










PBS Series : Standard PPTC

PBS	Hold Current, A
0603 	0.10 ↔ 0.50
0805 	0.10 ↔ 1.10
1206 	0.12 ↔ 2.00
1210 	0.05 ↔ 1.50
1812 	0.10 ↔ 3.00
2018 	0.50 ↔ 2.00
2920 	0.75 ↔ 6.00

Surface Mount Polymer PTC

Features:

PBS Series

- Resettable over-current protection
- Operating temperature range from -40°C to $+85^{\circ}\text{C}$
- Small size
- Fast time-to-trip
- RoHS compliant
- Halogen free
- Symmetrical design

Applications:

PBS Series

- Mobile phones - Battery and port protection
- Portable electronic devices
- Industrial controls
- Multimedia-PDAs / digital cameras
- Game console port protection
- USB port protection - USB 2.0, 3.0 & OTG
- HDMI 1.4 Source protection
- PC motherboards - Plug and Play protection
- Power Over Ethernet (IEEE 802.3 af) port protection
- Telecom & broadband instruments
- PCMCIA cards
- USB Port protection-US

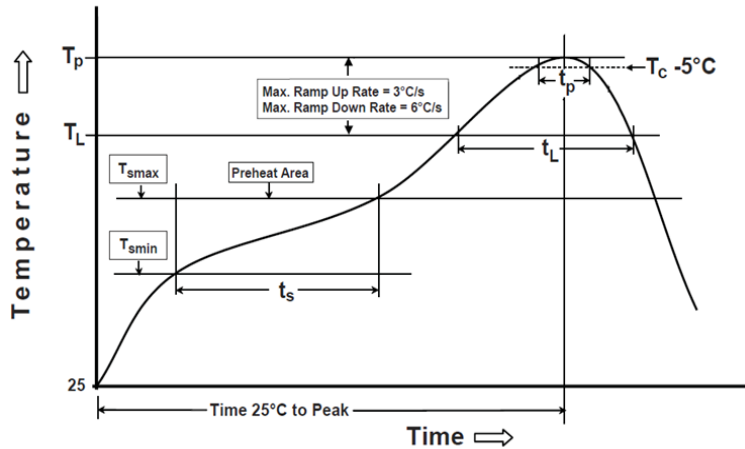
Quick Index:

Series	Size	Current (A)	Page
PBS	0603	Hold (I_H): 0.10,0.20,0.25,0.35,0.50	3
		Trip (I_T): 0.30,0.50,0.75,1.00	
PBS	0805	Hold (I_H): 0.10, 0.20,0.35,0.50,0.75,1.10	6
		Trip (I_T): 0.30,0.50,0.75,1.00,1.50,2.20	
PBS	1206	Hold (I_H): 0.12, 0.16, 0.20, 0.25, 0.35, 0.50,0.75,1.10,1.50,2.00	9
		Trip (I_T): 0.29, 0.37, 0.40, 0.46, 0.50, 0.75, 1.00,1.50,2.20,3.00,4.00	
PBS	1210	Hold (I_H): 0.05, 0.10, 0.20, 0.35,0.50,0.75,1.10,1.50,1.75	12
		Trip (I_T): 0.15, 0.30, 0.40, 0.75,1.00,1.50,2.20,3.00,3.50	
PBS	1812	Hold (I_H): 0.10, 0.14, 0.20, 0.30, 0.50, 0.75, 1.10, 1.25,1.50, 1.60,2.00,2.50, 2.60,3.00	15
		Trip (I_T): 0.30, 0.40, 0.60, 1.00, 1.50, 2.20, 2.80,3.00, 4.00,5.00,5.20	
PBS	2018	Hold (I_H): 0.30,0.55,1.10,1.50,2.00,2.60	19
		Trip (I_T): 0.80,1.20,2.20,3.00,4.00,5.20	
PBS	2920	Hold (I_H): 0.75,1.10,1.25,1.50,1.85,2.00,2.60,3.00,3.30,4.00,5.00,6.00	22
		Trip (I_T): 1.50,2.20,2.50,3.00,3.70,4.00,5.00,5.20,5.50,8.00,10.00,12.00	

Surface Mount Polymer PTC

Soldering Temperature Profile:

* Recommended Temperature Profile for Reflow Soldering



Profile Feature	Pb-Free Assembly
Preheat/Soak	
Temperature Min (T_{smin})	150°C
Temperature Max (T_{smax})	200°C
Time (t_s) from (T_{smin} to T_{smax})	60~180 seconds
Ramp-up rate (T_L to T_p)	3°C/second max.
Liquidous temperature (T_L)	217°C
Time (t_L) maintained above T_L	60~150 seconds
Peak package body temperature (T_p)	260°C
Time (t_p)* within 5°C of the specified classification temperature (T_c)	20~40 seconds *
Ramp-down rate (T_p to T_L)	6°C/second max.
Time 25°C to peak temperature	8 minutes max.
* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum	

Note:

Polymer PTC cannot be wave soldered. Please contact AEM for hand soldering recommendations.
 If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.
 Compatible with Pb and Pb-free solder reflow profiles.
 Excess solder may cause a short circuit, especially during hand soldering.

Caution:

Operation beyond the rated voltage or current may result in rupture electrical arcing or flame.

Warning:

Operation beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.

The devices are intended for protection against occasional over-current or over-temperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated.

Contamination of the PPTC material with certain silicon based oils or some aggressive solvents can adversely impact the performance of the devices.

Device performance can be impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal and mechanical procedures for electronic components.

Operation in circuit with a large inductance can generate a circuit voltage ($L di/dt$) above the rated voltage of the PPTC device.

Surface Mount Polymer PTC

PBS Series, 0603 Size

Ordering Code:

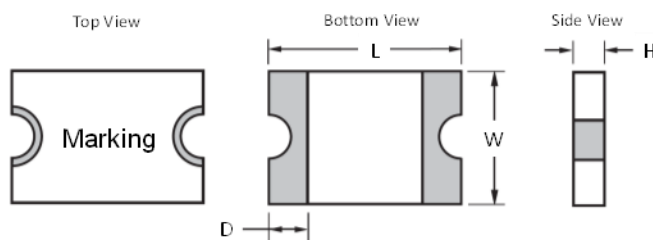
PBS 0603—035 F
(1) (2) (3) (4)

- (1) Series code
- (2) Size code
- (3) Current rating code 035: 0.35A
- (4) Identification code

Agency Approval:

UL file number: E355716
TüV certification number: R50371875. Tested for EN60738-1: 2006+A1; EN60738-1:2008; EN60730-1: 2011 clause 15, 17 and Annex J

Product Dimensions:



Part Number	L mm (inches)		W mm (inches)		H mm (inches)		D mm (inches)
	Min.	Max.	Min.	Max.	Min.	Max.	Min.
PBS0603-010F							
PBS0603-020F	1.45 (0.057)	1.85 (0.073)	0.65 (0.026)	1.05 (0.041)	0.30 (0.012)	0.65 (0.026)	0.20 (0.008)
PBS0603-025F							
PBS0603-035F							
PBS0603-050F	1.45 (0.057)	1.85 (0.073)	0.65 (0.026)	1.05 (0.041)	0.65 (0.026)	1.00 (0.039)	0.20 (0.008)

Typical Ratings and Characteristics (@ 23°C):

Operating temperature: -40 to +85°C

Part Number	Current (A)		V _{Max} (Vdc)	I _{Max} (A)	Max. Time to Trip (sec)		Typical Power (Pd, W)	Resistance Min. (Ω)	One Hours Post Reflow Resistance R ₁ Max. (Ω) ¹	Agency Approval	
	Hold (I _H)	Trip (I _T)			Current (A)	Time (sec)				UL	TÜV
PBS0603-010F	0.10	0.30	15	40	0.5	1.00	0.50	0.900	6.000	√	√
PBS0603-020F	0.20	0.50	9	40	1.0	0.60	0.50	0.550	3.500	√	√
PBS0603-025F	0.25	0.75	6	40	8.0	0.10	0.50	0.200	1.400	√	√
PBS0603-035F	0.35	0.75	6	40	8.0	0.10	0.50	0.200	1.400	√	√
PBS0603-050F	0.50	1.00	6	40	8.0	0.10	0.50	0.100	0.800	√	√

1. The max resistance of one-hour post reflow is a reference value. The value may change a little according to reflow conditions and soldering state.

