



**Product Features:** Small surface mountable, Solid state, Faster time to trip than standard SMD devices, Lower resistance than standard SMD devices

**Operation Current:** 1.75A~7.50A

**Maximum Voltage:** 6V<sub>DC</sub>

**Temperature Range :** -40°C to 85°C

**Applications:** All high-density boards



### Electrical Characteristics (23°C)

Part Number	Hold Current	Trip Current	Rated Voltage	Max Current	Typ. Power	Max Time to Trip		Resistance	
						Current	Time	R <sub>MIN</sub>	R <sub>1MAX</sub>
	I <sub>H</sub> , A	I <sub>T</sub> , A	V <sub>MAX</sub> , V <sub>DC</sub>	I <sub>MAX</sub> , A	Pd, W	A	Sec	Ohms	Ohms
F1210L175SL-06	1.75	3.50	6	100	1.0	8.0	2.50	0.006	0.040
F1210L200SL-06	2.00	4.90	6	100	1.0	8.0	3.00	0.005	0.024
F1210L260SL-06	2.60	5.00	6	100	0.8	8.0	4.00	0.003	0.020
F1210L300SL-06	3.00	6.00	6	100	0.8	15.00	2.00	0.003	0.020
F1210L350SL-06	3.50	7.00	6	100	1.0	17.50	2.00	0.003	0.018
F1210L380SL-06	3.80	8.00	6	100	1.0	8.00	5.00	0.002	0.016
F1210L400SL-06	4.00	8.00	6	100	1.0	8.00	5.00	0.002	0.016
F1210L450SL-06	4.50	9.00	6	100	1.0	22.50	2.00	0.001	0.014
F1210L650SL-06	6.50	13.00	6	100	1.2	32.50	2.00	0.001	0.009
F1210L700SL-06	7.00	14.00	6	100	1.2	35.00	2.00	0.001	0.008
F1210L750SL-06	7.50	15.00	6	100	1.2	37.50	2.00	0.001	0.007

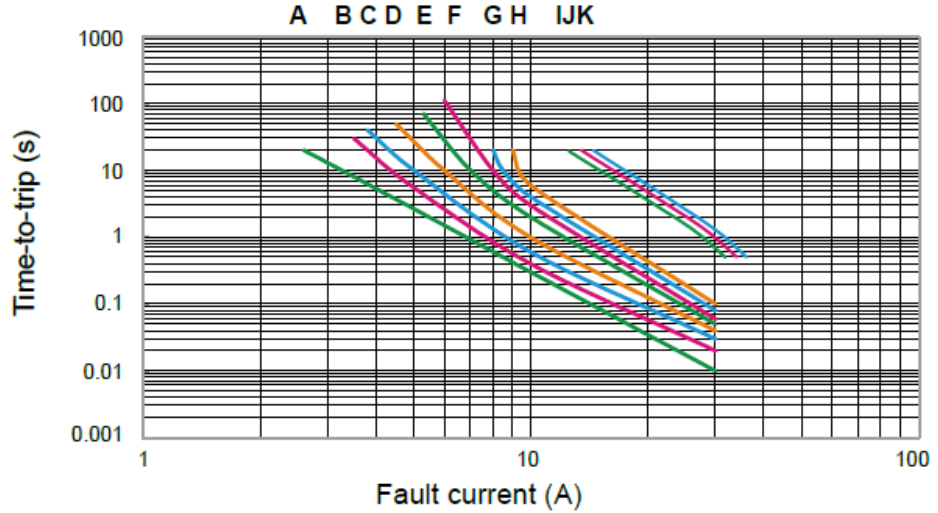
### Thermal Derating for PPTC Device at Various Ambient Temperatures

Temperatures	-40°C	-20°C	0°C	23°C	30°C	40°C	50°C	60°C	70°C	85°C
Current Derating %	145%	130%	115%	100%	92%	84%	77%	69%	61%	50%

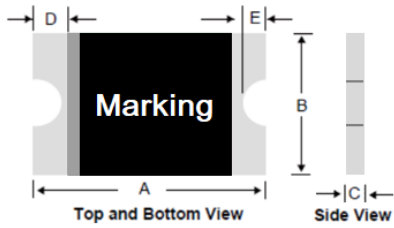


**Typical Time-To-Trip at 23°C**

- A = F1210L175SL-06
- B = F1210L200SL-06
- C = F1210L260SL-06
- D = F1210L300SL-06
- E = F1210L350SL-06
- F = F1210L380SL-06
- G = F1210L400SL-06
- H = F1210L450SL-06
- I = F1210L650SL-06
- J = F1210L700SL-06
- K = F1210L750SL-06



