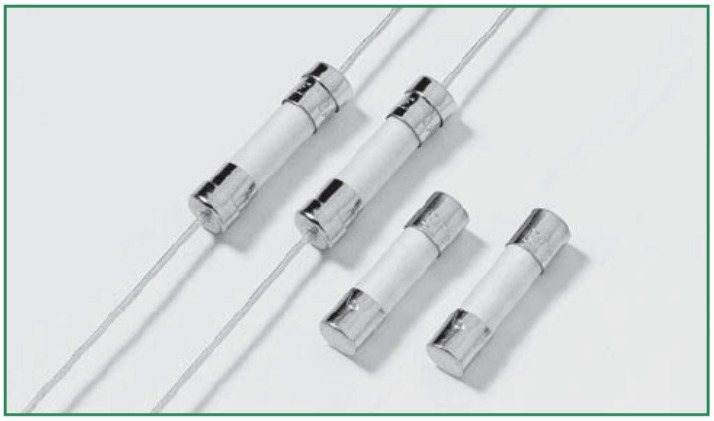
977 Series, 5x20 mm, Time Lag (Slo-Blo) Fuse



Description

450Vdc/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 Pb-free..

Application

Inverter in LCD backlight unit, DC side of air-conditioner 3-phase power supplies, Higher Energy and Power Efficient applications.

Agency Approval

Agency Approvals			Ampere Range
PSE	Certificate No.	Cartridge NBK040609-JP1021A NBK040609-JP1021C NBK100408-JP1021A Leaded NBK040609-JP1021B NBK040609-JP1021D NBK100408-JP1021B	2A – 5A 6.3A – 12A 16A 2A – 5A 6.3A -12A 16A
S	Certificate No.	Cartridge No.1010769 Leaded No.1010769	500mA-8A 500mA-8A
CE			500mA – 16A

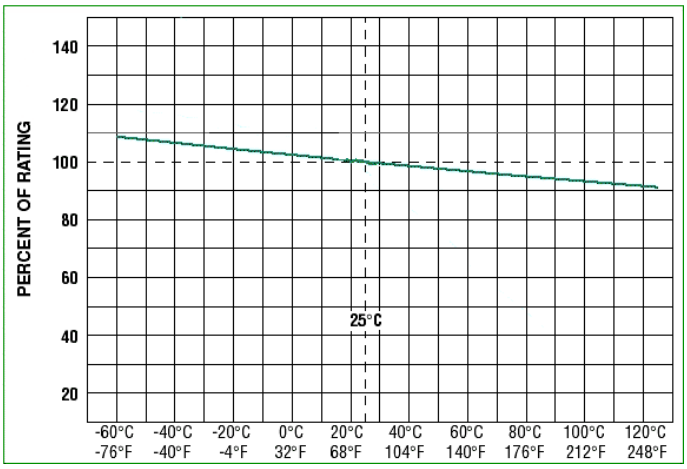
Electrical Characteristics

Rated Current	% of Ampere Rating and Opening Time							
	1.5In	2.1In	2.75 In		4 In		10 I	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	
500mA – 800mA	60	30	250	80	50	5	5	
2A – 3.15A	60	30	750	80	95	5	10	
4A – 6.3A	60	30	750	80	150	5	10	
8A – 16A	30	30	750	80	150	5	10	
	min	min	ms	sec	ms	sec	ms	

