fuses
- RoHS compliant and lead-free.
- Recognized to UL/CSA/NMX 248-1 and UL/CSA/NMX 248-14
- Conforms to GB 9364.1 and GB 9364.2
- CE Mark indicates compliance with Low-Voltage and RoHS Directives.

### Additional Information



Resources



Accessories



Samples

### Applications

Used as supplementary protection in appliance or utilization equipment to provide individual protection for components or internal circuits.

### Electrical Characteristic for Series

% of Ampere Rating	Ampere Rating	Opening Time
150%	All Ratings	60 minutes, Minimum
210%		2 minutes, Maximum
275%		0.6 sec., Min.; 10 sec. Max.
400%		.15 sec., Min.; 3 sec. Max.
1000%		0.02 sec., Min.; 0.3 sec. Max.

### Agency Approvals

Agency	Agency File Number	Ampere Range
PS E	Cartridge: NBK090205-E10480A NBK120802-E10480C	1A-5A 6.3A
	Leaded: NBK090205-E10480B NBK120802-E10480D	1A-5A 6.3A
CCC	2020970207000056	0.200A – 6.3A
UL	E10480	
SF	029862	0.200A – 6.3A
S	1914693	
D'E	40015638	
IEC	KM41462	0.200A – 6.3A
CE	SU05001-12002	3.15A-5A
	SU05001-12001	6.3A
CE	N/A	0.200A – 6.3A

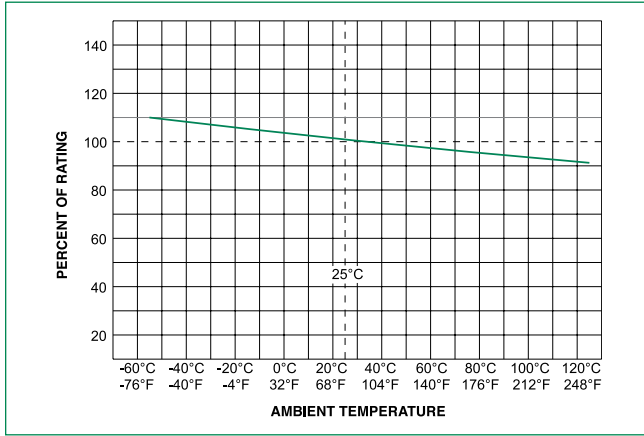
### Electrical Characteristic Specifications by Item

Amp Code	Ampere Rating	Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec)	Maximum Voltage Drop at Rated Current(mV)	Maximum Power Dissipation at 1.5I <sub>n</sub> (W)	Agency Approvals								
								PS E	CCC	UL	SF	S	CE	IEC	D'E	
.200	0.2	250	35A@250Vac	1.6000	0.22500	1500	1.6	x	x	-	x	x	x	x	-	x
.250	0.25	250		1.0495	0.55500	1300	1.6	x	x	-	x	x	x	x	-	x
.315	0.315	250		0.8475	1.14000	1100	1.6	x	x	-	x	x	x	x	-	x
.400	0.4	250		0.5350	1.36000	1000	1.6	x	x	-	x	x	x	x	-	x
.500	0.5	250		0.3700	2.90500	900	1.6	x	x	-	x	x	x	x	-	x
.630	0.63	250		0.2750	4.80000	300	1.6	x	x	-	x	x	x	x	-	x
.800	0.8	250		0.1635	9.42000	250	1.6	x	x	-	x	x	x	x	-	x
1.00	1	250		0.1165	19.20000	150	1.6	x	x	x	x	x	x	x	-	x
1.25	1.25	250		0.0817	27.15000	150	1.6	x	x	x	x	x	x	x	-	x
1.60	1.6	250		0.0551	44.20000	150	1.6	x	x	x	x	x	x	x	-	x
2.00	2	250		0.0452	92.70500	150	1.6	x	x	x	x	x	x	x	-	x
2.50	2.5	250		0.0305	138.00000	120	1.6	x	x	x	x	x	x	x	-	x
3.15	3.15	250		0.0231	202.00000	100	1.6	x	x	x	x	x	x	x	-	x
4.00	4	250		40A@250Vac	0.0170	226.50500	100	1.6	x	x	x	x	x	x	x	x
5.00	5	250		50A@250Vac	0.0116	314.00000	100	1.6	x	x	x	x	x	x	x	x
6.30	6.3	250	63A@250Vac	0.0095	600.00000	100	1.6	x	x	x	x	x	x	x	x	

