

Polymeric PTC

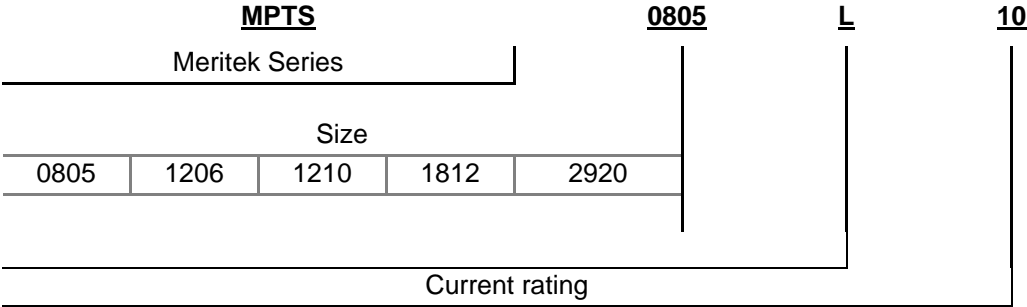


MPTS Series	MERITEK
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Feature and Applications

UL E223037

- ROHS Compliant & Halogen Free
- Excellent for high density applications
- Surface Mount, 0805, 1206, 1210, 1812, 2920
- Faster time to trip than standard SMD devices
- Lower resistance than standard SMD devices
- Operation Current: 0.05A ~ 3.0A
- Maximum Voltage: 6V ~ 60V
- Temperature Range: -40°C to 85°C





Electrical Characteristics (23°C)

MPTS0805

Part Number	Hold Current	Trip Current	Rated Voltage	Max Current	Typical Power	Max Time to Trip		Resistance	
						Current	Time	R _{MIN}	R1 _{MAX}
						Amp	Sec	Ω	Ω
MPTS0805L010	0.10	0.30	15	100	0.5	0.50	1.50	0.700	6.000
MPTS0805L020	0.20	0.50	9	100	0.5	8.00	0.02	0.400	3.500
MPTS0805L035	0.35	0.75	6	100	0.5	8.00	0.10	0.250	1.200
MPTS0805L050R	0.50	1.00	6	100	0.5	8.00	0.10	0.150	0.850
MPTS0805L075R	0.75	1.50	6	40	0.6	8.00	0.20	0.090	0.350
MPTS0805L100R	1.00	1.95	6	40	0.6	8.00	0.30	0.060	0.210

I_H=Hold current-maximum current at which the device will not trip at 23°C still air.

I_T=Trip current-minimum current at which the device will always trip at 23°C still air.

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

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

Pd=Typical power dissipated-type amount of power dissipated by the device when in the tripped state in 23°C still air environment.

R_{MIN}=Minimum device resistance at 23°C prior to tripping.

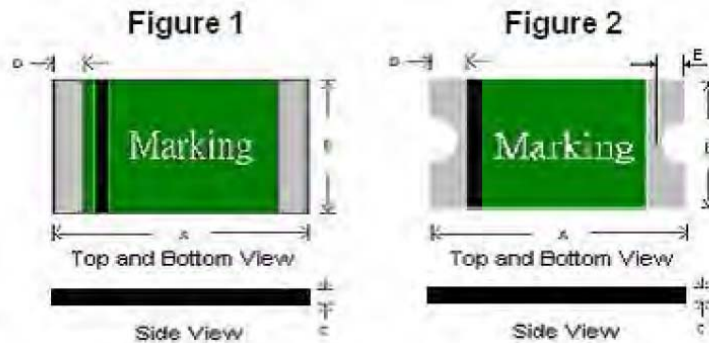
R1_{MAX}=Maximum device resistance at 23°C measured 1 hour after tripping or reflow soldering of 260°C for 20 seconds.

Termination pad characteristics

Termination pad materials: Pure Tin

Product Dimensions (Millimeters)

MPTS0805



Part Number	A		B		C		D		E	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
MPTS0805L010	2.00	2.30	1.20	1.50	0.55	1.00	0.20	0.60	0.10	0.45
MPTS0805L020	2.00	2.30	1.20	1.50	0.55	1.00	0.20	0.60	0.10	0.45
MPTS0805L035	2.00	2.30	1.20	1.50	0.45	0.75	0.20	0.60	0.10	0.45
MPTS0805L050R	2.00	2.30	1.20	1.50	0.55	1.25	0.20	0.60	0.10	0.45
MPTS0805L075R	2.00	2.30	1.20	1.50	0.55	1.25	0.20	0.60	0.10	0.45
MPTS0805L100R	2.00	2.30	1.20	1.50	0.75	1.80	0.20	0.60	0.10	0.45

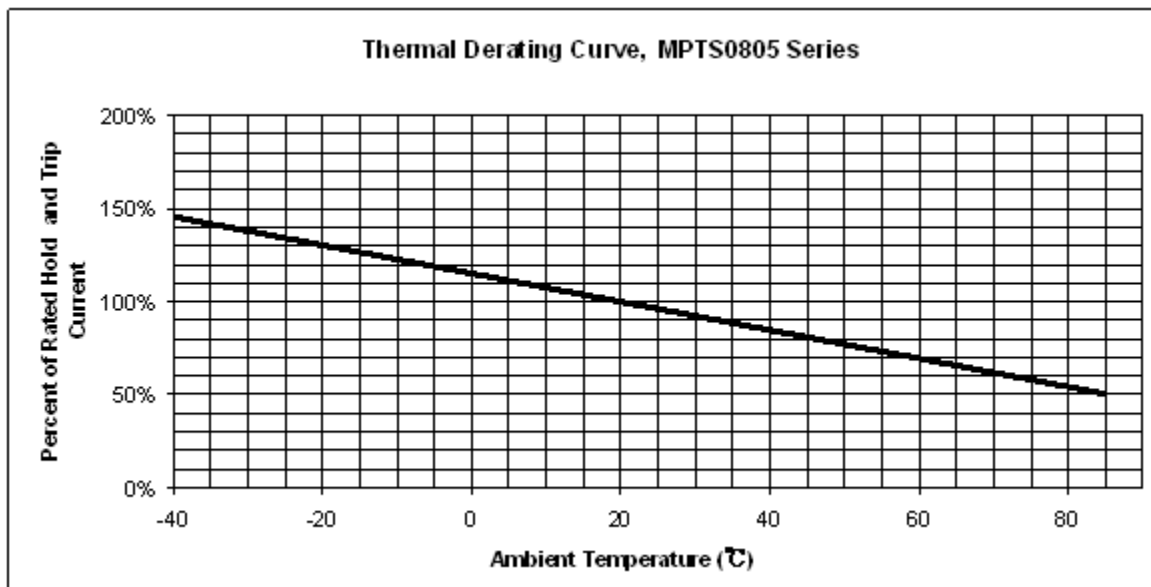
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MPTS Series