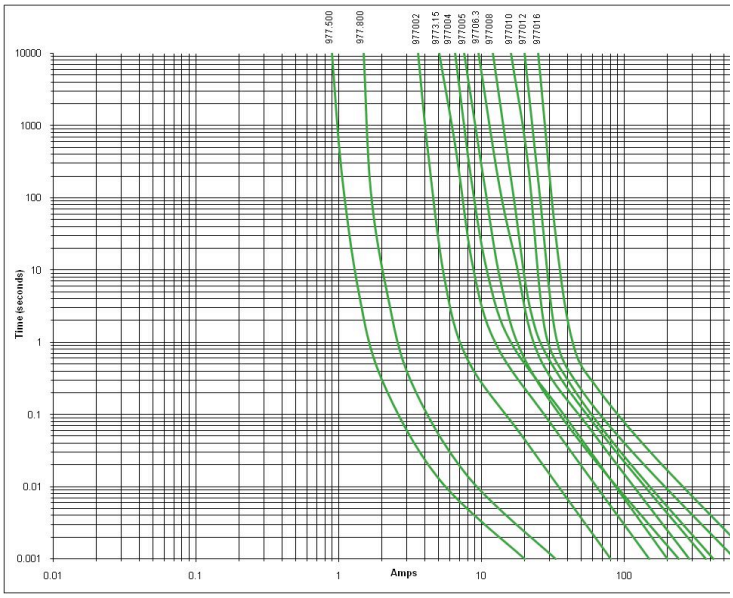
Electrical Characteristics

Amp Code	Amp Rating	Voltage Rating		Interrupting Rating	Nominal Cold Resistance (milli-ohms)	Nominal Melting I2T (A2Sec.)	Agency Approvals	
		AC	DC				PSE	Sem
.500	0.5	500	450	100A @500Vac 200A @450Vdc	945.0	0.3		X
.800	0.8	500	450		417.0	0.8		X
002.	2	500	450		44.5	17	X	X
3.15	3.15	500	450		27.5	58	X	X
004.	4	500	450		18.4	124	X	X
005.	5	500	450		11.9	91	X	X
06.3	6.3	500	450		9.1	188	X	X
008.	8	500	450		8.0	233	X	X
010.	10	500	450		7.2	249	X	
012.	12	500	450		5.8	388	X	
016.	16	500	450		3.9	725	X	

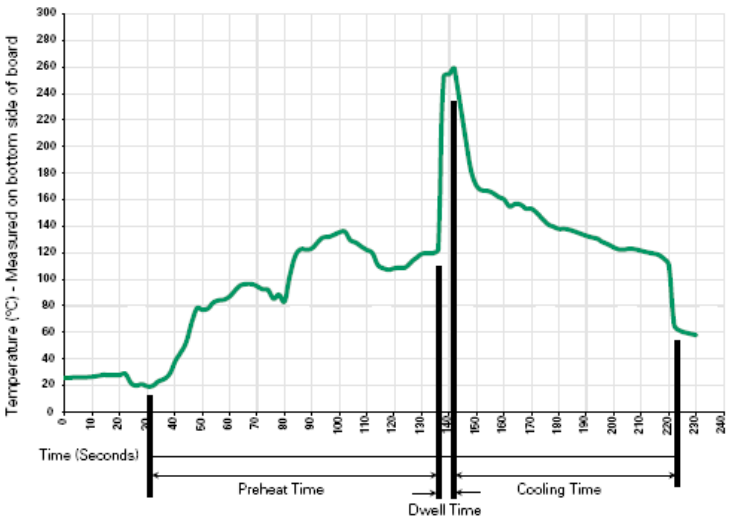
Temperature Rerating Curve



Average Time Current Curves



Soldering Parameters - Wave Soldering



Recommended Process Parameters:

Wave Parameter	Lead-Free Recommend
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:

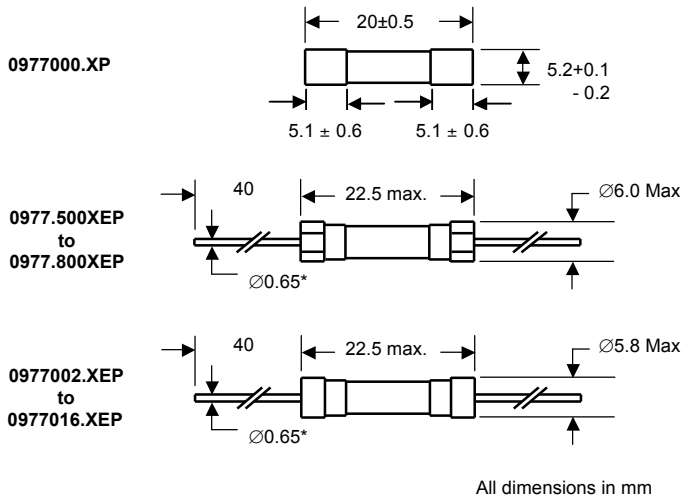
Solder Iron Temperature: 350° C +/- 5°C
Heating Time: 5 seconds max.

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

Product Characteristics

Material	Body: Ceramic Cap: Nickel Plated brass Leads: Tin Plated Copper	**Operating Temperature**	- 55°C to 125°C
Terminal Strength	MIL-STD-202G Method 211A, Test condition A	**Thermal Shock**	MIL-STD-202G Method 107G, Test condition B:(5 cycles - 65°C to 125°C)
Soldertability	Reference IEC60127 Second Edition 2003-01 Annex A	**Vibration**	MIL-STD-202G Method 201A
Product Marking	Cap1: Brand logo, current and voltage ratings Cap2: Series and agency approval marks	**Humidity**	MIL-STD-202G Method 103B, Test condition A: High relative humidity(95%) and Elevated temperature(40°C) for 240 hours
		Salt Spray	MIL-STD-202G Method 101D, Test condition B

Dimensions



All dimensions in mm

•Ratings above 5A ∅1 Lead.
•For 977 16A Ø1.2 Lead.

Part Numbering System

0977 xxxx M X E P

Series

Amp Code

Refer to Amp Code column of Electrical Characteristics Table

Quantity Code

M=1000

Packaging C

X= Filler

E: Axial Lead

P: Lead-Fr

Others: Speci options. Pleas Littelfuse for

Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Reel Si
977 Series				
Bulk	N/A	1000	MX	N/A
Bulk	N/A	1000	MXE	N/A