

477 Series, 5×20 mm, Time-Lag (Slo-Blo®) Fuse





Agency Approvals

Agency	Agency File Number	Ampere Range			
PS E	Cartridge Certificates: NBK040609-JP1021 A NBK040609-JP1021 C NBK100408-JP1021 A Leaded Certificates: NBK040609-JP1021 B NBK040609-JP1021 D NBK100408-JP1021 B	1A – 5A 6.3A – 12A 16A 1A – 5A 6.3A – 12A 16A			
\bigcirc	Cartridge File: No. 1219190 Leaded File: No. 1219190	500mA – 8A 500mA – 8A			
c FU °us	Recognised File: E10480	500mA - 16A(500VAC) 500mA - 16A(400VDC)			
VDE	Certificate No.: 40025413	1A & 3.15A(500VAC) 1A & 3.15A(400VDC)			
Œ		500mA – 16A			

Description

400Vdc/500Vac rated, 5x20mm, time-lag, surge withstand ceramic body cartridge fuse.

Features

- Designed to International (IEC) Standards for use globally
- Follow the IEC 60127-2,Sheet 5 specification for time-lag fuses
- Available in cartridge and axial lead form
- RoHS compliant and lead-free

Applications

High energy and power efficient applications.

Electrical Characteristics for Series

% of Ampere Rating	Ampere Rating	Opening Time			
	.5 – .8	60 minutes, Minimum			
150%	1 – 3.15	60 minutes, Minimum			
130 70	4 – 6.3	60 minutes, Minimum			
	8 – 16	30 minutes, Minimum			
	.5 – .8	30 minutes, Maximum			
210%	1 – 3.15	30 minutes, Maximum			
21070	4 – 6.3	30 minutes, Maximum			
	8 – 16	30 minutes, Maximum			
	.5 – .8	.25 sec., Min.; 80 sec., Max.			
275%	1 – 3.15	.75 sec., Min.; 80 sec., Max.			
27370	4 – 6.3	.75 sec., Min.; 80 sec., Max.			
	8 – 16	.75 sec., Min.; 80 sec., Max.			
	.5 – .8	.05 sec., Min.; 5 sec., Max.			
400%	1 – 3.15	.095 sec., Min.; 5 sec., Max.			
400 %	4 – 6.3	.15 sec., Min.; 5 sec., Max.			
	8 – 16	.15 sec., Min.; 5 sec., Max.			
	.5 – .8	.005 sec., Min.; .15 sec., Max.			
1000%	1 – 3.15	.01 sec., Min.; .15 sec., Max.			
1000 70	4 – 6.3	.01 sec., Min.; .15 sec., Max.			
	8 – 16	.01 sec., Min.; .15 sec., Max.			

Axial Lead & Cartridge Fuses

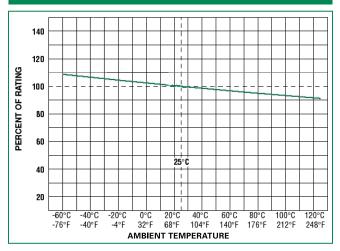
5×20 mm > Time-Lag > 477 Series

Electrical Characteristics Specifications by Item

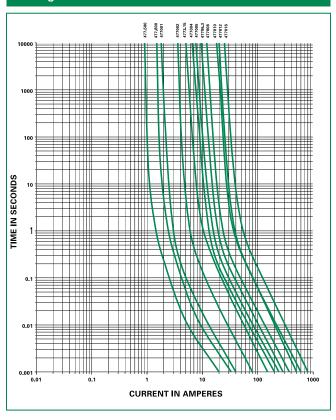
Amp Code	Amp Rating			Interrupting Rating Voltage (V) Current (A)			Nominal Cold Resistance	Nominal Melting I²T (A²Sec.)	Agency Approvals				
		AC	DC	AC	DC DC	AC	DC	(Milli-Ohm)		(PS)	c FL °us	\bigcirc	VDE
.500*	0.5*	500	400	500	400	100	1500	1055.900	0.300		X	X**	
.800*	0.8*	500	400	500	400	100	1500	430.000	0.909		X	X**	
001.*	1*	500	400	500	400	100	1500	139.400	1.800	Χ	X	X**	X
002.*	2*	500	400	500	400	100	1500	55.200	9.120	Χ	X	X**	
3.15*	3.15*	500	400	500	400	100	1500	27.700	50.109	Χ	X	X**	Х
004.*	4*	500	400	500	400	100	500	17.200	52.480	Χ	X	X**	
005.*	5*	500	400	500	400	100	500	13.700	76.500	Χ	X	X**	
06.3	6.3	500	400	500	400	100	500	10.970	121.451	Χ	X	Χ	
008.	8	500	400	500	400	100	500	8.305	203.520	Χ	X	Χ	
010.	10	500	400	500	400	100	500	4.950	509.000	Χ	X		
012.	12	500	400	500	400	100	500	4.730	576.000	Χ	X		
016.	16	500	400	500	400	100	400	3.100	1331.200	Х	X		

^{*100}A@600Vac interrupting rating witnessed by UL available for 0.5A to 5A with 600Vac markings. Add suffix "MXE6P", Example: 0477004.MXE6P. **Semko approval for 500Vac type only.

Temperature Rerating Curve



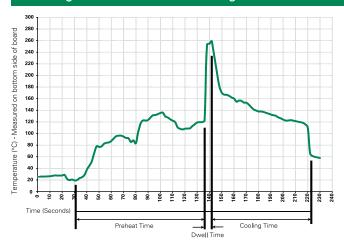
Average Time Current Curves



I²t test at 10x rated current.



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.

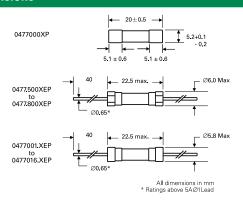
Note: These devices are not recommended for IR or Convection Reflow process.

Product Characteristics

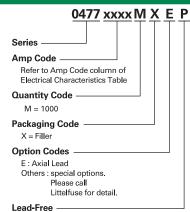
Material	Body: Ceramic Cap: Nickel-plated brass Leads: Tin-plated Copper		
Terminal Strength	MIL-STD-202G, Method 211A, Test Condition A		
Solderability	Reference IEC 60127 Second Edition 2003-01 Annex A		
Product Marking	Cap 1: Brand logo, current and volt- age rating Cap 2: Series and agency approval markings		
Packaging	Available in Bulk (M=1000 pcs/pkg)		

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



Part Numbering System



Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Reel Size			
477 Series							
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")			