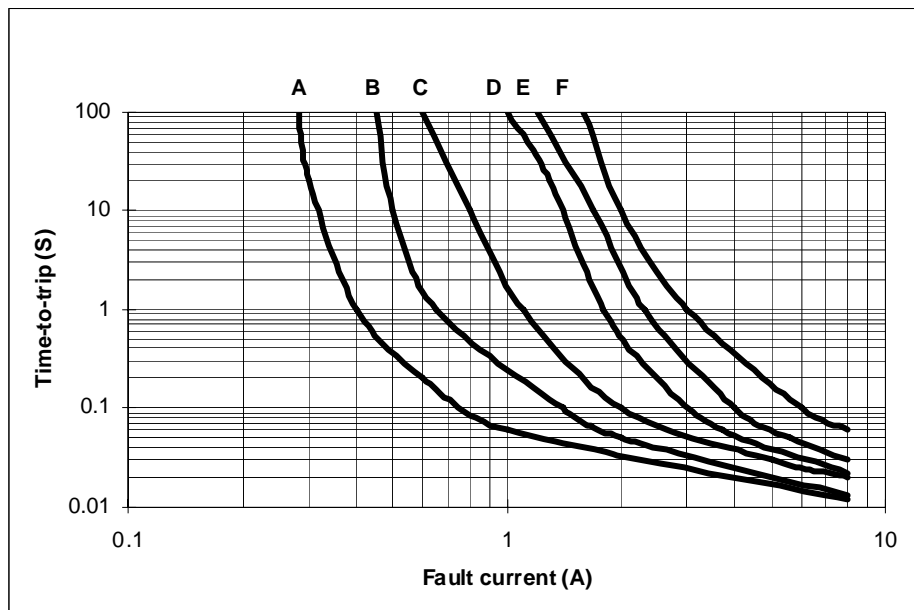
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Thermal Derating Curve



Typical Time-To-Trip at 23°C

- A = MPTS0805L010
- B = MPTS0805L020
- C = MPTS0805L035
- D = MPTS0805L050R
- E = MPTS0805L075R
- F = MPTS0805L100R



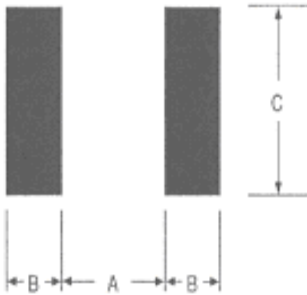
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MPTS Series

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The dimension in the table below provides the recommended pad layout for each MPTS0805 device



Pad dimensions (millimeters)

Device	A Nominal	B Nominal	C Nominal
All 0805 Series	1.20	1.00	1.50

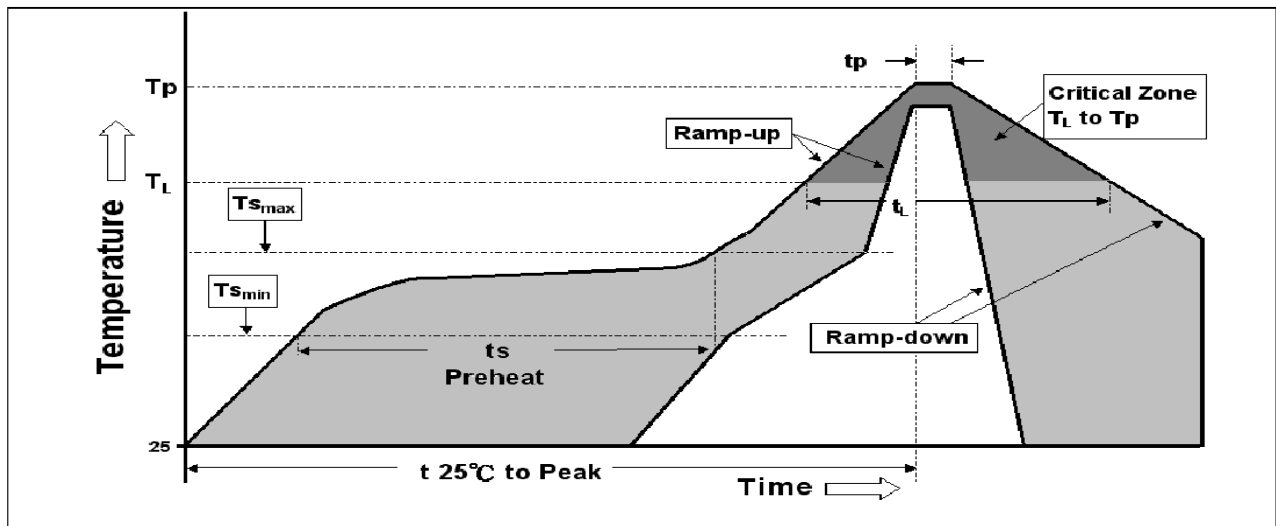
Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (T_{smax} to T_p)	3 °C/second max.
Preheat :	
Temperature Min (T _{smin})	150 °C
Temperature Max (T _{smax})	200 °C
Time (t _{smin} to t _{smax})	60-180 seconds
Time maintained above:	
Temperature(T _L)	217 °C
Time (t _L)	60-150 seconds
Peak/Classification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