Surface Mount Polymer PTC

PBS Series, 0603 Size

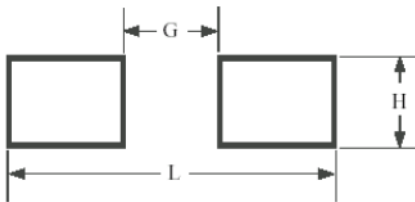
Packaging and Marking Information:

Part Number	Part Marking	Tape & Reel Quantity (piece)
PBS0603-010F		5,000
PBS0603-020F		6,000
PBS0603-025F	+	
PBS0603-035F	•	
PBS0603-050F	-	4,000

Thermal De-rating Hold Current (A) at Ambient Temperature (23°C):

Part Number	Ambient temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
PBS0603-010F	0.13	0.12	0.11	0.10	0.08	0.07	0.06	0.05	0.03
PBS0603-020F	0.27	0.25	0.23	0.20	0.17	0.14	0.12	0.10	0.07
PBS0603-025F	0.32	0.29	0.27	0.25	0.21	0.18	0.16	0.14	0.10
PBS0603-035F	0.47	0.41	0.38	0.35	0.29	0.26	0.24	0.20	0.14
PBS0603-050F	0.67	0.59	0.54	0.50	0.41	0.37	0.34	0.29	0.20

Recommended Foot Print Dimensions:

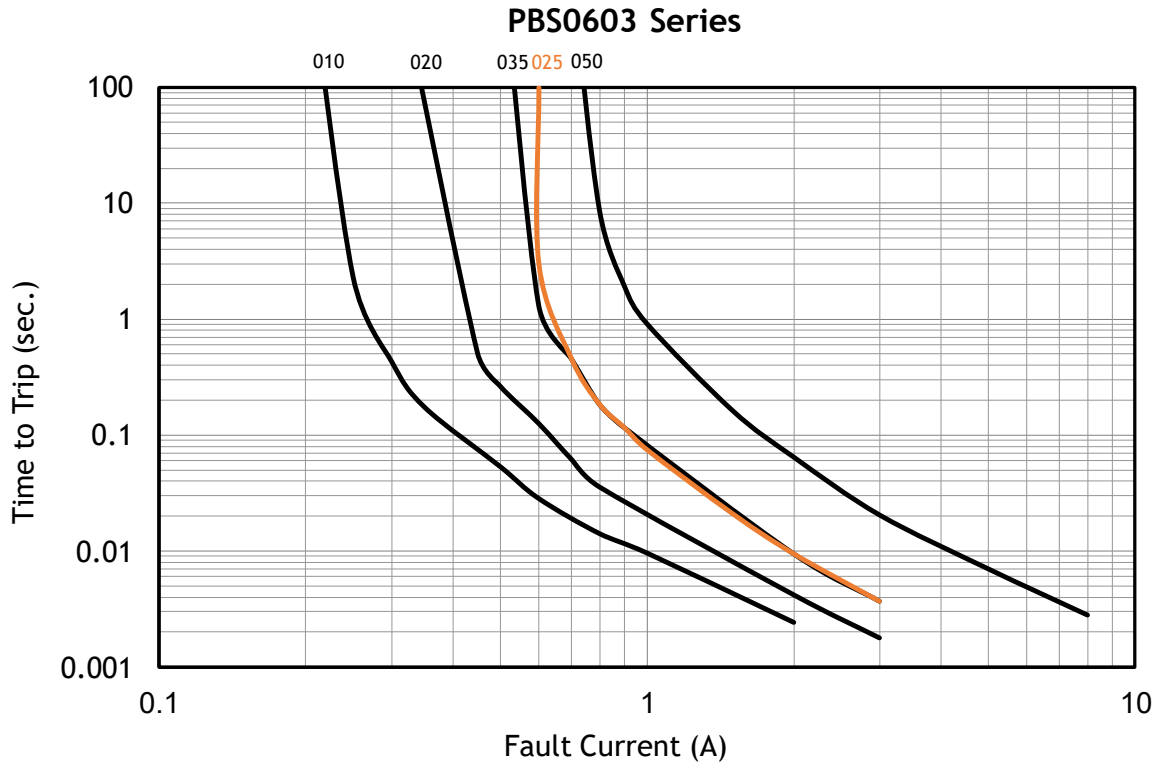


G (mm)	H (mm)	L (mm)
0.8±0.1	1.0±0.1	2.2±0.1

Surface Mount Polymer PTC

PBS Series, 0603 Size

Typical Time to Trip (@ 23°C):



Surface Mount Polymer PTC

PBS Series, 0805 Size

Ordering Code:

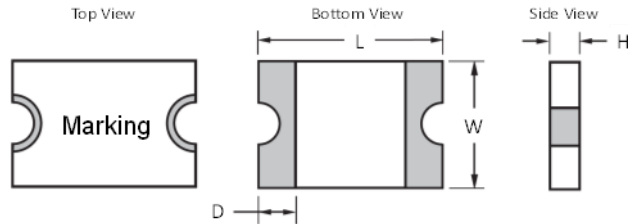
PBS 0805—010 F
 (1) (2) (3) (4)

- (1) Series code
- (2) Size code
- (3) Current rating code 010: 0.10A
- (4) Identification code

Agency Approval:

UL file number: E355716
 TÜV certification number: R50371875. Tested for EN60738-1: 2006+A1; EN60738-1:2008; EN60730-1: 2011 clause 15, 17 and Annex J

Product Dimensions:



Part Number	L mm (inches)		W mm (inches)		H mm (inches)		D mm (inches)
	Min.	Max.	Min.	Max.	Min.	Max.	Min.
PBS0805-010F	2.00 (0.079)	2.30 (0.091)	1.20 (0.047)	1.50 (0.059)	0.48 (0.019)	0.85 (0.033)	0.20 (0.008)
PBS0805-010-24F	2.00 (0.079)	2.30 (0.091)	1.20 (0.047)	1.50 (0.059)	0.48 (0.019)	0.85 (0.033)	0.20 (0.008)
PBS0805-020F	2.00 (0.079)	2.30 (0.091)	1.20 (0.047)	1.50 (0.059)	0.48 (0.019)	0.85 (0.033)	0.20 (0.008)
PBS0805-035F	2.00 (0.079)	2.30 (0.091)	1.20 (0.047)	1.50 (0.059)	0.48 (0.019)	0.85 (0.033)	0.20 (0.008)
PBS0805-050F	2.00 (0.079)	2.30 (0.091)	1.20 (0.047)	1.50 (0.059)	0.48 (0.019)	0.85 (0.033)	0.20 (0.008)
PBS0805-075F	2.00 (0.079)	2.30 (0.091)	1.20 (0.047)	1.50 (0.059)	0.75 (0.030)	1.25 (0.049)	0.20 (0.008)
PBS0805-110F	2.00 (0.079)	2.30 (0.091)	1.20 (0.047)	1.50 (0.059)	0.75 (0.030)	1.25 (0.049)	0.20 (0.008)

1. The max resistance of one-hour post reflow is a reference value. The value may change a little according to reflow conditions and soldering state.

Surface Mount Polymer PTC

PBS Series, 0805 Size

Typical Ratings and Characteristics (@ 23°C):

Operating temperature: -40 to +85°C

Part Number	Current (A)		V _{Max} (Vdc)	I _{Max} (A)	Max. Time to Trip (sec)		Typical Power (Pd, W)	Resistance Min. (Ω)	One Hours Post Reflow Resistance R ₁ Max. (Ω) ¹	Agency Approval	
	Hold (I _H)	Trip (I _T)			Current (A)	Time (sec)				UL	TÜV
PBS0805-010F	0.10	0.30	15	40	0.5	1.5	0.5	1.00	7.50	√	√
PBS0805-010-24F	0.10	0.30	24	80	0.5	1.5	0.5	1.00	7.50		
PBS0805-020F	0.20	0.50	9	40	8.0	0.02	0.5	0.650	3.50	√	√
PBS0805-035F	0.35	0.75	6	40	8.0	0.10	0.5	0.250	1.20	√	√
PBS0805-050F	0.50	1.00	6	40	8.0	0.10	0.5	0.150	0.900	√	√
PBS0805-075F	0.75	1.50	6	40	8.0	0.20	0.6	0.090	0.350	√	√
PBS0805-110F	1.10	2.20	6	40	8.0	0.30	0.6	0.060	0.210	√	√

1. The max resistance of one-hour post reflow is a reference value. The value may change a little according to reflow conditions and soldering state.

Packaging and Marking Information:

Part Number	Part Marking	Tape & Reel Quantity (piece)
PBS0805-010F	1	3,000
PBS0805-010-24F	1	
PBS0805-020F	2	
PBS0805-035F	3	
PBS0805-050F	4	
PBS0805-075F	5	
PBS0805-110F	6	

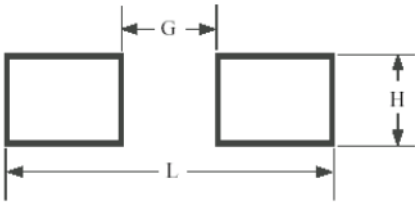
Thermal De-rating Hold Current (A) at Ambient Temperature (23°C):

Part Number	Ambient temperature								
	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
PBS0805-010F	0.15	0.13	0.12	0.10	0.09	0.08	0.07	0.06	0.05
PBS0805-010-24F	0.15	0.13	0.12	0.10	0.09	0.08	0.07	0.06	0.05
PBS0805-020F	0.28	0.25	0.23	0.20	0.17	0.14	0.12	0.10	0.07
PBS0805-035F	0.47	0.44	0.39	0.35	0.30	0.27	0.24	0.20	0.14
PBS0805-050F	0.68	0.62	0.55	0.50	0.40	0.37	0.33	0.29	0.23
PBS0805-075F	1.00	0.90	0.79	0.75	0.63	0.57	0.53	0.42	0.35
PBS0805-110F	1.45	1.35	1.20	1.10	0.92	0.84	0.75	0.65	0.52

