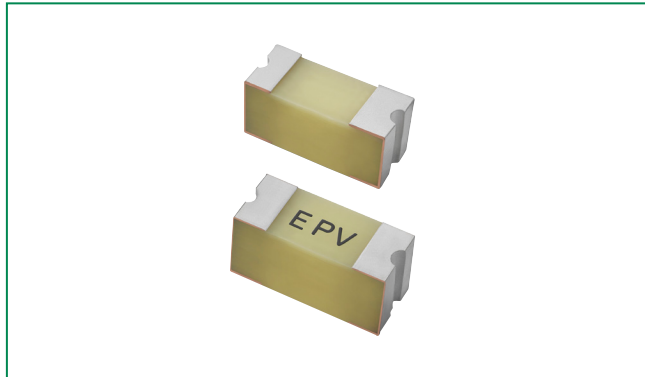


400PV Series - 2410 Photovoltaic Fuse



Agency Approvals

AGENCY	AGENCY FILE NUMBER	AMPERE RATING
	E339112	375mA

Electrical Characteristics

% of Ampere Rating	Ampere Rating	Opening Time
100%	0.375A	4 hours, Minimum
135%	0.375A	3600 seconds Maximum
200%	0.375A	240 seconds Maximum

Additional Information



Datasheet



Resources



Samples

Description

Littelfuse 400PV Series is a 2410 size Surface Mount Fuse which offers relatively low resistance. It provides photovoltaic (PV) protection that meet UL 248-19 standard for PV applications.

It is 100% Lead-free, RoHS compliant, and Halogen-free fuses designed to provide overcurrent protection to circuits that operates in high operating temperature up to 125°C.

Features

- Operating Temperature from -55°C to 125°C
- Suitable for both leaded and lead-free soldering
- 100% Lead-free, Halogen-free, and RoHS compliant
- UL 248-19 Recognized
- High reliability performance under high electric current and harsh thermal condition

Benefits

- Meet UL 248-19 photovoltaic standard
- Avoids nuisance opening due to high reliability performance.

Applications

- Photovoltaic

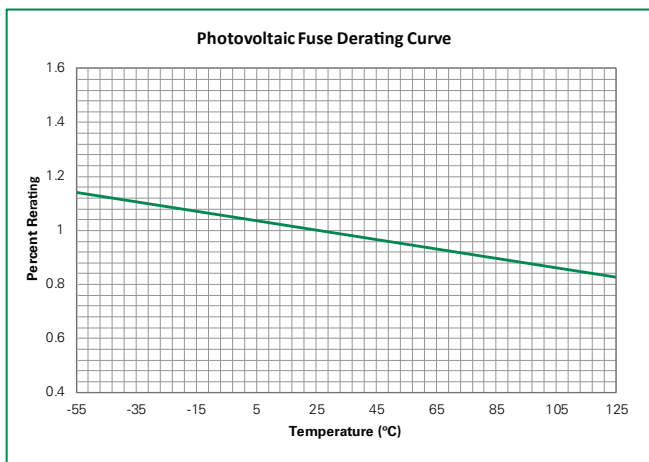
Electrical Specifications

Ampere Rating (A)	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I ² t (A ² Sec.) ¹	Agency Approvals
0.375	86	10,000A @ 86VDC	0.31	0.010	x

Note:

1. Nominal Melting I²t measured at 1 msec. opening time

Temperature Re-rating Curve



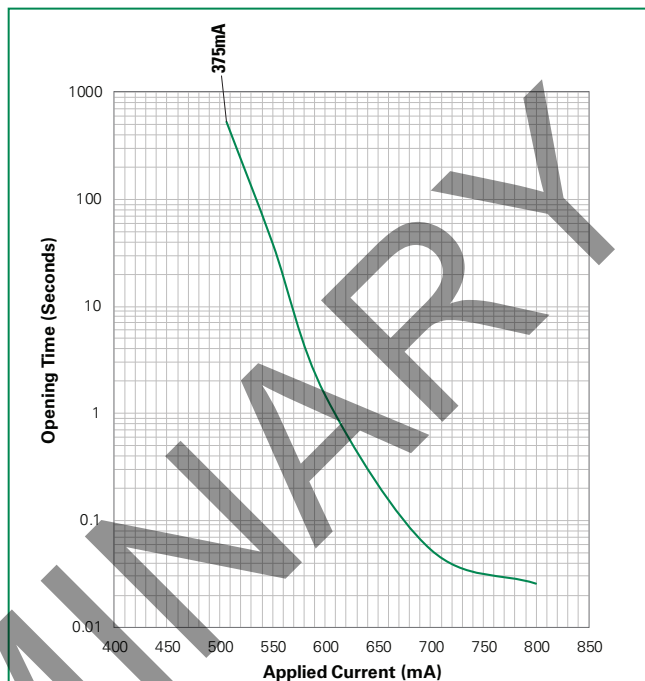
Note: Derating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