Solder reflow

- Due to "Lead Free" nature, Temperature and Dwell time for the soldering zone is higher than those for Non-compliant parts. This may cause damage to other components.
- Recommended max solder paste thickness > 0.25mm.
- Devices can be cleaned using standard methods and aqueous solvent.
- Rework should utilize standard industry practices. These changes should apply to all notes for each case size.
- Storage Environment : < 30°C / 60%RH

Caution:

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





Electrical Characteristics (23°)

MPTS1206

Part Number	Hold Current	Trip Current	Rated Voltage	Max Current	Typical Power	Max Time to Trip		Resistance	
	I_H , A	I_T , A	V_{MAX} , Vdc	I_{MAX} , A	P_d , W	Current	Time	R_{MIN}	$R1_{MAX}$
						Amp	Sec	Ω	Ω
MPTS1206L005	0.05	0.15	60	10	0.4	0.25	1.50	3.60	50.00
MPTS1206L010	0.10	0.25	60	10	0.4	0.50	1.00	1.60	15.00
MPTS1206L012	0.12	0.39	48	10	0.6	1.00	0.20	1.40	6.50
MPTS1206L016	0.16	0.45	48	10	0.6	1.00	0.30	1.10	5.00
MPTS1206L020	0.20	0.40	30	10	0.4	8.00	0.10	0.600	2.500
MPTS1206L025	0.25	0.50	16	40	0.6	8.00	0.08	0.550	2.300
MPTS1206L035	0.35	0.75	16	40	0.4	8.00	0.10	0.300	1.200
MPTS1206L050	0.50	1.00	8	40	0.4	8.00	0.10	0.150	0.700
MPTS1206L050-24R	0.50	1.00	24	100	0.6	8.00	0.10	0.150	0.750
MPTS1206L075R	0.75	1.50	6	100	0.6	8.00	0.20	0.090	0.290
MPTS1206L075-16R	0.75	1.50	16	100	0.6	8.00	0.20	0.090	0.290
MPTS1206L100R	1.00	1.80	6	100	0.6	8.00	0.30	0.055	0.210
MPTS1206L110R	1.10	2.20	6	100	0.8	8.00	0.30	0.040	0.180
MPTS1206L150R	1.50	3.00	6	100	0.8	8.00	1.00	0.030	0.120
MPTS1206L200R	2.00	3.50	6	100	0.8	8.00	1.50	0.018	0.080

I_H =Hold current-maximum current at which the device will not trip at 23°C still air.

I_T =Trip current-minimum current at which the device will always trip at 23°C still air.

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

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

P_d =Typical power dissipated-type amount of power dissipated by the device when in the tripped state in 23°C still air environment.

R_{MIN} =Minimum device resistance at 23°C prior to tripping.

$R1_{MAX}$ =Maximum device resistance at 23°C measured 1 hour after tripping or reflow soldering of 260°C for 20 seconds.

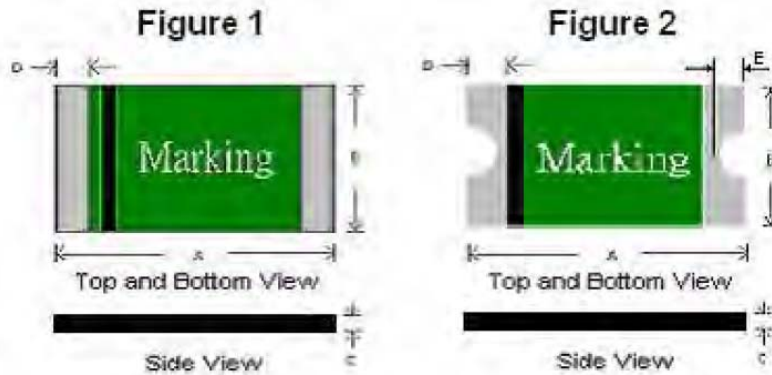
Termination pad characteristics

Termination pad materials: Pure Tin



Product Dimensions (Millimeters)

MPTS1206



Part Number	A		B		C		D		E	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
MPTS1206L005	3.00	3.50	1.50	1.80	0.45	0.85	0.10	0.75	0.10	0.45
MPTS1206L010	3.00	3.50	1.50	1.80	0.45	0.85	0.10	0.75	0.10	0.45
MPTS1206L012	3.00	3.50	1.50	1.80	0.45	0.85	0.10	0.75	0.10	0.45
MPTS1206L016	3.00	3.50	1.50	1.80	0.45	0.75	0.10	0.75	0.10	0.45
MPTS1206L020	3.00	3.50	1.50	1.80	0.45	0.75	0.10	0.75	0.10	0.45
MPTS1206L025	3.00	3.50	1.50	1.80	0.45	0.75	0.10	0.75	0.10	0.45
MPTS1206L035	3.00	3.50	1.50	1.80	0.45	0.75	0.10	0.75	0.10	0.45
MPTS1206L050	3.00	3.50	1.50	1.80	0.25	0.55	0.10	0.75	0.10	0.45
MPTS1206L050-24R	3.00	3.50	1.50	1.80	0.90	1.30	0.25	0.75	0.10	0.45
MPTS1206L075R	3.00	3.50	1.50	1.80	0.45	1.25	0.25	0.75	0.10	0.45
MPTS1206L075-16R	3.00	3.50	1.50	1.80	0.45	1.25	0.25	0.75	0.10	0.45
MPTS1206L100R	3.00	3.50	1.50	1.80	0.45	1.00	0.25	0.75	0.10	0.45
MPTS1206L110R	3.00	3.50	1.50	1.80	0.45	1.00	0.25	0.75	0.10	0.45
MPTS1206L150R	3.00	3.50	1.50	1.80	0.80	1.40	0.25	0.75	0.10	0.45
MPTS1206L200R	3.00	3.50	1.50	1.80	0.85	1.60	0.25	0.75	0.10	0.45