**Product Dimensions (Millimeters)**

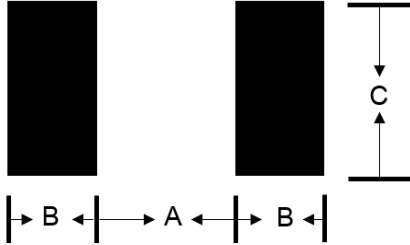


Part Number	A		B		C		D		E	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
F1210L175SL-06	3.00	3.43	2.35	2.80	0.30	0.70	0.25	0.75	0.10	0.45
F1210L200SL-06	3.00	3.43	2.35	2.80	0.30	0.70	0.25	0.75	0.10	0.45
F1210L260SL-06	3.00	3.43	2.35	2.80	0.30	0.70	0.25	0.75	0.10	0.45
F1210L300SL-06	3.00	3.43	2.35	2.80	0.30	1.00	0.25	0.75	0.10	0.45
F1210L350SL-06	3.00	3.43	2.35	2.80	0.30	1.00	0.25	0.75	0.10	0.45
F1210L380SL-06	3.00	3.43	2.35	2.80	0.60	1.00	0.25	0.75	0.10	0.45
F1210L400SL-06	3.00	3.43	2.35	2.80	0.60	1.00	0.25	0.75	0.10	0.45
F1210L450SL-06	3.00	3.43	2.35	2.80	0.60	1.00	0.25	0.75	0.10	0.45
F1210L650SL-06	3.00	3.43	2.35	2.80	0.60	1.00	0.25	0.75	0.10	0.45
F1210L700SL-06	3.00	3.43	2.35	2.80	0.60	1.00	0.25	0.75	0.10	0.45
F1210L750SL-06	3.00	3.43	2.35	2.80	0.60	1.00	0.25	0.75	0.10	0.45



### Pad Layouts, Solder Reflow and Rework Recommendations

The dimension in the table below provide the recommended pad layout for each F1210L device



Pad dimensions (millimeters)			
Device	A Nominal	B Nominal	C Nominal
F1210L	2.00	1.00	2.80

Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (T <sub>smax</sub> to T <sub>p</sub> )	3°C/second max.
Preheat:	
Temperature Min (T <sub>smin</sub> )	150°C
Temperature Max T <sub>smax</sub>	200°C
Time (t <sub>s</sub> T <sub>smin</sub> to T <sub>smax</sub> )	60~180 seconds
Time maintained above:	
Temperature(T <sub>L</sub> )	217°C
Time (t <sub>L</sub> )	60~150 seconds
Peak/Classification Temperature(T <sub>p</sub> ):	260°C
Time within 5°C of actual Peak:	
Temperature (t <sub>p</sub> )	20~40 seconds
Ramp-Down Rate:	6°C/second max.
Time 25°C to Peak Temperature:	8 minutes max.

Note 1: All temperatures refer to of the package, measured on the package body surface.

#### Solder reflow

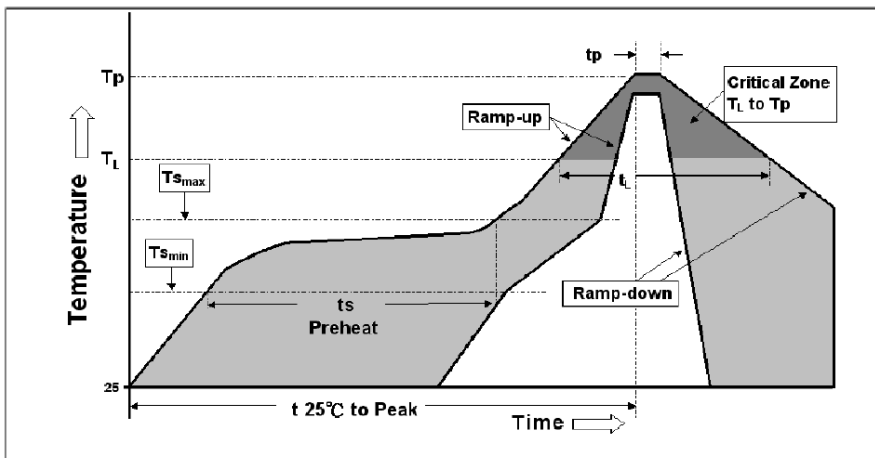
⊗ Due to “Lead Free” nature, Temperature and Dwelling time for the soldering zone is higher than those for Regular. This may cause damage to other components.

1. Recommended max past thickness > 0.25mm.
2. Devices can be cleaned using standard methods and aqueous solvent.
3. Rework use standard industry practices.
4. Storage Environment: < 30°C / 60%RH

#### Caution:

1. If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.
2. Devices are not designed to be wave soldered to the bottom side of the board.

### Reflow Profile



NOTE: Specification subject to change without notice.