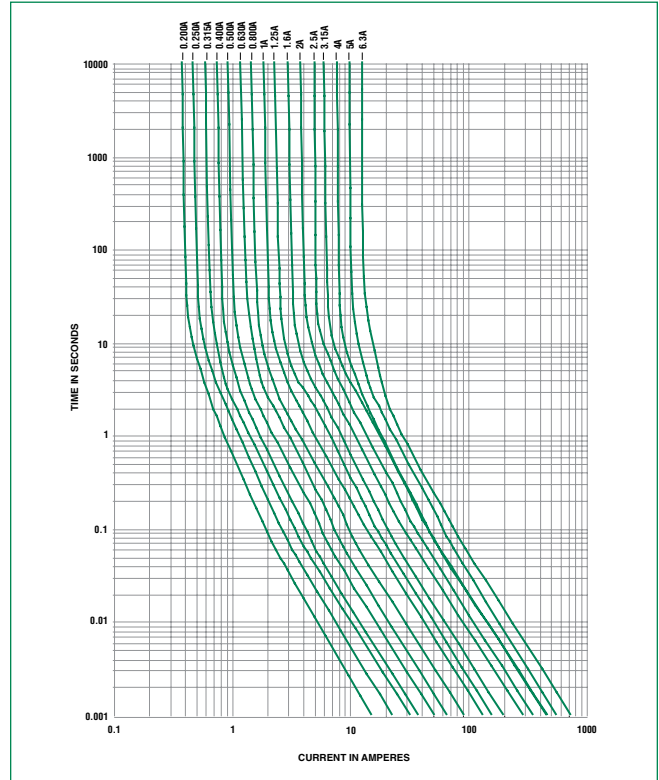
# 213 Series

## 5×20 mm, Time-Lag Fuse

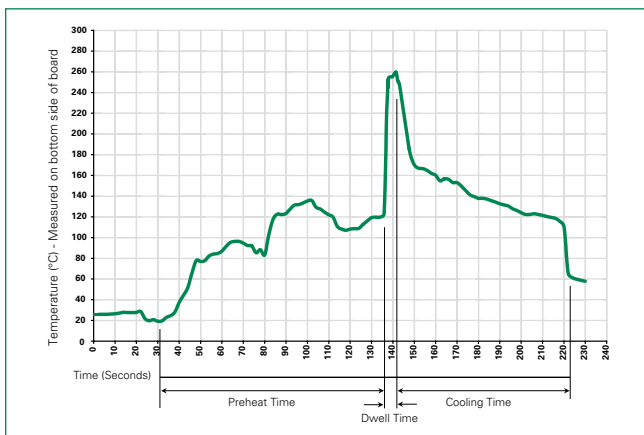
Temperature Re-rating Curve



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.

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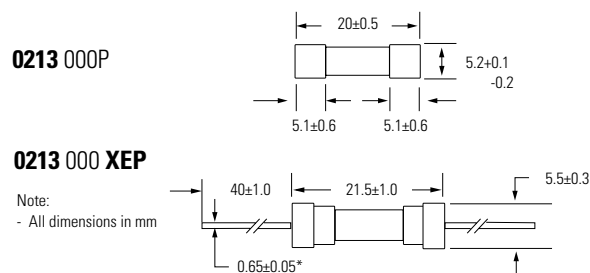
## 5×20 mm, Time-Lag Fuse

### Product Characteristics

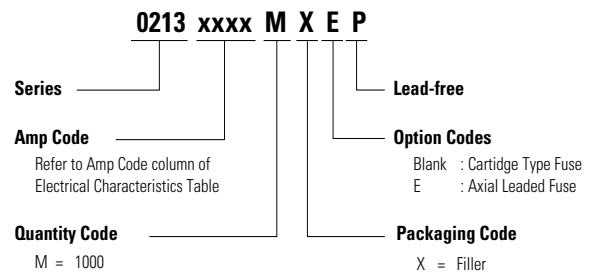
<b>Material</b>	Body: Glass Cap: Nickel-plated brass Leads: Tin-plated Copper
<b>Terminal Strength</b>	MIL-STD-202, Method 211, Test Condition A
<b>Solderability</b>	MIL-STD-202, Method 208
<b>Product Marking</b>	Cap1: Brand logo, current and voltage Cap2: Agency approval marks Series
<b>Packaging</b>	Available in Bulk (M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel)

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

### Dimensions



### Part Numbering System



### Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
<b>213 Series</b>				
Bulk	N/A	1000	MX	N/A
Bulk	N/A	1000	MXE	N/A
Reel and Tape	N/A	1000	MRET1	T1=53mm (2.087")
Bulk	N/A	1000	MXG	N/A
Bulk	N/A	1000	MXB	N/A
Bulk	N/A	100	HX	N/A

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