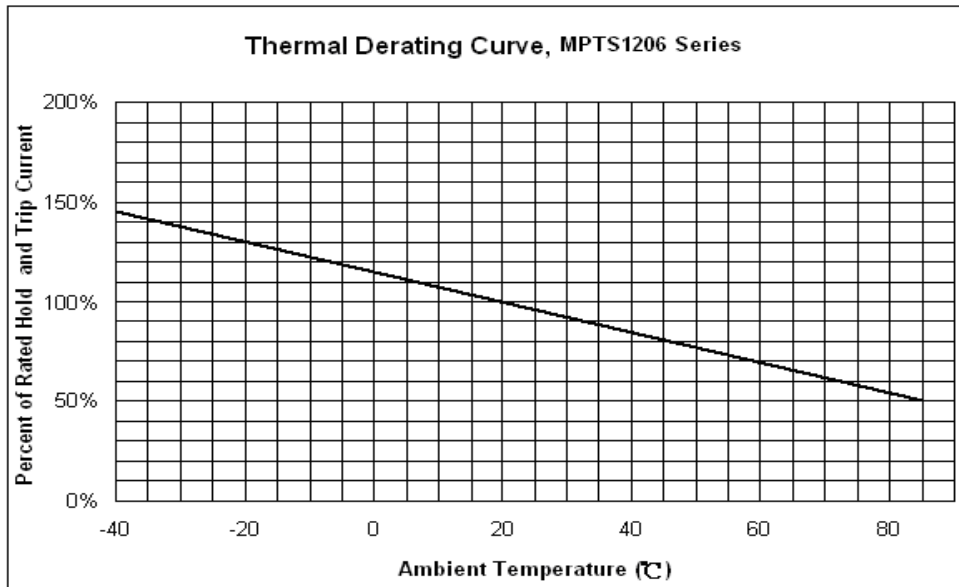
Polymeric PTC



MPTS Series

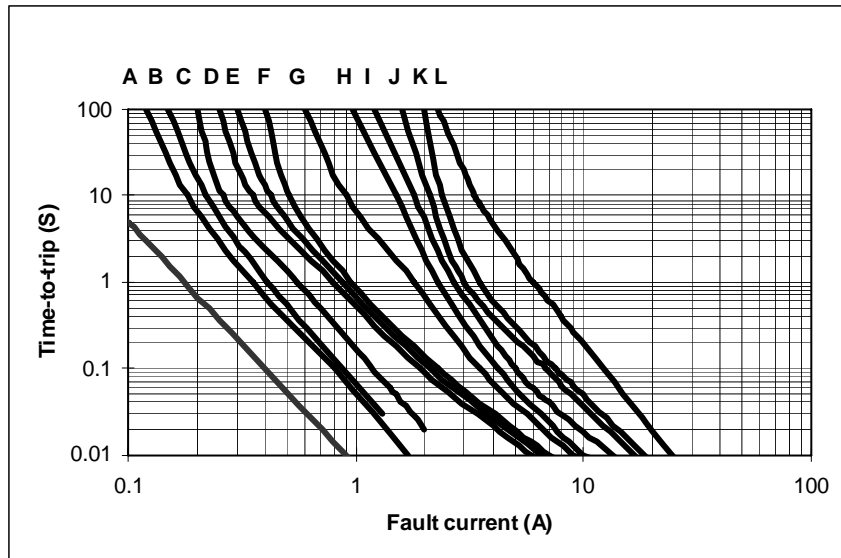
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Thermal Derating Curve



Typical Time-To-Trip at 23°

- Z= MPTS1206L005
- A= MPTS1206L010
- B= MPTS1206L012
- C= MPTS1206L016
- D= MPTS1206L020
- E= MPTS1206L025
- F= MPTS1206L035
- G= MPTS1206L050
- MPTS1206L050-24R
- H= MPTS1206L075R
- MPTS1206L075-16R
- I= MPTS1206L100R
- J= MPTS1206L110R
- K= MPTS1206L150R
- L= MPTS1206L200R



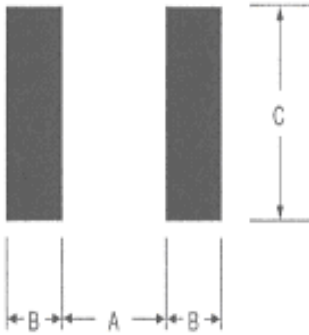
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MPTS Series

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The dimension in the table below provides the recommended pad layout for each MPTS1206 device



Pad dimensions (millimeters)

