



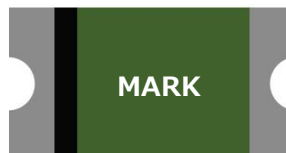
Features

- Broadest range of surface mount devices available in the industry
- Faster time to trip than standard surface mount devices
- RoHS Compliant & Halogen
- Agency Recognition: UL, CSA, TUV

VPF1210 Series ----- PTC Resettable Fuses

General Information

VIC offers PTC Resettable Fuses for protection against occasional over-current or over-temperature fault conditions, in compact chip package VPF1210 size format.



Electrical Characteristics

Part number	I_H	I_T	V_{MAX}	I_{MAX}	T_{trip}		$P_{D Typ}$	R_{MIN}	$R1_{MAX}$
VPF1210005	0.05	0.15	30	10	0.25	1.5	1	3.6	50
VPF1210010	0.1	0.3	30	10	0.5	1.5	1	1.6	15
VPF1210020	0.2	0.4	30	10	8	0.02	1	0.8	5
VPF1210035	0.35	0.7	6	40	8	0.2	1	0.32	1.3
VPF1210050	0.5	1	13.2	40	8	0.1	1	0.25	0.9
VPF1210075	0.75	1.5	6	40	8	0.1	1	0.13	0.4
VPF1210110	1.1	2.2	6	40	8	0.3	1	0.06	0.21
VPF1210150	1.5	3	6	40	8	0.5	1	0.04	0.11
VPF1210175	1.75	3.5	6	40	8	0.8	0.8	0.025	0.08
VPF1210200	2	4	6	100	8	2.5	0.8	0.02	0.06

I_H =Hold current-maximum current at which the device will not trip at 25°C still air.

I_T =Trip current-minimum current at which the device will always trip at 25°C still air.

T_{trip} =Maximum time to trip(s) at assigned current.

I_{MAX} = Maximum fault current device can withstand without damage at rated voltage .

V_{MAX} =Maximum voltage device can withstand without damage at its rated current.

$P_{D Typ}$ =Typical power dissipation: typical amount of power dissipated by the device when in state air environment.

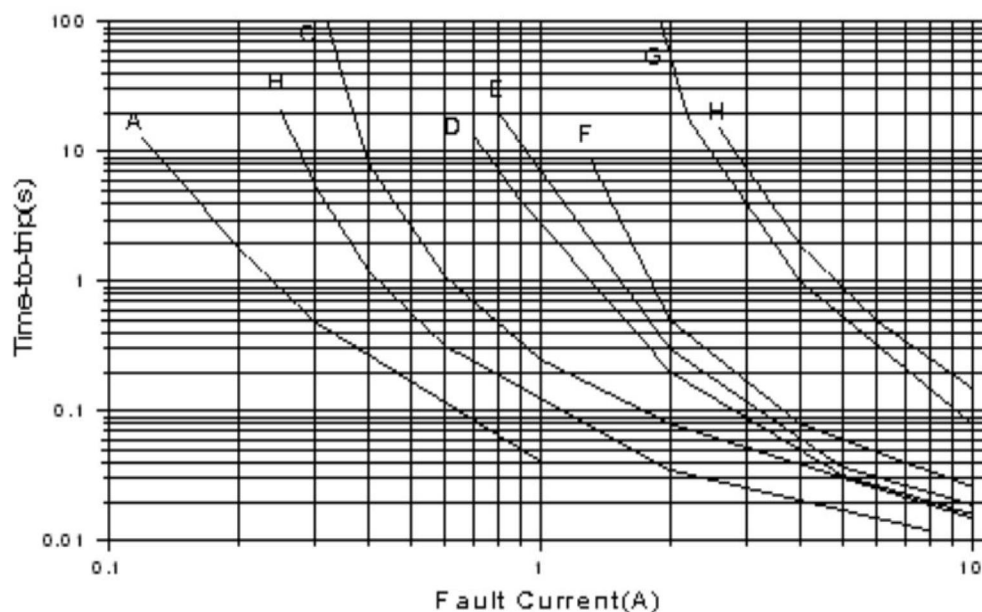
R_{MIN} =Minimum device resistance at 25°C prior to tripping.

$R1_{MAX}$ =Maximum device resistance measured in the nontripped state 1 hour post reflow.

Thermal Derating Chart-I_H (A)

Part number	Maximum ambient operating temperatures(°C)									
	-40	-20	0	20	25	40	50	60	70	85
VPF1210005	0.09	0.07	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.02
VPF1210010	0.16	0.14	0.13	0.11	0.1	0.09	0.07	0.07	0.06	0.05
VPF1210020	0.32	0.26	0.24	0.21	0.2	0.16	0.15	0.14	0.11	0.09
VPF1210035	0.52	0.48	0.41	0.38	0.35	0.32	0.27	0.26	0.23	0.17
VPF1210050	0.76	0.65	0.57	0.51	0.5	0.44	0.37	0.35	0.29	0.24
VPF1210075	1.11	1	0.87	0.77	0.75	0.66	0.58	0.53	0.46	0.36
VPF1210110	1.64	1.46	1.29	1.13	1.1	0.96	0.85	0.74	0.63	0.53
VPF1210150	2.25	2.02	1.76	1.54	1.5	1.29	1.1	1	0.87	0.67
VPF1210175	2.61	2.33	2.03	1.78	1.75	1.51	1.42	1.32	1.11	0.92
VPF1210200	2.89	2.65	2.43	2.04	2	1.7	1.52	1.42	1.23	0.97