Surface Mount Polymer PTC

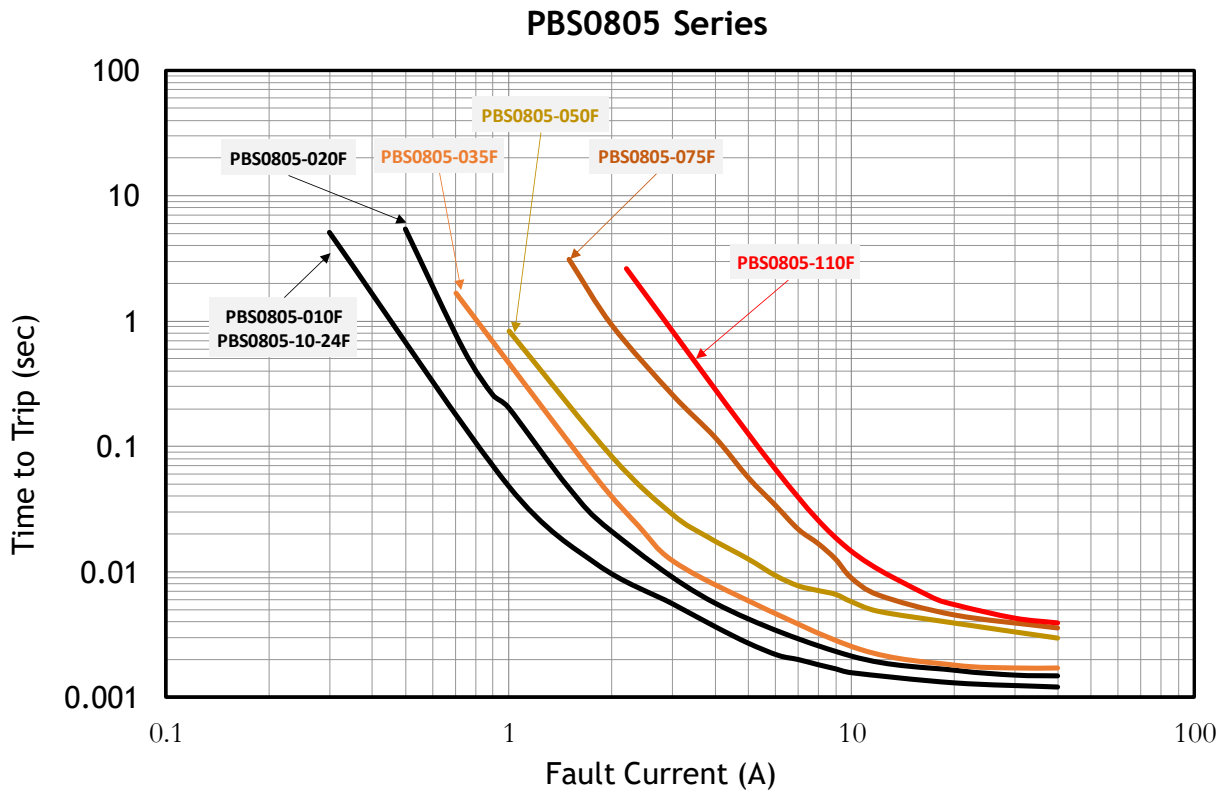
PBS Series, 0805 Size

Recommended Foot Print Dimensions:



G (mm)	H (mm)	L (mm)
1.2±0.1	1.5±0.1	3.2±0.1

Typical Time to Trip (@ 23°C):



Surface Mount Polymer PTC

PBS Series, 1206 Size

Ordering Code:

PBS 1206—035—16 F
 (1) (2) (3) (4) (5)

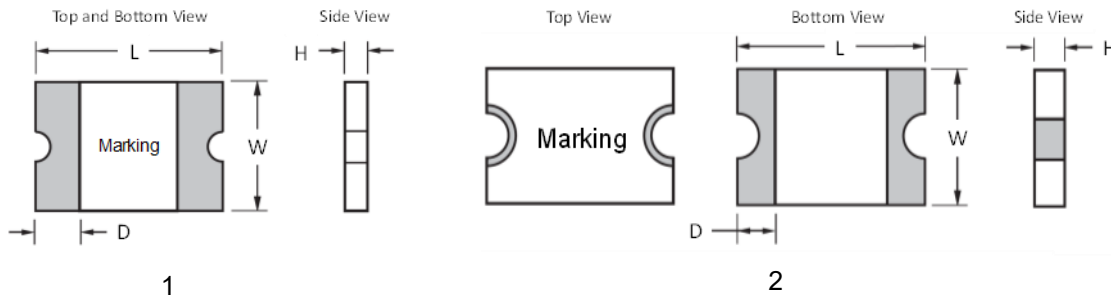
- (1) Series code
- (2) Size code
- (3) Current rating code 035: 0.35A
- (4) Voltage rating code 16: 16V
- (5) Identification code

Agency Approval:

UL file number: E355716

TÜV certification number: R50371842, R50371875 and R50385152. Tested for EN60738-1: 2006+A1; EN60738-1:2008; EN60730-1: 2011 clause 15, 17 and Annex J.

Product Dimensions:



Part Number	Type	L mm (inches)		W mm (inches)		H mm (inches)		D mm (inches)
		Min.	Max.	Min.	Max.	Min.	Max.	Min.
PBS1206-012	1	3.00 (0.118)	3.40 (0.134)	1.40 (0.055)	1.80 (0.071)	0.70 (0.028)	1.10 (0.043)	0.25 (0.010)
PBS1206-016 PBS1206-020	1	3.00 (0.118)	3.40 (0.134)	1.40 (0.055)	1.80 (0.071)	0.48 (0.019)	0.85 (0.033)	0.25 (0.010)
PBS1206-020-30F PBS1206-025F	2	3.00 (0.118)	3.40 (0.134)	1.40 (0.055)	1.80 (0.071)	0.40 (0.016)	0.85 (0.033)	0.25 (0.010)
PBS1206-035	1	3.00 (0.118)	3.40 (0.134)	1.40 (0.055)	1.80 (0.071)	0.48 (0.019)	0.85 (0.033)	0.25 (0.010)
PBS1206-035-16F	2	3.00 (0.118)	3.40 (0.134)	1.40 (0.055)	1.80 (0.071)	0.40 (0.016)	0.85 (0.033)	0.25 (0.010)
PBS1206-050	1	3.00 (0.118)	3.40 (0.134)	1.40 (0.055)	1.80 (0.071)	0.48 (0.019)	0.85 (0.033)	0.25 (0.010)
PBS1206-075 PBS1206-110 PBS1206-150	1	3.00 (0.118)	3.40 (0.134)	1.40 (0.055)	1.80 (0.071)	0.40 (0.016)	0.70 (0.028)	0.25 (0.010)
PBS1206-200	1	3.00 (0.118)	3.50 (0.138)	1.40 (0.055)	1.80 (0.071)	0.70 (0.028)	1.60 (0.063)	0.25 (0.010)

Surface Mount Polymer PTC

PBS Series, 1206 Size

Product Specifications:

Operating temperature: -40 to +85°C

Part Number	Current (A)		V _{Max} (Vdc)	I _{Max} (A)	Max. Time to Trip (sec)		Typical Power (Pd, W)	Resistance Min. (Ω)	One Hours Post Reflow Resistance R ₁ Max. (Ω) ¹	Agency Approval	
	Hold (I _H)	Trip (I _T)			Current (A)	Time (sec)				UL	TÜV
PBS1206-012	0.12	0.29	30	10	1.0	0.20	0.6	1.35	8.50	√	√
PBS1206-016	0.16	0.37	30	10	1.0	0.30	0.6	0.7	6.00	√	√
PBS1206-020	0.20	0.46	24	10	1.0	0.60	0.6	0.60	2.60	√	√
PBS1206-020-30F	0.20	0.40	30	60	1.0	0.60	0.6	0.60	3.30	√	√
PBS1206-025F	0.25	0.50	16	20	8.0	0.08	0.6	0.45	2.30	√	√
PBS1206-035	0.35	0.75	6	100	8.0	0.10	0.6	0.30	1.20	√	√
PBS1206-035-16F	0.35	0.75	16	20	3.5	0.14	0.6	0.30	1.40	√	√
PBS1206-050	0.50	1.00	13.2	100	8.0	0.10	0.6	0.15	0.70	√	√
PBS1206-075	0.75	1.50	6	100	8.0	0.10	0.6	0.10	0.40	√	√
PBS1206-110	1.10	2.20	6	100	8.0	0.2	0.6	0.06	0.20	√	√
PBS1206-150	1.50	3.00	6	100	8.0	0.30	0.6	0.03	0.13	√	√
PBS1206-200	2.00	4.00	6	100	8.0	1.00	0.6	0.02	0.085	√	√

1. The max resistance of one-hour post reflow is a reference value. The value may change a little according to reflow conditions and soldering state.