Device	A Nominal	B Nominal	C Nominal
All 1206 Series	2.00	1.00	1.90

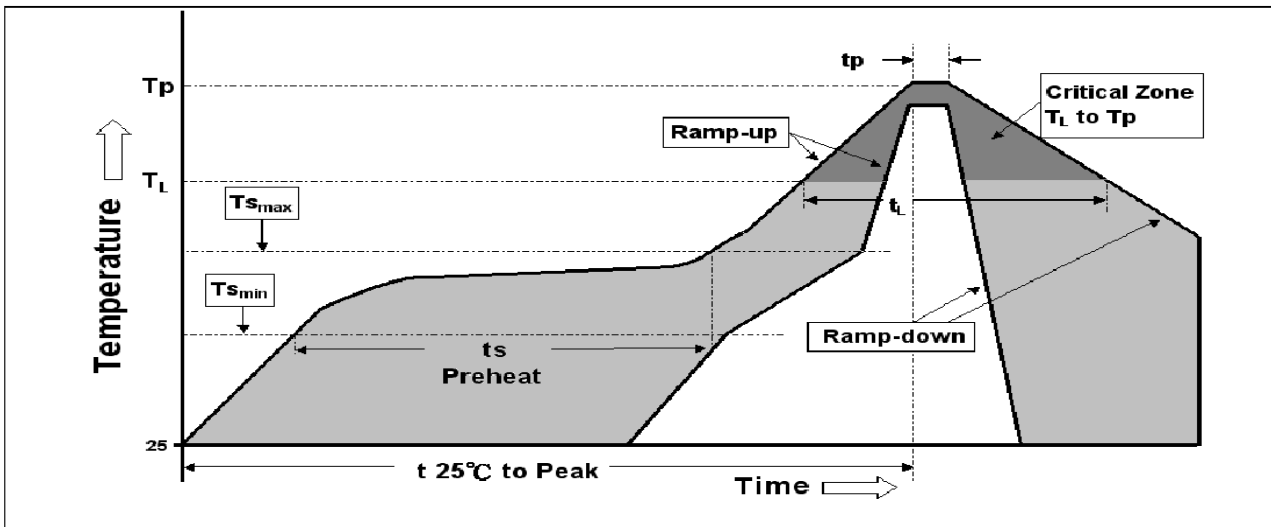
Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (T_{smax} to T_p)	3 °C/second max.
Preheat : Temperature Min (T _{smin}) Temperature Max (T _{smax}) Time (t _{smin} to t _{smax})	150 °C 200 °C 60-180 seconds
Time maintained above: Temperature(T _L) Time (t _L)	217 °C 60-150 seconds
Peak/Classification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

Solder reflow

- Due to "Lead Free" nature, Temperature and Dwell time for the soldering zone is higher than those for Non-compliant parts. This may cause damage to other components.
- Recommended max solder paste thickness > 0.25mm.
- Devices can be cleaned using standard methods and aqueous solvent.
- Rework should utilize standard industry practices. These changes should apply to all notes for each case size.
- Storage Environment : < 30°C / 60%RH

Caution:

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



Polymeric PTC



MPTS Series

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Electrical Characteristics (23°)

MPTS1210

Part Number	Hold Current	Trip Current	Rated Voltage	Max Current	Typical Power	Max Time to Trip		Resistance	
						Current	Time	R _{MIN}	R _{1MAX}
	I _H , A	I _T , A	V _{MAX} , Vdc	I _{MAX} , A	Pd, W	Amp	Sec	Ω	Ω
MPTS1210L005	0.05	0.15	60	10	0.60	0.25	3.00	3.600	50.000
MPTS1210L010	0.10	0.25	60	10	0.60	0.50	1.50	1.600	15.000
MPTS1210L020	0.20	0.40	30	10	0.60	8.00	0.02	0.800	5.000
MPTS1210L035	0.35	0.70	16	40	0.60	8.00	0.20	0.320	1.300
MPTS1210L050	0.50	1.00	16	40	0.60	8.00	0.10	0.250	0.900
MPTS1210L075	0.75	1.50	8	40	0.60	8.00	0.10	0.130	0.400
MPTS1210L110R	1.10	2.20	6	100	0.80	8.00	0.30	0.060	0.210
MPTS1210L150R	1.50	3.00	6	100	0.80	8.00	0.50	0.040	0.110
MPTS1210L175R	1.75	4.00	6	100	0.80	8.00	0.60	0.020	0.080
MPTS1210L200R	2.00	4.00	6	100	0.80	8.00	1.00	0.015	0.070

I_H=Hold current-maximum current at which the device will not trip at 23°C still air.

I_T=Trip current-minimum current at which the device will always trip at 23°C still air.

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

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

Pd=Typical power dissipated-type amount of power dissipated by the device when in the tripped state in 23°C still air environment.

R_{MIN}=Minimum device resistance at 23°C prior to tripping.

R_{1MAX}=Maximum device resistance at 23°C measured 1 hour after tripping or reflow soldering of 260°C for 20 seconds.

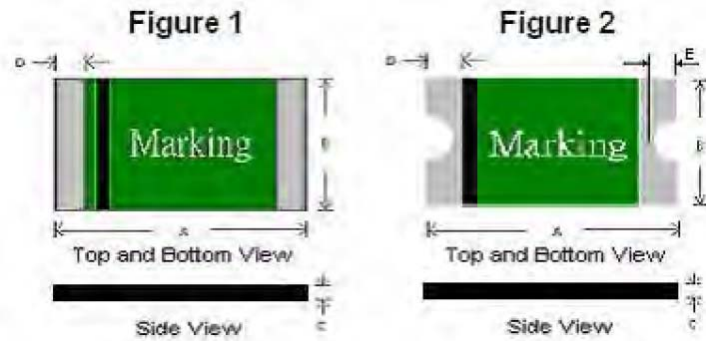
Termination pad characteristics

Termination pad materials: Pure Tin



Product Dimensions (Millimeters)