Typical Time-to-Trip Charts at 25°C



VPF1210 Series

A = VPF1210005

B = VPF1210010

C = VPF1210020

D = VPF1210035

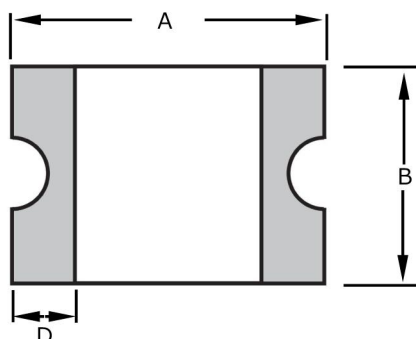
E = VPF1210050

F = VPF1210075

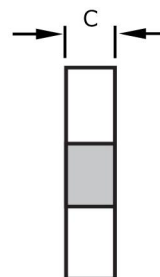
G = VPF1210110

H = VPF1210150

Product Dimensions



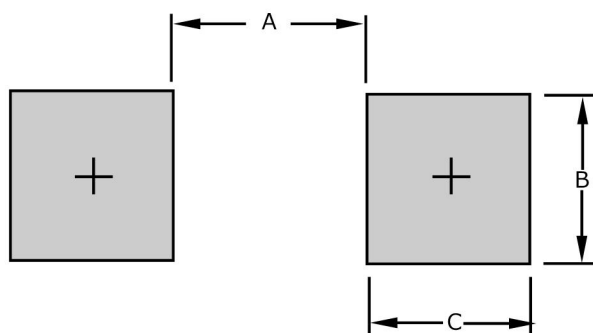
TOP AND BOTTOM VIEW



SIDE VIEW

Dimension:	$\frac{\text{MM}}{\text{(INCHES)}}$
A	$\frac{3.43}{(0.135)}$
B	$\frac{2.8}{(0.110)}$
C	$\frac{0.85-1.8}{(0.034-0.071)}$
D	$\frac{0.3}{(0.012)}$

Recommended PCB Footprint



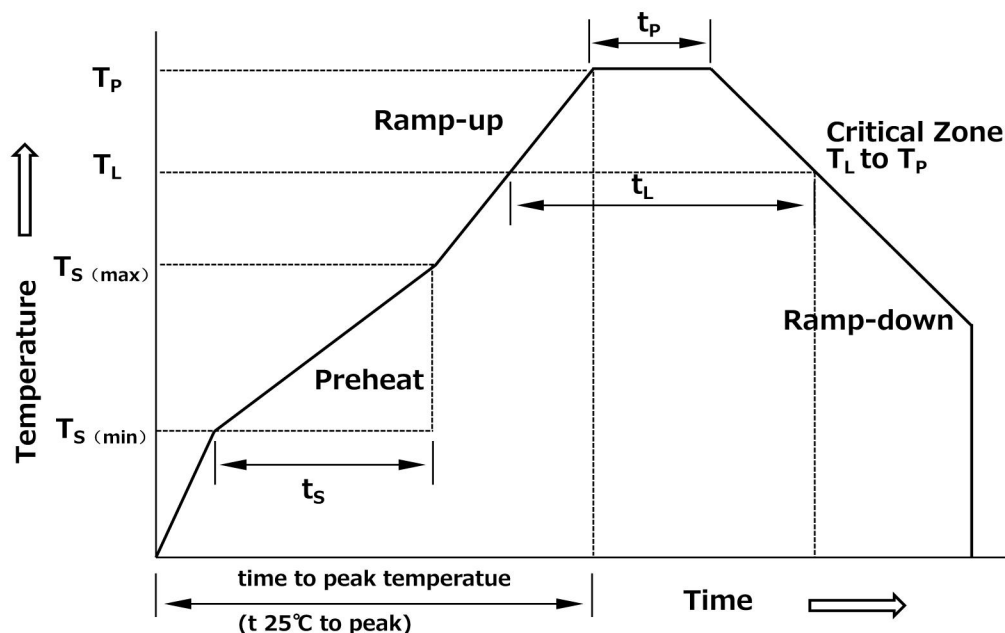
Dimension	$\frac{\text{MM}}{\text{(INCHES)}}$
A	$\frac{2.20}{(0.088)}$
B	$\frac{2.80}{(0.110)}$
C	$\frac{1.70}{(0.067)}$



VPF1210 Series ----- PTC Resettable Fuses

Recommendable reflow soldering

Profile Feature	Pb-Free Assembly
Average Ramp-UP Rate (T _{Smax} to T _p)	3 °C/secondmax.
Preheat -Temperature Min(T _{Smin}) -Temperature Max(T _{Smax}) -Time(T _{Smin} to T _{Smax})	150 °C 200 °C 60-180seconds
Time maintained above: -Temperature(T _L) -Time(t _L)	217 °C 60-150 seconds
Peak/Classification Temperature(T _p)	260°C
Time within 5°C of actual Peak Temperature(t _p)	20-40 seconds
Ramp-Down Rate	6°C/secondmax.
Time 25°C to Peak Temperature	8 minutes max.