Packaging and Marking Information:

Part Number	Part Marking	Tape & Reel Quantity (piece)
PBS1206-012	<u>0</u>	3,000
PBS1206-016	<u>1</u>	
PBS1206-020	<u>2</u>	
PBS1206-020-30F	2	
PBS1206-025F	C	
PBS1206-035	<u>3</u>	
PBS1206-035-16F	3	
PBS1206-050	<u>4</u>	
PBS1206-075	<u>5</u>	
PBS1206-110	<u>6</u>	
PBS1206-150	<u>8</u>	
PBS1206-200	<u>A</u>	

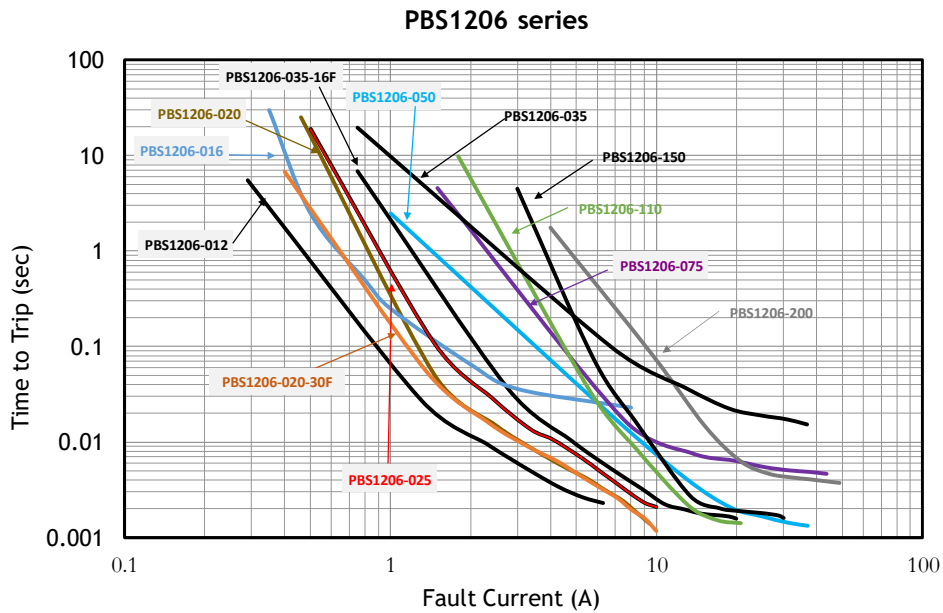
Surface Mount Polymer PTC

PBS Series, 1206 Size

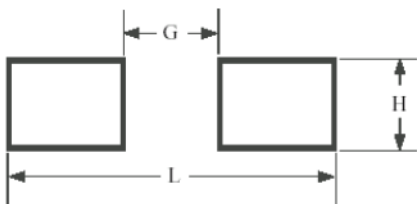
Thermal De-rating Hold Current (A) at Ambient Temperature (23°C):

Part Number	Ambient temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
PBS1206-012	0.19	0.17	0.15	0.12	0.11	0.10	0.09	0.08	0.07
PBS1206-016	0.21	0.20	0.18	0.16	0.14	0.13	0.12	0.11	0.09
PBS1206-020	0.30	0.27	0.24	0.20	0.18	0.16	0.14	0.12	0.11
PBS1206-020-30F	0.30	0.27	0.24	0.20	0.18	0.16	0.14	0.12	0.10
PBS1206-025F	0.39	0.35	0.31	0.25	0.23	0.21	0.18	0.16	0.13
PBS1206-035	0.51	0.46	0.40	0.35	0.30	0.27	0.24	0.22	0.18
PBS1206-035-16F	0.51	0.46	0.40	0.35	0.30	0.27	0.24	0.22	0.18
PBS1206-050	0.76	0.68	0.59	0.50	0.44	0.40	0.35	0.32	0.26
PBS1206-075	1.11	1.00	0.85	0.75	0.67	0.61	0.52	0.50	0.42
PBS1206-110	1.64	1.46	1.30	1.10	0.92	0.83	0.80	0.65	0.52
PBS1206-150	2.20	1.99	1.77	1.50	1.34	1.23	1.10	1.01	0.84
PBS1206-200	2.88	2.61	2.28	2.00	1.80	1.66	1.51	1.39	1.19

Typical Time to Trip (@ 23°C):



Recommended Foot Print Dimensions:



G (mm)	H (mm)	L (mm)
2.0±0.1	1.6±0.1	4.0±0.1

Surface Mount Polymer PTC

PBS Series, 1210 Size

Ordering Code:

PBS 1210—175 F
 (1) (2) (3) (4)

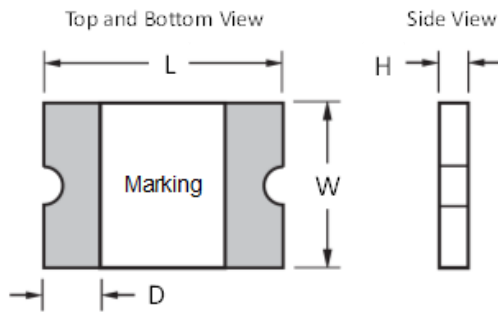
- (1) Series code
- (2) Size code
- (3) Current rating code 175: 1.75A
- (4) Identification code

Agency Approval:

UL file number: E355716

TüV certification number: R50371797, R50371842 and R50385152. Tested for EN60738-1: 2006+A1; EN60738-1:2008; EN60730-1: 2011 clause 15, 17 and Annex J.

Product Dimensions:



Part Number	L mm (inches)		W mm (inches)		H mm (inches)		D mm (inches)
	Min.	Max.	Min.	Max.	Min.	Max.	Min.
PBS1210-005 PBS1210-010 PBS1210-020	3.00 (0.118)	3.43 (0.135)	2.35 (0.093)	2.80 (0.110)	0.80 (0.031)	1.10 (0.043)	0.30 (0.012)
PBS1210-035 PBS1210-050 PBS1210-075 PBS1210-110	3.00 (0.118)	3.43 (0.135)	2.35 (0.093)	2.80 (0.110)	0.55 (0.022)	0.85 (0.033)	0.30 (0.012)
PBS1210-150	3.00 (0.118)	3.43 (0.135)	2.35 (0.093)	2.80 (0.110)	0.40 (0.016)	0.85 (0.033)	0.30 (0.012)

Surface Mount Polymer PTC PBS Series, 1210 Size

Product Specifications:

Operating temperature: -40 to +85°C

Part Number	Current (A)		V _{Max} (Vdc)	I _{Max} (A)	Max. Time to Trip (sec)		Typical Power (Pd, W)	Resistance Min. (Ω)	One Hours Post Reflow Resistance R ₁ Max. (Ω) ¹	Agency Approval	
	Hold (I _H)	Trip (I _T)			Current (A)	Time (sec)				UL	TÜV
PBS1210-005	0.05	0.15	30	10	0.25	1.5	0.6	2.800	50.00	√	√
PBS1210-010	0.10	0.30	30	10	0.50	0.60	0.6	0.800	15.00	√	√
PBS1210-020	0.20	0.40	30	10	8.0	0.20	0.6	0.400	5.000	√	√
PBS1210-035	0.35	0.75	6	40	8.0	0.20	0.6	0.200	1.300	√	√
PBS1210-050	0.50	1.00	13.2	40	8.0	0.10	0.6	0.180	0.900	√	√
PBS1210-075	0.75	1.50	6	40	8.0	0.10	0.6	0.070	0.450	√	√
PBS1210-110	1.10	2.20	6	40	5.0	1.0	0.6	0.050	0.210	√	√
PBS1210-150	1.50	3.00	6	40	5.0	1.0	0.6	0.030	0.110	√	√

1. The max resistance of one-hour post reflow is a reference value. The value may change a little according to reflow conditions and soldering state.

Packaging and Marking Information:

Part Number	Part Marking	Tape & Reel Quantity (piece)
PBS1210-005	0 w	3,000
PBS1210-010	1 w	
PBS1210-020	2 w	
PBS1210-035	3 w	
PBS1210-050	4 w	
PBS1210-075	5 w	
PBS1210-110	6 w	
PBS1210-150	8 w	

* 6w → 6 = 1.1A; w = Week code (w=Y → week 49~50)

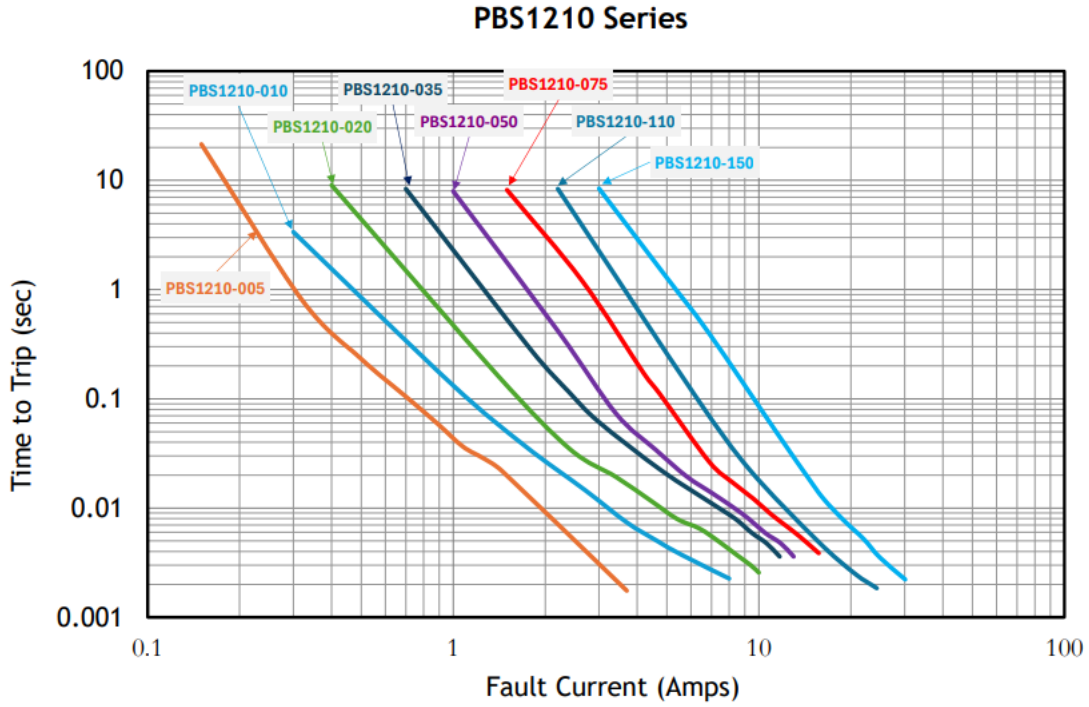
Thermal De-rating Hold Current (A) at Ambient Temperature (23°C):