Example:

For continuous operation at 85 degrees celsius, the fuse should be derated as follows:

$$I = (0.75)(0.90)I_{\text{RAT}} = (0.675)I_{\text{RAT}}$$

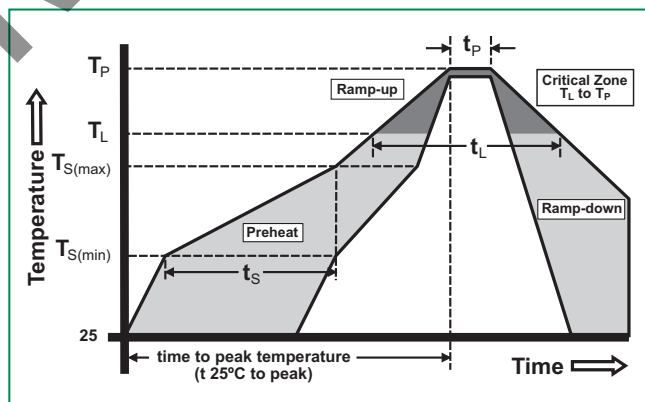
Average Time Current Curves



Soldering Parameters – Reflow Soldering

Reflow Condition		Pb-free assembly
Pre Heat	- Temperature Min ($T_{s(\min)}$)	150°C
	- Temperature Max ($T_{s(\max)}$)	200°C
	- Time (Min to Max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max.
$T_{s(\max)}$ to T_L - Ramp-up Rate		5°C/second max.
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260 ^{+0/-5} °C
Time within 5°C of actual peak Temperature (t_p)		10 – 30 seconds
Ramp-down Rate		6°C/second max.
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

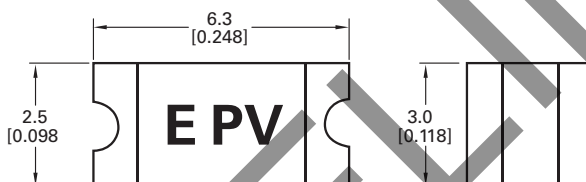
Wave Soldering	260°C, 10 seconds max.
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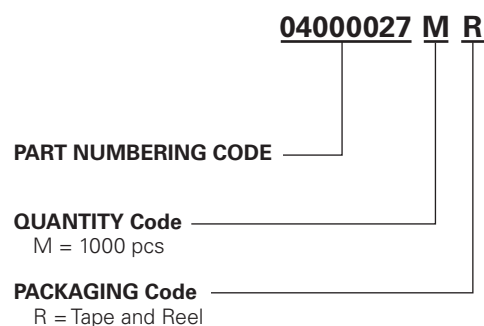
Product Characteristics

Materials	Body: Epoxy Resin Terminations: Cu/Ni/Sn (100% Pb-free)	Thermal Shock	MIL-STD-202, Method 107G, Condition B-3
Moisture Sensitivity Level	IPC/JEDEC J-STD-020C, Level 1	Mechanical Shock	MIL-STD-202, Method 213B, Condition A
Solderability	IPC/EIC/JEDEC J-STD-002B, Condition B	Vibration	MIL-STD-202, Method 201A
Humidity	UL248-19 Section 6.7.3	Vibration, High Frequency	MIL-STD-202, Method 204D, Condition D
Resistance to Soldering Heat	MIL-STD-202, Method 210F, Condition B	Dissolution of Metallization	IPC/EIC/JEDEC J-STD-002B, Condition D
Thermally Induced Drift	UL248-19 Section 6.6.1	Terminal Strength	IEC 60127-4
Moisture Resistance	MIL-STD-202, Method 106G	Temperature Extremes	UL248-19 Section 6.6.2

Dimensions



Part Numbering System



Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code
12mm Tape and Reel	EIA RS-481-2 (IEC 286, Part 3)	1000	MR

Disclaimer Notice - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at www.littelfuse.com/disclaimer-electronics.