Caution :

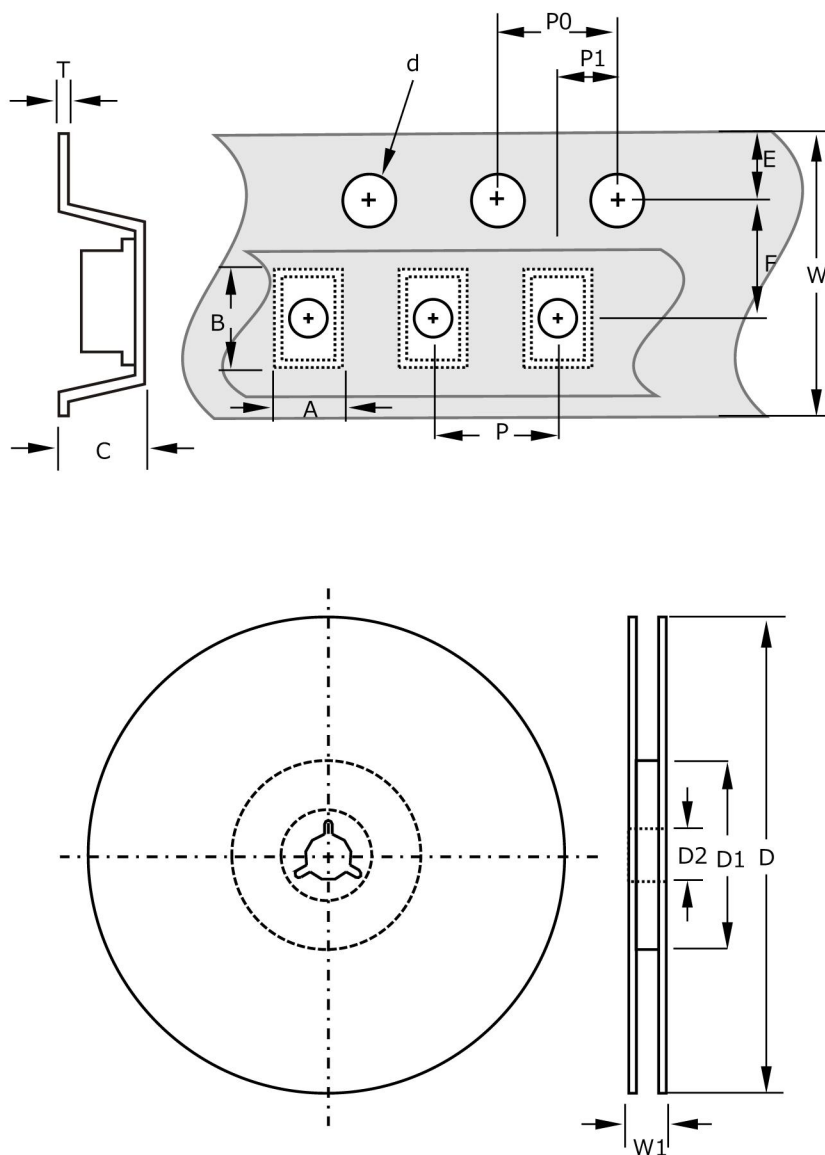
Operation beyond the specified maximum ratings or misuse can result in damage and possible electrical arcing and/or flame.

PPTC device are designed for occasional overcurrent protection. Not for continuously overcurrent circumstance and/or prolonged trip are not anticipated.

Keep PPTC device away from chemical solvent contact. Prolonged contact will damage the device performance.

Packaging Information

Dimension	MM (INCHES)
A	2.90 ± 0.10 (0.114 ± 0.004)
B	3.46 ± 0.10 (0.136 ± 0.004)
C	1.50 ± 0.50 (0.059 ± 0.197)
d	1.55 ± 0.10 (0.061 ± 0.004)
D	180.00 ± 2.00 (7.087 ± 0.079)
D1	60.0 ± 1.00 (2.362 ± 0.039)
D2	13.0 ± 0.20 (0.516 ± 0.008)
E	1.75 ± 0.10 (0.069 ± 0.004)
F	3.50 ± 0.05 (0.138 ± 0.002)
P	4.00 ± 0.10 (0.157 ± 0.004)
P0	4.00 ± 0.10 (0.157 ± 0.004)
P1	2.00 ± 0.05 (0.079 ± 0.002)
T	0.20 ± 0.05 (0.008 ± 0.002)
W	8.00 ± 0.10 (0.315 ± 0.004)
W1	11.6 ± 1.00 (0.457 ± 0.039)



Quantity of products in the taping package

- (1) Standard quantity : 3000 or 4000 pcs/Reel for the Part Number.
- (2) Shipping quantity is a multiple of standard quantity.
- (3) For additional information, please contact your local Sales Representative.