Part Number	Ambient temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
PBS1210-005	0.08	0.07	0.06	0.05	0.04	0.04	0.03	0.03	0.02
PBS1210-010	0.15	0.13	0.12	0.10	0.09	0.08	0.07	0.06	0.05
PBS1210-020	0.32	0.28	0.24	0.20	0.18	0.16	0.14	0.12	0.10
PBS1210-035	0.51	0.46	0.40	0.35	0.30	0.27	0.24	0.22	0.18
PBS1210-050	0.76	0.66	0.58	0.50	0.42	0.38	0.35	0.29	0.23
PBS1210-075	1.10	0.97	0.86	0.75	0.64	0.58	0.55	0.47	0.39
PBS1210-110	1.60	1.42	1.26	1.10	0.94	0.86	0.80	0.70	0.58
PBS1210-150	2.30	2.02	1.76	1.50	1.24	1.11	1.00	0.85	0.65

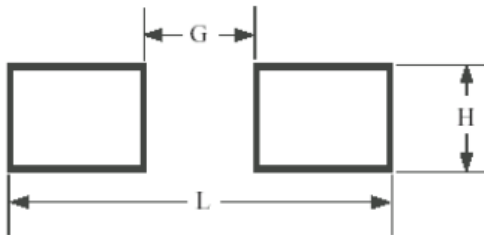
Surface Mount Polymer PTC

PBS Series, 1210 Size

Typical Time to Trip (@ 23°C):



Recommended Foot Print Dimensions:



G (mm)	H (mm)	L (mm)
1.8±0.1	2.8±0.1	3.8±0.1

Surface Mount Polymer PTC

PBS Series, 1812 Size

Ordering Code:

PBS 1812—110—24 F
 (1) (2) (3) (4) (5)

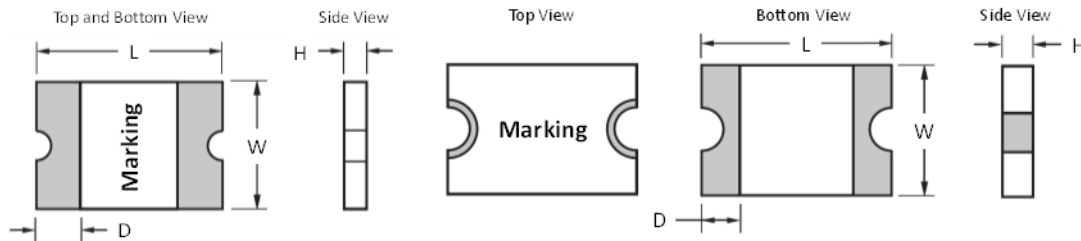
- (1) Series code
- (2) Size code
- (3) Current rating code 110: 1.1A
- (4) Voltage rating code 24: 24V
- (5) Identification code

Agency Approval:

UL file number: E355716

TÜV certification number: R50371797, R50371842, R50371875 and R50385152. Tested for EN60738-1: 2006+A1; EN60738-1:2008; EN60730-1: 2011 clause 15, 17 and Annex J

Product Dimensions:



Part Number	Type	L mm (inches)		W mm (inches)		H mm (inches)		D mm (inches)
		Min.	Max.	Min.	Max.	Min.	Max.	Min.
PBS1812-010 PBS1812-014 PBS1812-020 PBS1812-020-60 PBS1812-030	1	4.37 (0.172)	4.73 (0.186)	3.07 (0.121)	3.41 (0.134)	0.70 (0.028)	1.10 (0.043)	0.30 (0.012)
PBS1812-050	1	4.37 (0.172)	4.73 (0.186)	3.07 (0.121)	3.41 (0.134)	0.55 (0.022)	0.85 (0.033)	0.30 (0.012)
PBS1812-050-30F PBS1812-050-40F	2	4.37 (0.172)	4.83 (0.190)	3.07 (0.121)	3.41 (0.134)	0.40 (0.016)	0.85 (0.033)	0.30 (0.012)
PBS1812-075 PBS1812-075-24	1	4.37 (0.172)	4.73 (0.186)	3.07 (0.121)	3.41 (0.134)	0.55 (0.016)	0.85 (0.033)	0.30 (0.012)
PBS1812-110 PBS1812-110-16	1	4.37 (0.172)	4.73 (0.186)	3.07 (0.121)	3.41 (0.134)	0.55 (0.022)	0.85 (0.033)	0.30 (0.012)
PBS1812-075-33F PBS1812-110-24F	2	4.37 (0.172)	4.83 (0.190)	3.07 (0.121)	3.41 (0.134)	0.70 (0.028)	1.60 (0.063)	0.30 (0.012)
PBS1812-150 PBS1812-150-12	1	4.37 (0.172)	4.73 (0.186)	3.07 (0.121)	3.41 (0.134)	0.55 (0.022)	0.85 (0.033)	0.30 (0.012)
PBS1812-150-24F	2	4.37 (0.172)	4.73 (0.186)	3.07 (0.121)	3.41 (0.134)	0.70 (0.028)	1.60 (0.063)	0.30 (0.012)
PBS1812-200	1	4.37 (0.172)	4.73 (0.186)	3.07 (0.121)	3.41 (0.134)	0.55 (0.022)	0.85 (0.033)	0.30 (0.012)
PBS1812-250-16F PBS1812-260-16F	2	4.37 (0.172)	4.83 (0.190)	3.07 (0.121)	3.41 (0.134)	0.70 (0.028)	1.60 (0.063)	0.30 (0.012)
PBS1812-260	1	4.37 (0.172)	4.73 (0.186)	3.07 (0.121)	3.41 (0.134)	0.48 (0.019)	0.85 (0.033)	0.30 (0.012)
PBS1812-300F	2	4.37 (0.172)	4.83 (0.190)	3.07 (0.121)	3.41 (0.134)	0.70 (0.028)	1.60 (0.063)	0.30 (0.012)

Surface Mount Polymer PTC

PBS Series, 1812 Size

Product Specifications:

Operating temperature: -40 to +85°C

Part Number	Current (A)		V _{Max} (Vdc)	I _{Max} (A)	Max. Time to Trip (sec)		Typical Power (Pd, W)	Resistance Min. (Ω)	One Hours Post Reflow Resistance R ₁ Max. (Ω) ¹	Agency Approval	
	Hold (I _H)	Trip (I _T)			Current (A)	Time (sec)				UL	TÜV
PBS1812-010	0.10	0.30	60	40	0.5	1.50	0.8	0.700	15.00	√	√
PBS1812-014	0.14	0.30	60	40	1.5	0.20	0.8	0.400	6.50	√	√
PBS1812-020	0.20	0.40	30	80	6.0	0.10	0.8	0.400	6.00	√	√
PBS1812-020-60	0.20	0.40	60	40	1.5	0.20	0.8	0.400	6.00	√	√
PBS1812-030	0.30	0.60	30	10	8.0	0.10	0.8	0.300	3.00	√	√
PBS1812-050	0.50	1.00	15	100	8.0	0.20	0.8	0.150	1.00	√	√
PBS1812-050-30F	0.50	1.00	30	40	8.0	0.20	0.8	0.150	1.30	√	√
PBS1812-050-40F	0.50	1.00	40	20	8.0	0.20	0.8	0.150	1.30		
PBS1812-075	0.75	1.50	13.2	100	8.0	0.20	0.8	0.110	0.450	√	√
PBS1812-075-24	0.75	1.50	24	40	8.0	0.20	0.8	0.110	0.450	√	√
PBS1812-075-33F	0.75	1.50	33	20	8.0	0.20	1.4	0.110	0.400		
PBS1812-110	1.10	2.20	6	100	8.0	0.30	0.8	0.040	0.210	√	√
PBS1812-110-16	1.10	2.20	16	100	8.0	0.30	0.8	0.040	0.210	√	√
PBS1812-110-24F	1.10	2.20	24	20	8.0	0.50	0.8	0.060	0.180	√	√
PBS1812-150	1.50	3.00	6	100	8.0	0.50	0.8	0.030	0.120	√	√
PBS1812-150-12	1.50	3.00	12	100	8.0	0.50	0.8	0.030	0.120	√	√
PBS1812-150-24F	1.50	3.00	24	20	8.0	1.50	1.0	0.030	0.120	√	√
PBS1812-200	2.00	4.00	8	40	8.0	3.0	0.8	0.020	0.080	√	√
PBS1812-250-16F	2.50	5.00	16	100	8.0	5.0	1.2	0.015	0.100	√	√
PBS1812-260-16F	2.60	5.00	16	100	8.0	5.0	1.2	0.015	0.050	√	√
PBS1812-260	2.60	5.20	6	100	8.0	5.0	0.8	0.015	0.080	√	√
PBS1812-300F	3.00	5.00	6	100	8.0	5.0	1.2	0.010	0.040	√	

1. The max resistance of one-hour post reflow is a reference value. The value may change a little according to reflow conditions and soldering state.

