Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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477 Series, 5×20 mm, Time-Lag Fuse

Agency Approvals

Agency	Agency File Number	Ampere Range
PSE	Cartridge: NBK040609-JP1021A NBK040609-JP1021C NBK100408-JP1021A Leaded: NBK040609-JP1021B NBK040609-JP1021D NBK100408-JP1021B	 1A – 5A 6.3A – 12A 16A 1A – 5A 6.3A – 12A 16A
S	1219190	0.500A – 8A
c UL us	E10480	0.5A – 5A(600VAC) 0.5A – 16A(400VDC) 6.3A – 16A(500VAC)
VDE	40025413	1A, 3.15A (500VAC) 1A, 3.15A (400VDC)
△	J50248089	10A/12A/16A
CE	N/A	0.500A – 16A

Additional Information

Datasheet | Resources | Samples

Description

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

Features

- Designed to International (IEC) Standard 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
150%	.5 - .8	60 minutes, Minimum
	1 - 3.15	60 minutes, Minimum
	4 - 6.3	60 minutes, Minimum
	8 - 16	30 minutes, Minimum
210%	.5 - .8	30 minutes, Maximum
	1 - 3.15	30 minutes, Maximum
	4 - 6.3	30 minutes, Maximum
	8 - 16	30 minutes, Maximum
275%	.5 - .8	.25 sec., Min.; 80 sec. Max.
	1 - 3.15	.75 sec., Min.; 80 sec. Max.
	4 - 6.3	.75 sec., Min.; 80 sec. Max.
	8 - 16	.75 sec., Min.; 80 sec. Max.
400%	.5 - .8	.05 sec., Min.; 5 sec. Max.
	1 - 3.15	.095 sec., Min.; 5 sec. Max.
	4 - 6.3	.15 sec., Min.; 5 sec. Max.
	8 - 16	.15 sec., Min.; 5 sec. Max.
1000%	.5 - .8	.005 sec., Min.; .15 sec. Max.
	1 - 3.15	.01 sec., Min.; .15 sec. Max.
	4 - 6.3	.01 sec., Min.; .15 sec. Max.
	8 - 16	.01 sec., Min.; .15 sec. Max.

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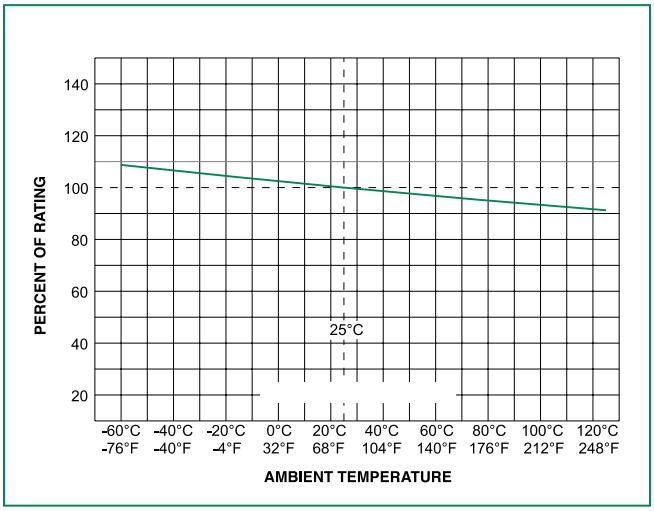
Electrical Characteristic

Amp Code	Amp Rating	Max Voltage Rating (V)		Interrupting Rating	Nominal Cold Resistance (Milli-ohms)	Nominal Melting I^2t (A^2 sec.)	Agency Approvals				
		AC	DC				PS E	c UL us			VDE
.500	0.5	500	400	100A@500VAC 1500A@400VDC	1055.900	0.300		x*	x**		
.800	0.8	500	400		430.000	0.909		x*	x**		
001.	1	500	400		139.400	1.800	x	x*	x**		x
002.	2	500	400		55.200	9.120	x	x*	x**		
3.15	3.15	500	400		27.700	50.109	x	x*	x**		x
004.	4	500	400	100A@500VAC 500A@400VDC	17.200	52.480	x	x*	x**		
005.	5	500	400		13.700	76.500	x	x*	x**		
06.3	6.3	500	400		10.970	121.451	x	x	x**		
008.	8	500	400		8.305	203.520	x	x	x**		
010.	10	500	400		4.950	509.000	x	x		x	
012.	12	500	400		4.730	576.000	x	x		x	
016.	16	500	400	100A@500VAC 400A@400VDC	3.100	1331.200	x	x		x***	