MPTS1210



Part Number	A		B		C		D		E	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
MPTS1210L005	3.00	3.43	2.35	2.80	0.60	1.15	0.25	0.75	0.10	0.45
MPTS1210L010	3.00	3.43	2.35	2.80	0.60	1.15	0.25	0.75	0.10	0.45
MPTS1210L020	3.00	3.43	2.35	2.80	0.40	0.85	0.25	0.75	0.10	0.45
MPTS1210L035	3.00	3.43	2.35	2.80	0.40	0.80	0.25	0.75	0.10	0.45
MPTS1210L050	3.00	3.43	2.35	2.80	0.30	0.75	0.25	0.75	0.10	0.45
MPTS1210L075	3.00	3.43	2.35	2.80	0.30	0.70	0.25	0.75	0.10	0.45
MPTS1210L110R	3.00	3.43	2.35	2.80	0.60	1.00	0.25	0.75	0.10	0.45
MPTS1210L150R	3.00	3.43	2.35	2.80	0.50	0.90	0.25	0.75	0.10	0.45
MPTS1210L175R	3.00	3.43	2.35	2.80	0.80	1.40	0.25	0.75	0.10	0.45
MPTS1210L200R	3.00	3.43	2.35	2.80	0.80	1.40	0.25	0.75	0.10	0.45

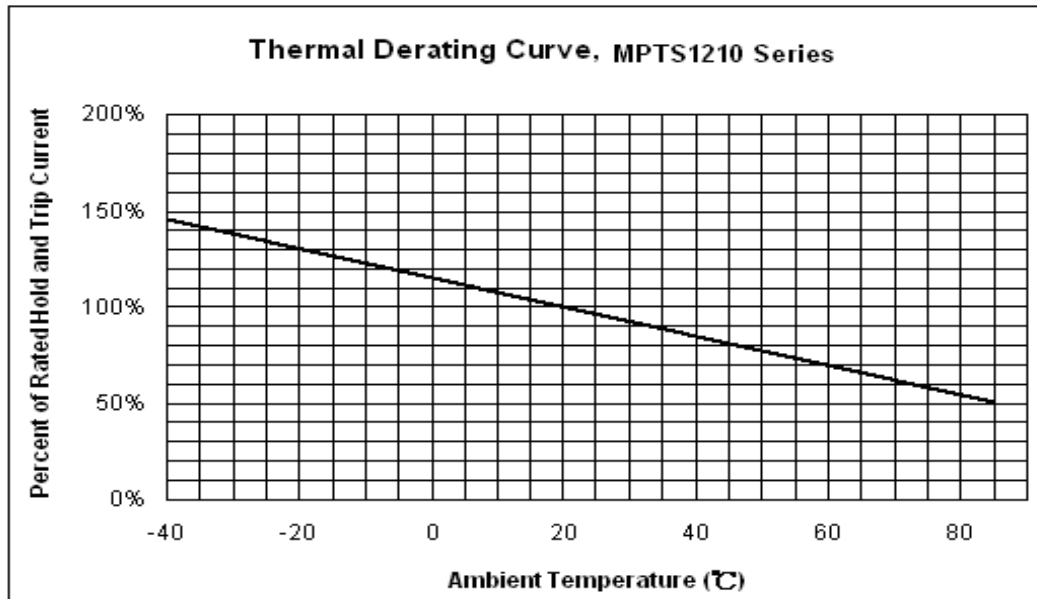
Polymeric PTC



MPTS Series

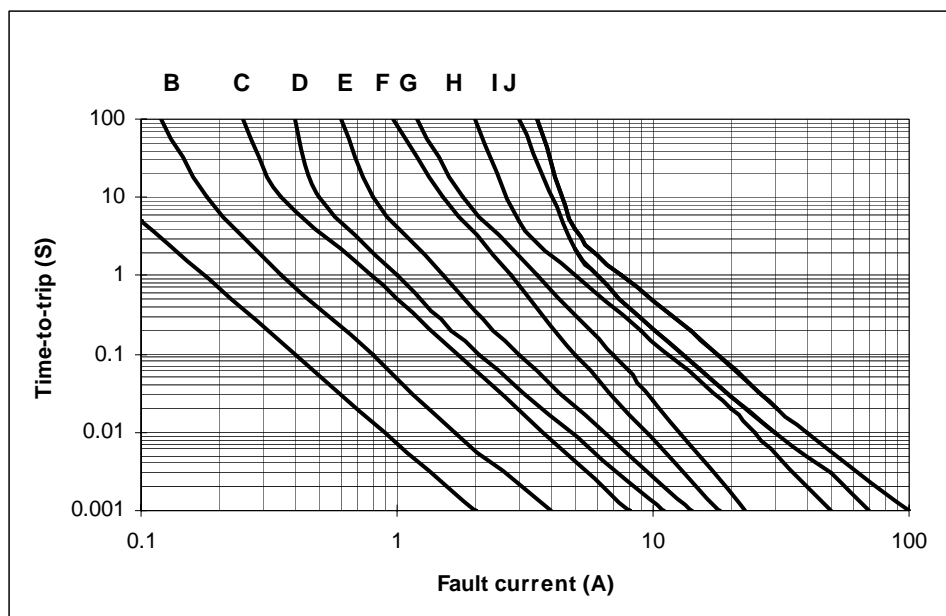
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Thermal Derating Curve



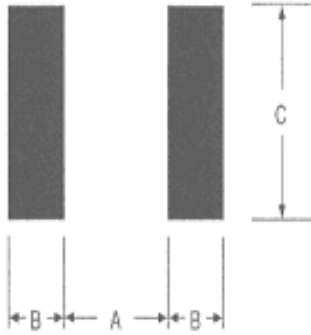
Typical Time-To-Trip at 23°C

- A = MPTS1210L005
- B = MPTS1210L010
- C = MPTS1210L020
- D = MPTS1210L035
- E = MPTS1210L050
- F = MPTS1210L075
- G = MPTS1210L110R
- H = MPTS1210L150R
- I = MPTS1210L175R
- J = MPTS1210L200R





The dimension in the table below provides the recommended pad layout for each MPTS1210 device



Pad dimensions (millimeters)