Surface Mount Polymer PTC

PBS Series, 1812 Size

Packaging and Marking Information:

Part Number	Tape & Reel Quantity (piece)
PBS1812-010	1,500
PBS1812-014	
PBS1812-020	
PBS1812-020-60	
PBS1812-030	2,000
PBS1812-050	
PBS1812-050-30F/40F	
PBS1812-075	
PBS1812-075-24/33F	
PBS1812-110	1,500
PBS1812-110-16	
PBS1812-110-24F	1,500
PBS1812-150	2,000
PBS1812-150-12	1,500
PBS1812-150-24F	
PBS1812-200	2,000
PBS1812-250-16F	1,500
PBS1812-260-16F	
PBS1812-260	2,000
PBS1812-300F	1,500

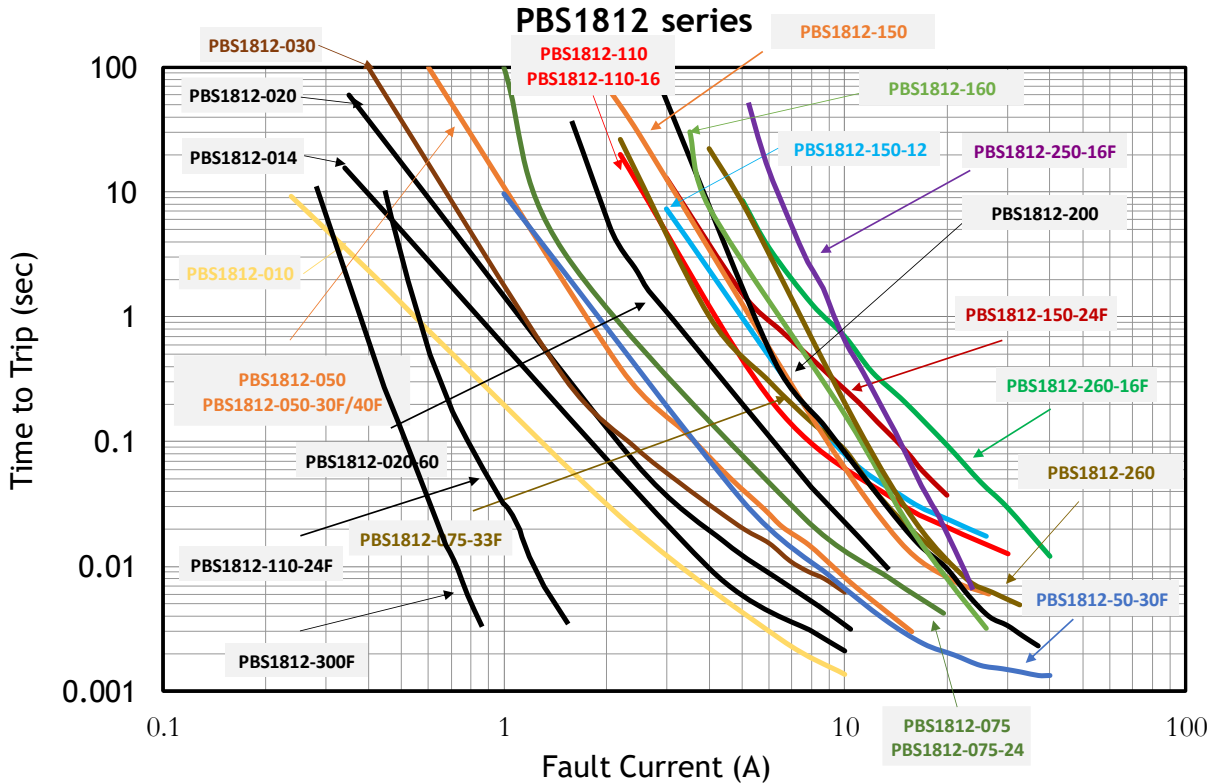
Thermal De-rating Hold Current (A) at Ambient Temperature (23°C):

Part Number	Ambient temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
PBS1812-010	0.16	0.14	0.12	0.10	0.08	0.07	0.06	0.05	0.03
PBS1812-014	0.23	0.20	0.17	0.14	0.12	0.10	0.09	0.08	0.06
PBS1812-020	0.30	0.27	0.23	0.20	0.17	0.15	0.13	0.12	0.09
PBS1812-020-60	0.29	0.26	0.23	0.20	0.17	0.15	0.13	0.11	0.08
PBS1812-030	0.46	0.40	0.36	0.30	0.26	0.22	0.20	0.18	0.14
PBS1812-050	0.77	0.68	0.59	0.50	0.44	0.40	0.37	0.33	0.29
PBS1812-050-30F	0.77	0.68	0.59	0.50	0.44	0.40	0.37	0.33	0.25
PBS1812-050-40F	0.77	0.68	0.59	0.50	0.44	0.40	0.37	0.33	0.25
PBS1812-075	1.15	1.01	0.88	0.75	0.65	0.60	0.55	0.49	0.43
PBS1812-075-24	1.15	1.01	0.88	0.75	0.65	0.60	0.55	0.49	0.43
PBS1812-075-33F	1.16	1.03	0.90	0.75	0.63	0.56	0.49	0.42	0.32
PBS1812-110	1.59	1.43	1.26	1.10	0.95	0.87	0.80	0.71	0.60
PBS1812-110-16	1.59	1.43	1.26	1.10	0.95	0.87	0.80	0.71	0.60
PBS1812-110-24F	2.00	1.70	1.40	1.10	0.95	0.88	0.80	0.73	0.61
PBS1812-150	2.17	1.95	1.72	1.50	1.30	1.18	1.09	0.97	0.82
PBS1812-150-12	2.17	1.95	1.72	1.50	1.30	1.18	1.09	0.97	0.82
PBS1812-150-24F	2.10	1.90	1.70	1.50	1.25	1.13	1.00	0.88	0.69
PBS1812-200	3.08	2.71	2.35	2.00	1.80	1.60	1.50	1.40	1.25
PBS1812-250-16F	3.90	3.42	2.96	2.50	2.24	1.98	1.85	1.29	0.94
PBS1812-260-16F	3.50	3.20	3.00	2.60	2.30	2.15	2.00	1.85	1.63
PBS1812-260	3.40	3.16	2.90	2.60	2.32	2.18	2.00	1.90	1.69
PBS1812-300F	4.13	3.75	3.33	3.00	2.70	2.54	2.35	2.22	1.98

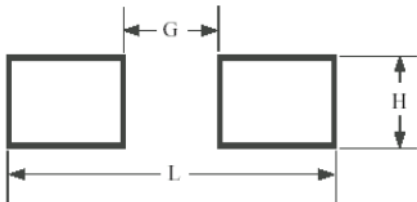
Surface Mount Polymer PTC

PBS Series, 1812 Size

Typical Time to Trip (@ 23°C):



Recommended Foot Print Dimensions:



Type	G (mm)	H (mm)	L (mm)
1	2.7±0.1	3.2±0.1	5.7±0.1
2	2.9±0.1	2.95±0.1	6.1±0.1

Surface Mount Polymer PTC

PBS Series, 2018 Size

Ordering Code:

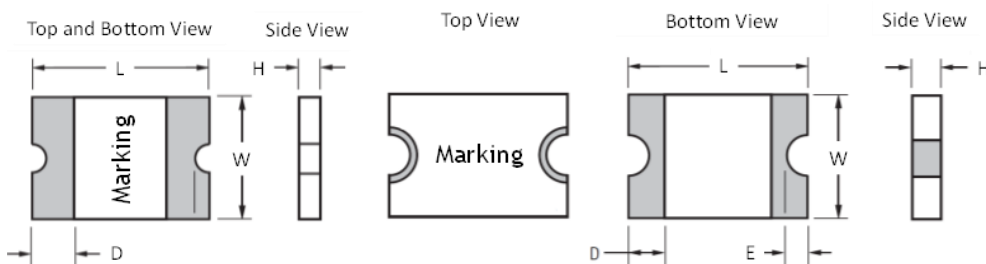
PBS 2018—260-24 F
 (1) (2) (3) (4) (5)

- (1) Series code
- (2) Size code
- (3) Current rating code 260: 2.6A
- (4) Rating voltage code:24: 24Vdc
- (5) Identification code

Agency Approval:

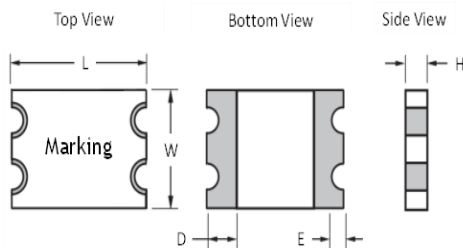
UL file number: E355716
 TÜV certification number: R50371797, R50371842 and R50385152. Tested for EN60738-1: 2006+A1; EN60738-1:2008; EN60730-1: 2011 clause 15, 17 and Annex J.