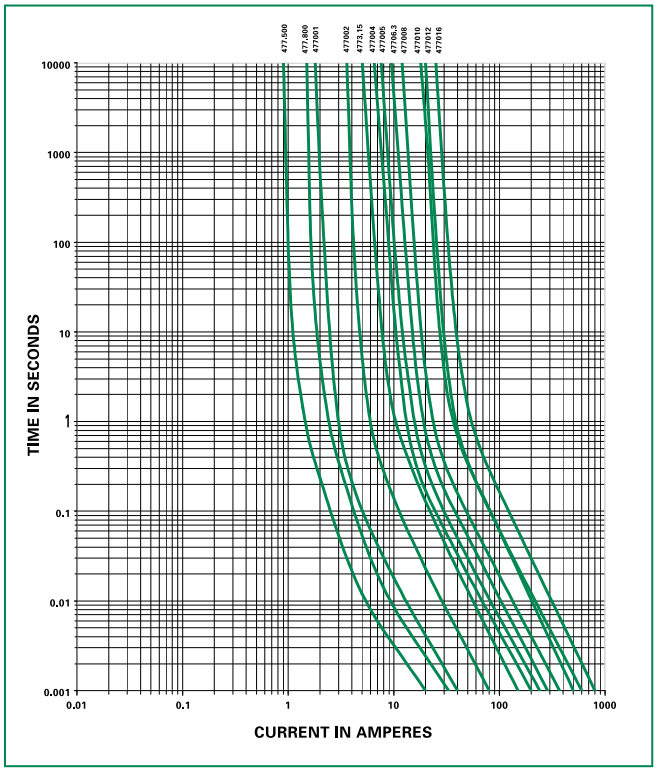
*100A @ 600Vac also available. Add suffix "MXE6P". Example: 0477004.MXE6P.
**Semko approval for 100A@500Vac & 200A@400Vdc.
I^2t test at 10x rated current.
***100A@ 500Vac and 300A@400Vdc for 16A

Temperature Re-rating Curve



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

Average Time Current Curves

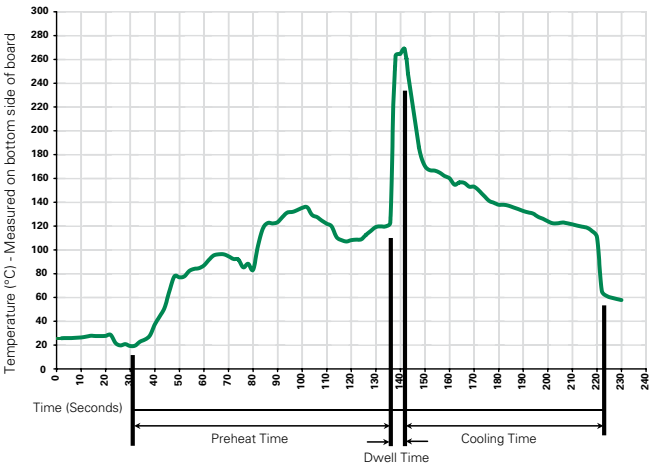


Revised: 01/11/16

Axial Lead & Cartridge Fuses

5×20 mm > Time-Lag > 477 Series

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.

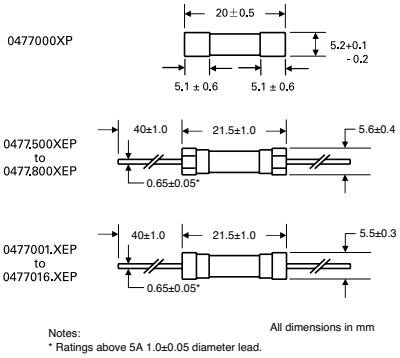
Note: These devices are not recommended for IR or Convection Reflow process.

Product Characteristics

Materials	**Body:** Ceramic **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 ratings **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-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

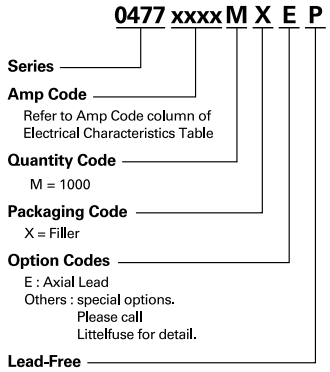
Dimensions



Notes:
* Ratings above 5A 1.0±0.05 diameter lead.

All dimensions in mm

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")

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