Device	A Nominal	B Nominal	C Nominal
All 1210 Series	2.00	1.00	2.80

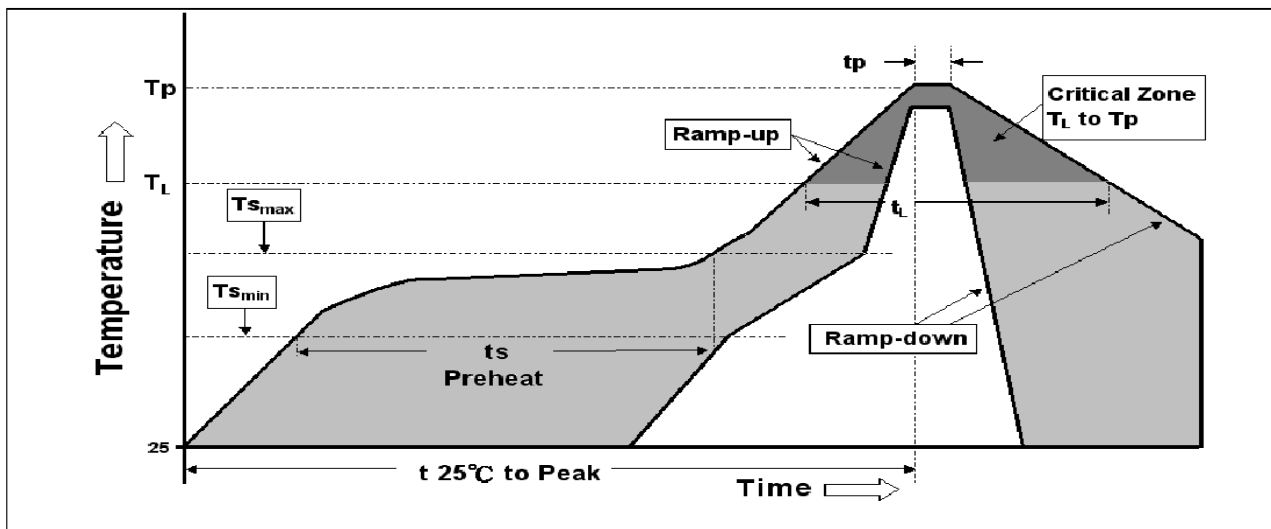
Solder reflow

- Due to "Lead Free" nature, Temperature and Dwell time for the soldering zone is higher than those for Non-compliant parts. This may cause damage to other components.
- Recommended max solder paste thickness > 0.25mm.
- Devices can be cleaned using standard methods and aqueous solvent.
- Rework should utilize standard industry practices. These changes should apply to all notes for each case size.
- Storage Environment : < 30°C / 60%RH

Caution:

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

Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (T _{smax} to T _p)	3 °C/second max.
Preheat : Temperature Min (T _{smin}) Temperature Max (T _{smax}) Time (t _{smin} to t _{smax})	150 °C 200 °C 60-180 seconds
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/second max.
Time 25 °C to Peak Temperature :	8 minutes max.



Polymeric PTC



MPTS Series

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Electrical Characteristics (23°)

MPTS1812

Part Number	Hold Current	Trip Current	Rated Voltage	Max Current	Typical Power	Max Time to Trip		Resistance	
	I_H , A	I_T , A	V_{MAX} , Vdc	I_{MAX} , A	P_d , W	Current	Time	R_{MIN}	$R1_{MAX}$
						Amp	Sec	Ω	Ω
MPTS1812L010	0.10	0.30	60	10	0.8	8.0	0.020	1.600	15.00
MPTS1812L014	0.14	0.30	60	10	0.8	8.0	0.008	1.200	6.500
MPTS1812L020	0.20	0.40	30	10	0.8	8.0	0.020	0.800	5.000
MPTS1812L035	0.35	0.70	16	40	0.8	8.0	0.100	0.320	1.500
MPTS1812L050	0.50	1.00	16	40	0.8	8.0	0.150	0.150	1.000
MPTS1812L075	0.75	1.50	16	40	0.8	8.0	0.200	0.110	0.450
MPTS1812L075-24R	0.75	1.50	24	40	1.0	8.0	0.200	0.110	0.290
MPTS1812L075-33R	0.75	1.50	33	40	1.0	8.0	0.200	0.110	0.400
MPTS1812L110	1.10	2.20	8	100	0.8	8.0	0.300	0.040	0.210
MPTS1812L110-16	1.10	2.20	16	100	0.8	8.0	0.500	0.040	0.180
MPTS1812L110-24R	1.10	2.20	24	100	1.0	8.0	0.500	0.060	0.200
MPTS1812L125	1.25	2.50	6	40	0.8	8.0	0.400	0.050	0.140
MPTS1812L150	1.50	3.00	8	100	0.8	8.0	0.500	0.040	0.110
MPTS1812L150-12R	1.50	3.00	12	100	1.0	8.0	0.500	0.040	0.110
MPTS1812L150-24R	1.50	3.00	24	100	1.0	8.0	1.500	0.040	0.120
MPTS1812L160	1.60	3.20	8	100	0.8	8.0	0.500	0.030	0.100
MPTS1812L160-12R	1.60	3.20	12	100	1.0	8.0	1.000	0.030	0.100
MPTS1812L160-16R	1.60	3.20	16	100	1.0	8.0	1.000	0.030	0.100
MPTS1812L200R	2.00	3.50	8	100	1.0	8.0	2.000	0.020	0.070
MPTS1812L260R	2.60	5.00	6	100	1.0	8.0	2.500	0.015	0.047
MPTS1812L260-13R	2.60	5.00	13.2	100	1.3	8.0	5.000	0.015	0.050
MPTS1812L260-16R	2.60	5.00	16	100	1.3	8.0	5.000	0.015	0.050
MPTS1812L300R	3.00	5.00	6	100	1.0	8.0	4.000	0.012	0.040

I_H =Hold current-maximum current at which the device will not trip at 23°C still air.