Product Dimensions:



Type 1

Type 2



Type 3

Part Number	Type	L mm (inches)		W mm (inches)		H mm (inches)		D mm (inches)	E mm (inches)	
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.	Max.
PBS2018-050	1	4.72 (0.186)	5.44 (0.214)	4.22 (0.166)	4.93 (0.194)	0.79 (0.031)	1.09 (0.043)	0.30 (0.012)	NA	NA
PBS2018-100-33F	2	4.72 (0.186)	5.44 (0.214)	4.22 (0.166)	4.93 (0.194)	0.70 (0.028)	1.25 (0.049)	0.30 (0.012)	0.25 (0.010)	0.70 (0.028)
PBS2018-200	1	4.72 (0.186)	5.44 (0.214)	4.22 (0.166)	4.93 (0.194)	0.55 (0.022)	0.85 (0.033)	0.30 (0.012)	NA	NA

Surface Mount Polymer PTC PBS Series, 2018 Size

Typical Ratings and Characteristics (@ 23°C):

Operating temperature: -40 to +85°C

Part Number	Current (A)		V _{Max} (Vdc)	I _{Max} (A)	Max. Time to Trip (sec)		Typical Power (Pd, W)	Resistance Min. (Ω)	One Hours Post Reflow Resistance R ₁ Max. (Ω) ¹	Agency Approval	
	Hold (I _H)	Trip (I _T)			Current (A)	Time (sec)				UL	TÜV
PBS2018-050	0.55	1.20	60	10	2.5	3.0	0.9	0.200	1.00	√	
PBS2018-100-33F	1.10	2.20	33	40	8.0	0.5	1.4	0.060	0.40	√	
PBS2018-200	2.00	4.00	10	40	8.0	2.4	1.1	0.030	0.100		

1. The max resistance of one-hour post reflow is a reference value. The value may change a little according to reflow conditions and

Packaging and Marking Information:

Part Number	Type	Part Marking	Tape & Reel Quantity (piece)
PBS2018-050	1	50yw	6,000
PBS2018-100-33F	2	6w	
PBS2018-200	1	20yw	

Type 1: 50yw → 50 = 0.50A; y = Year code (y=7 → 2017); w = Week code (w=Y → week 49~50)

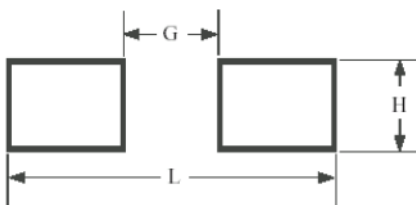
Type 2: 6w → 6 = 1.1A; w = Week code (w=Y → week 49~50)

Type 3: Dw → D = 2.6A; w = Week code (w=Y → week 49~50)

Thermal De-rating Hold Current (A) at Ambient Temperature (23°C):

Part Number	Ambient temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
PBS2018-050	0.87	0.77	0.67	0.55	0.46	0.41	0.36	0.31	0.23
PBS2018-100-33F	1.66	1.47	1.29	1.10	0.91	0.83	0.73	0.64	0.50
PBS2018-200	2.95	2.65	2.35	2.00	1.74	1.59	1.44	1.29	1.06

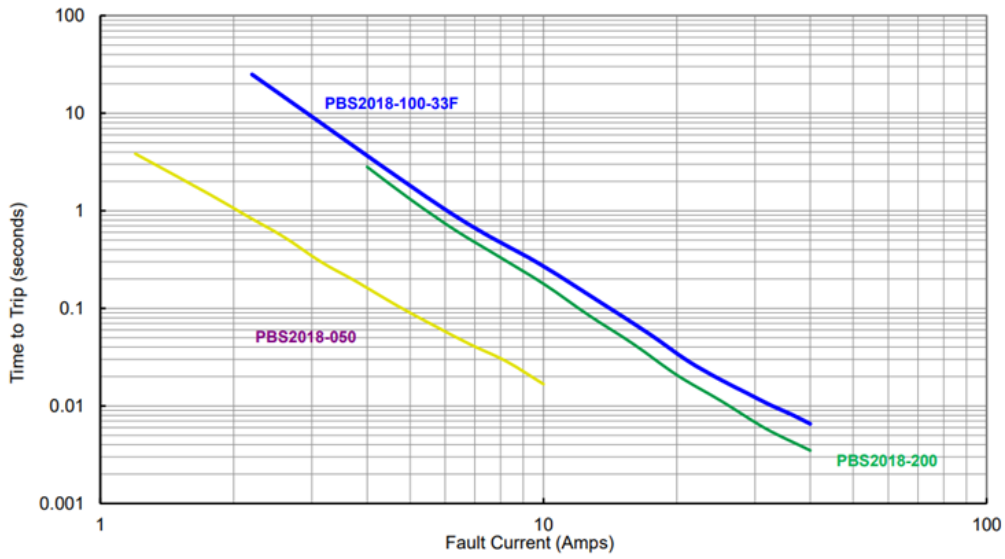
Recommended Foot Print Dimensions:



G (mm)	H (mm)	L (mm)
3.15±0.1	4.90±0.1	6.35±0.1

Surface Mount Polymer PTC PBS Series, 2018 Size

Typical Time to Trip (@ 23°C):



Surface Mount Polymer PTC

PBS Series, 2920 Size

Ordering Code:

PAS 2920—300—24 **F**
 (1) (2) (3) (4) (5)

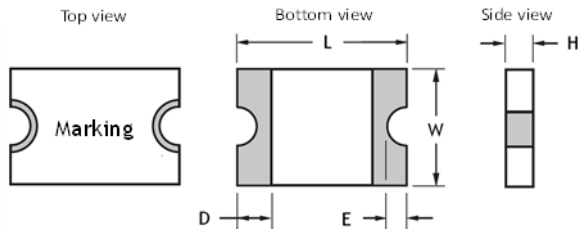
- (1) Series code
- (2) Size code
- (3) Current rating code 300: 3.0A
- (4) Voltage rating code 24: 24V
- (5) Identification code

Agency Approval:

UL file number: E355716

TÜV certification number: R50385152. Tested for EN60738-1: 2006+A1; EN60738-1:2008; EN60730-1: 2011 clause 15, 17 and Annex J

Product Dimensions:



Part Number	L mm (inches)		W mm (inches)		H mm (inches)		D mm (inches)		E mm (inches)	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.	Max.	
PBS2920-125-33F	6.73 (0.265)	7.98 (0.312)	4.80 (0.189)	5.44 (0.214)	0.75 (0.030)	1.60 (0.063)	0.30 (0.012)	0.25 (0.010)	2.00 (0.079)	
PBS2920-150-33F										
PBS2920-185-24F										
PBS2920-185-33F										
PBS2920-200F										
PBS2920-200-24F										
PBS2920-260F										
PBS2920-260-16F										
PBS2920-300-16F										
PBS2920-300-24F										
PBS2920-330-12F										
PBS2920-330-16F										
PBS2920-330-24F										
PBS2920-400-16F										
PBS2920-500-16F										
PBS2920-600-12F										
PBS2920-075F	6.73 (0.265)	7.98 (0.312)	4.80 (0.189)	5.44 (0.214)	0.35 (0.014)	0.85 (0.033)	0.30 (0.012)	0.25 (0.010)	2.00 (0.079)	
PBS2920-110F										
PBS2920-125F										
PBS2920-150F										
PBS2920-185F										
PBS2920-260-06F										
PBS2920-300F										
PBS2920-330F										

1. The max resistance of one-hour post reflow is a reference value. The value may change a little according to reflow conditions and soldering state.

Surface Mount Polymer PTC

PBS Series, 2920 Size

Typical Ratings and Characteristics (@ 23°C):

Operating temperature: -40 to +85°C

Part Number	Current (A)		V _{Max} (Vdc)	I _{Max} (A)	Max. Time to Trip (sec)		Typical Power (Pd, W)	Resistance Min. (Ω)	One Hours Post Reflow Resistance R ₁ Max. (Ω) ¹	Agency Approval	
	Hold (I _H)	Trip (I _T)			Current (A)	Time (sec)				UL	TÜV
PBS2920-075F	0.75	1.5	30	40	8.0	0.3	1.5	0.15	1.00	✓	✓
PBS2920-110F	1.1	2.2	33	40	8.0	0.5	1.5	0.07	0.41	✓	✓
PBS2920-125F	1.25	2.5	15	40	8.0	2.0	1.5	0.05	0.25	✓	✓
PBS2920-125-33F	1.25	2.5	33	40	8.0	2.0	1.5	0.055	0.25	✓	✓
PBS2920-150F	1.5	3.0	15	40	8.0	2.0	1.5	0.05	0.23	✓	✓
PBS2920-150-33F	1.5	3.0	33	40	8.0	2.0	1.5	0.05	0.23	✓	✓
PBS2920-185F	1.85	3.7	15	40	8.0	2.0	1.5	0.045	0.15	✓	✓
PBS2920-185-24F	1.85	3.7	24	40	8.0	2.5	1.5	0.045	0.15	✓	✓
PBS2920-185-33F	1.85	3.70	33	40	8.0	2.50	1.5	0.045	0.150	✓	✓
PBS2920-200F	2.0	4.0	15	40	8.0	5.0	1.5	0.035	0.125	✓	✓
PBS2920-200-24F	2.0	4.0	24	40	8.0	5.0	1.5	0.035	0.125	✓	✓
PBS2920-260F	2.60	5.20	24	20	8.0	5.0	1.5	0.020	0.075	✓	✓
PBS2920-260-06F	2.6	5.0	6	40	8.0	10.0	1.5	0.020	0.075	✓	✓
PBS2920-260-16F	2.6	5.2	16	40	8.0	5.0	1.5	0.020	0.075	✓	✓
PBS2920-300F	3.0	5.0	6	40	8.0	20.0	1.5	0.015	0.048	✓	✓
PBS2920-300-16F	3.0	5.0	16	40	8.0	15.0	1.5	0.015	0.048	✓	✓
PBS2920-300-24F	3.0	5.2	24	40	8.0	15.0	1.5	0.015	0.075	✓	✓
PBS2920-330F	3.3	5.5	6	40	8.0	15.0	2.0	0.010	0.055	✓	✓
PBS2920-330-12F	3.3	5.5	12	40	8.0	15.0	2.0	0.010	0.055	✓	✓
PBS2920-330-16F	3.3	5.5	16	40	8.0	15.0	2.0	0.010	0.055	✓	✓
PBS2920-330-24F	3.3	5.5	24	40	8.0	15.0	2.0	0.010	0.055	✓	✓
PBS2920-400-16F	4.0	8.0	16	40	20.0	4.0	1.5	0.005	0.040	✓	✓
PBS2920-500-16F	5.0	10	16	40	20	5.0	1.5	0.005	0.025	✓	✓
PBS2920-600-12F	6.0	12	12	50	30	2.0	2.0	0.004	0.020	✓	✓

