



# 213 Series, 5 x 20 mm, Time-Lag (Slo-Blo®) Fuse















# **Agency Approvals**

Agency	Agency File Number	Ampere Range
PSE	Cartridge Certificates: NBK120802-E10480 A&C Leaded Certificates: NBK120802-E10480 B&D	1A – 5A 6.3A
(W)	Certificates: 2002010207007597 2003010207045592	200mA – 6.3A 5A
<b>71</b>	Recognised File: E10480 Guide: JDYX2	
<b>(P</b> -	File: 029862 Acc. Class: LR1422-30	200mA – 6.3A
$\Diamond$	License: KM41462	
$\bigcirc$	File: 9905092, 9923025, 304515, 811747	
Ď <sup>V</sup> E	License: 40015638	200mA – 4A, 6.3A
_ (€		200mA – 6.3A

# **Description**

5x20mm time-Lag surge withstand glass body cartridge fuse designed to IEC specification.

# **Features**

- · Designed to International (IEC) Standards for use globally
- Available in cartridge and axial lead form
- Meets the IEC 60127-2, Sheet 3 specification for time-Lag fuses
- RoHS compliant and lead-free.

# **Applications**

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

#### **Electrical Characteristic for Series**

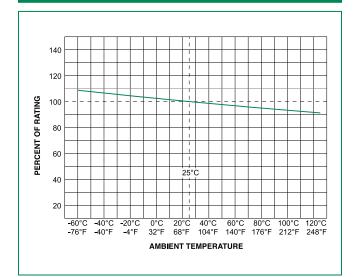
% of Ampere Rating	Ampere Rating	Opening Time		
150%		60 minutes, Minimum		
210%	All Ratings	2 minutes, Maximum		
275%		0.6 sec., Min.; 10 sec. Max.		
400%		.15 sec., Min.; 3 sec. Max.		
1000%		0.02 sec., Min.; 0.3 sec. Max.		

# **Electrical Characteristic Specifications by Item**

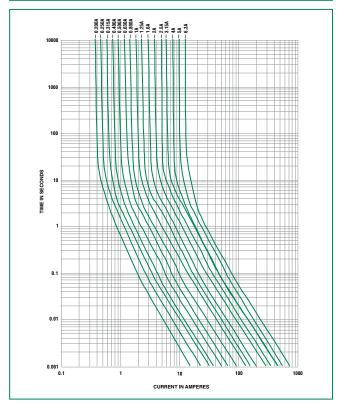
		V 1:		Nominal		Nominal	Nominal	Agency Approvals							
	Ampere Rating	Voltage Rating (V)	Interrupting Rating	Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec)	Voltage Drop (mV)	Power Dissipation (W)	(W)	PS E	<i>91</i>	<b>(</b>	(2)	Œ		$\Diamond$
.200	0.2	250		1.6000	0.22500	1500	1.6	X		Х	Х	Х	Х	Х	Х
.250	0.25	250		1.0495	0.55500	1300	1.6	X		Х	Х	X	Х	Х	Х
.315	0.315	250		0.8475	1.14000	1100	1.6	X		Х	X	X	X	Х	X
.400	0.4	250		0.5350	1.36000	1000	1.6	X		Х	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	35A@250Vac	0.1635	9.42000	250	1.6	X		X	X	X	X	X	X
001.	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
01.6	1.6	250		0.0551	44.20000	150	1.6	X	X	X	X	X	X	X	X
002.	2	250		0.0452	92.70500	150	1.6	X	X	X	X	X	X	X	X
02.5	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
004.	4	250	40A@250Vac	0.0170	226.50500	100	1.6	X	X	X	X	X	X	X	X
005.	5	250	50A@250Vac	0.0116	314.00000	100	1.6	X	Х	X	X	X	X	X	X
06.3	6.3	250	63A@250Vac	0.0095	600.00000	100	1.6	X	X	X	X	X	X	X	X



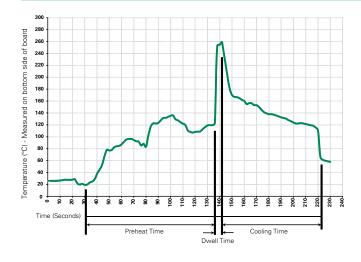
# **Temperature Rerating Curve**



# **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.

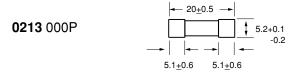


# **Product Characteristics**

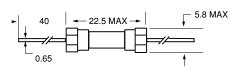
Material	Body: Glass Cap: Nickel-plated brass Leads: Tin-plated Copper	
Terminal Strength	MIL-STD-202G, Method 211A, Test Condition A	
Solderability	Reference IEC 60127, Second Edition 2003-01, Annex A	
Product Marking	Cap1: Brand logo, current and voltage Cap2: Agency approval marks Series	
Packaging	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-202G, Method 107G, Test Condition B: (5 cycles –65°C to +125°C)
Vibration	MIL-STD-202G, Method 201A
Humidity	MIL-STD-202G, Method 103B, Test Condition A. High RH (95%) and elevated temperature (40°C) for 240 hours.
Salt Spray	MIL-STD-202G, Method 101D, Test Condition B

# **Dimensions**



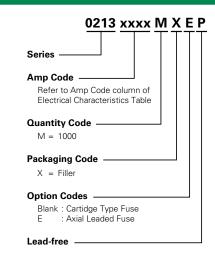




All dimensions in mm

#### Notes:

# **Part Numbering System**



# **Packaging**

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width	
213 Series					
Bulk	N/A	1000	MX	N/A	
Bulk	N/A	1000	MXE	N/A	
Reel and Tape	EIA 296-E	1000	MRET1	T1=52mm (2.062")	

<sup>\*</sup> Ratings above 6.3A have 0.8 mm dia lead

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