Surface Mount Polymer PTC

PBS Series, 2920 Size

Packaging and Marking Information:

Part Number [Ⓜ]	Tape & Reel Quantity (piece) [Ⓜ]
PBS2920-125-33F [Ⓜ] PBS2920-150-33F [Ⓜ] PBS2920-185-24F [Ⓜ] PBS2920-185-33F [Ⓜ] PBS2920-200F [Ⓜ] PBS2920-200-24F [Ⓜ] PBS2920-260F [Ⓜ] PBS2920-260-16F [Ⓜ] PBS2920-300-16F [Ⓜ] PBS2920-300-24F [Ⓜ] PBS2920-330-12F [Ⓜ] PBS2920-330-16F [Ⓜ] PBS2920-330-24F [Ⓜ] PBS2920-400-16F [Ⓜ] PBS2920-500-16F [Ⓜ] PBS2920-600-12F [Ⓜ]	4,000 [Ⓜ]
PBS2920-075F [Ⓜ] PBS2920-110F [Ⓜ] PBS2920-125F [Ⓜ] PBS2920-150F [Ⓜ] PBS2920-185F [Ⓜ] PBS2920-260-06F [Ⓜ] PBS2920-300F [Ⓜ] PBS2920-330F [Ⓜ]	6,000 [Ⓜ]

* 9w → 9 = 1.85A; w = Week code (w=Y → week 49~50)

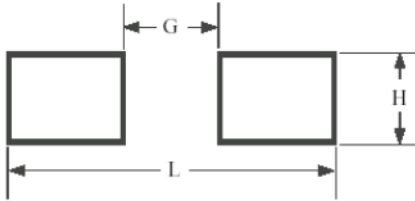
Thermal De-rating Hold Current (A) at Ambient Temperature (23°C):

Part Number	Ambient temperature								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
PBS2920-075F	1.10	1.01	0.89	0.75	0.63	0.56	0.50	0.44	0.34
PBS2920-110F	1.61	1.47	1.30	1.10	0.92	0.83	0.73	0.64	0.50
PBS2920-125F	1.83	1.68	1.48	1.25	1.05	0.94	0.83	0.73	0.56
PBS2920-125-33F	1.83	1.68	1.48	1.25	1.05	0.94	0.83	0.73	0.56
PBS2920-150F	2.19	2.01	1.77	1.50	1.26	1.13	0.99	0.87	0.68
PBS2920-150-33F	2.19	2.01	1.77	1.50	1.26	1.13	0.99	0.87	0.68
PBS2920-185F	2.70	2.48	2.18	1.85	1.55	1.39	1.22	1.07	0.83
PBS2920-185-24F	2.80	2.47	2.17	1.85	1.54	1.39	1.22	1.07	0.85
PBS2920-185-33F	2.80	2.47	2.17	1.85	1.54	1.39	1.22	1.07	0.85
PBS2920-200F	2.92	2.68	2.36	2.00	1.68	1.50	1.32	1.16	0.90
PBS2920-200-24F	2.92	2.68	2.36	2.00	1.68	1.50	1.32	1.16	0.90
PBS2920-260F	3.75	3.35	3.00	2.60	2.35	2.15	2.05	1.80	1.30
PBS2920-260-06F	3.80	3.48	3.07	2.60	2.18	1.95	1.72	1.51	1.17
PBS2920-260-16F	3.75	3.35	3.00	2.60	2.35	2.15	2.05	1.80	1.30
PBS2920-300F	4.53	4.02	3.51	3.00	2.52	2.26	1.99	1.75	1.34
PBS2920-300-16F	4.38	4.02	3.54	3.00	2.52	2.25	1.98	1.74	1.35
PBS2920-300-24F	4.00	3.55	3.20	3.00	2.50	2.25	2.15	1.85	1.50
PBS2920-330F	4.82	4.42	3.89	3.30	2.77	2.48	2.18	1.91	1.49
PBS2920-330-12F	4.82	4.42	3.89	3.30	2.77	2.48	2.18	1.91	1.49
PBS2920-330-16F	4.82	4.42	3.89	3.30	2.77	2.48	2.18	1.91	1.49
PBS2920-330-24F	4.82	4.42	3.89	3.30	2.77	2.48	2.18	1.91	1.49
PBS2920-400-16F	5.84	5.36	4.72	4.00	3.36	3.00	2.64	2.32	1.80
PBS2920-500-16F	7.30	6.70	5.90	5.00	4.20	3.75	3.30	2.90	2.25
PBS2920-600-12F	8.76	8.04	7.08	6.00	5.04	4.50	3.96	3.48	2.70

Surface Mount Polymer PTC

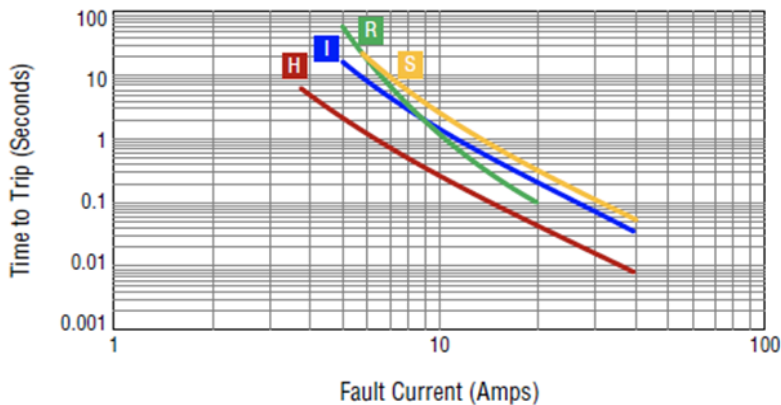
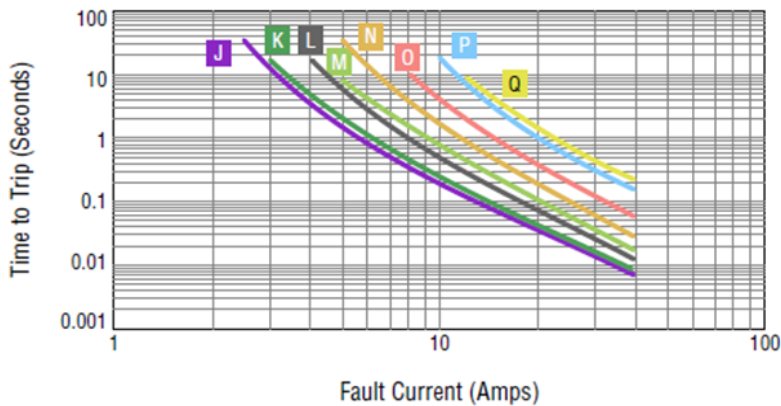
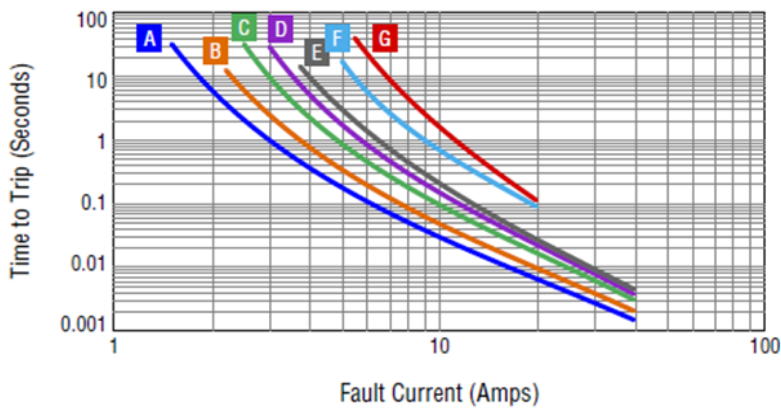
PBS Series, 2920 Size

Recommended Foot Print Dimensions:



G (mm)	H (mm)	L (mm)
4.60±0.1	5.50±0.1	8.60±0.1

Typical Time to Trip (@ 23°C):



- A-PBS2920-075F
- B-PBS2920-110F
- C-PBS2920-125F
- D-PBS2920-150F
- E-PBS2920-185F
- F-PBS2920-260-06F
- G-PBS2920-330F
- H-PBS2920-185-24F&PBS2920-185-33F
- I--PBS2920-300-24F
- J--PBS2920-125-33F
- K-PBS2920-150-33F
- L-PBS2920-200F&PBS2920-200-24F
- M-PBS2920-260F&PBS2920-260-16F
- N-PBS2920-300-16F
- O-PBS2920-400-16F
- P-PBS2920-500-16F
- Q-PBS2920-600-12F

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Note



AEM Components (USA), Inc.

**6670 Cobra Way
San Diego, CA 92121, USA**

Tel: 1-858-750-6100
Fax: 1-858-481-1123
Email: marketing@aemchina.com

AEM Components (Suzhou) Co., Ltd

**461 Zhongnan Street
China-Singapore Suzhou Industrial Park
Jiangsu, P. R. China, 215026**

Tel: +86-512-6258-0028
Fax: +86-512-6258-0018
Email: sales@aemchina.com