I_T =Trip current-minimum current at which the device will always trip at 23°C still air.

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

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

P_d =Typical power dissipated-type amount of power dissipated by the device when in the tripped state in 23°C still air environment.

R_{MIN} =Minimum device resistance at 23°C prior to tripping.

$R1_{MAX}$ =Maximum device resistance at 23°C measured 1 hour after tripping or reflow soldering of 260°C for 20 seconds.

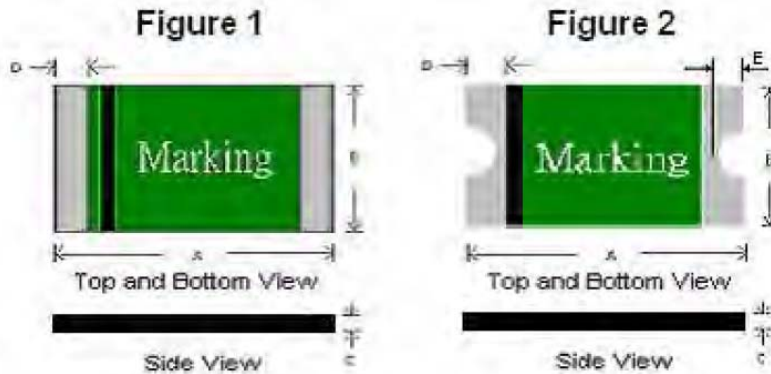
Termination pad characteristics

Termination pad materials: Pure Tin



Product Dimensions (Millimeters)

MPTS1812



Part Number	A		B		C		D		E	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
MPTS1812L010	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	0.25	0.65
MPTS1812L014	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	0.25	0.65
MPTS1812L020	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	0.25	0.65
MPTS1812L035	4.37	4.73	3.07	3.41	0.40	0.70	0.30	0.95	0.25	0.65
MPTS1812L050	4.37	4.73	3.07	3.41	0.35	0.65	0.30	0.95	0.25	0.65
MPTS1812L075	4.37	4.73	3.07	3.41	0.35	0.65	0.30	0.95	0.25	0.65
MPTS1812L075-24R	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65
MPTS1812L075-33R	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65
MPTS1812L110	4.37	4.73	3.07	3.41	0.25	0.55	0.30	0.95	0.25	0.65
MPTS1812L110-16	4.37	4.73	3.07	3.41	0.25	0.90	0.30	0.95	0.25	0.65
MPTS1812L110-24R	4.37	4.73	3.07	3.41	0.80	1.30	0.25	0.95	0.25	0.65
MPTS1812L125	4.37	4.73	3.07	3.41	0.25	0.55	0.30	0.95	0.25	0.65
MPTS1812L150	4.37	4.73	3.07	3.41	0.25	0.55	0.30	0.95	0.25	0.65
MPTS1812L150-12R	4.37	4.73	3.07	3.41	0.60	1.10	0.25	0.95	0.25	0.65
MPTS1812L150-24R	4.37	4.73	3.07	3.41	0.60	1.55	0.25	0.95	0.25	0.65
MPTS1812L160	4.37	4.73	3.07	3.41	0.25	0.90	0.30	0.95	0.25	0.65
MPTS1812L160-12R	4.37	4.73	3.07	3.41	0.60	1.35	0.25	0.95	0.25	0.65
MPTS1812L160-16R	4.37	4.73	3.07	3.41	0.60	1.35	0.25	0.95	0.25	0.65
MPTS1812L200R	4.37	4.73	3.07	3.41	0.55	1.20	0.25	0.95	0.25	0.65
MPTS1812L260R	4.37	4.73	3.07	3.41	0.55	1.20	0.25	0.95	0.25	0.65
MPTS1812L260-13R	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65
MPTS1812L260-16R	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65
MPTS1812L300R	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65

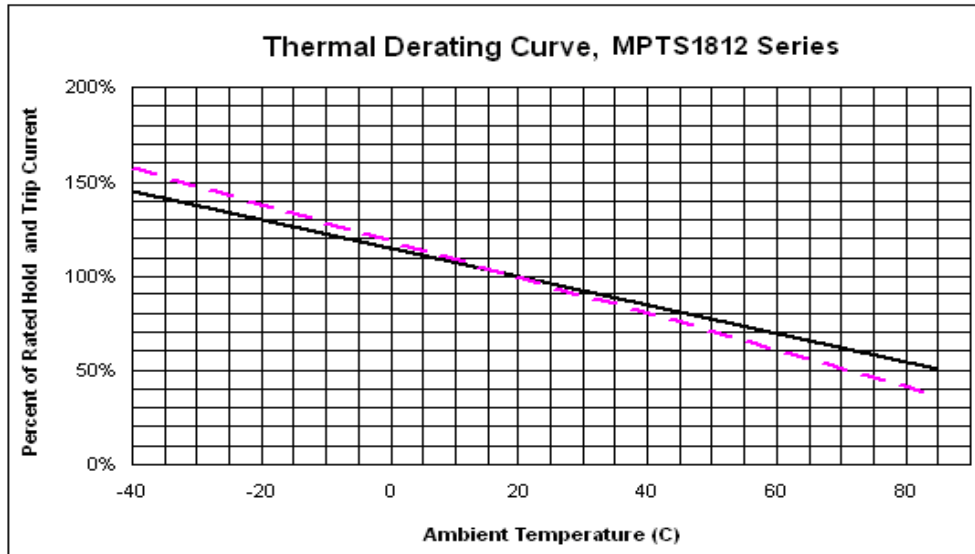
Polymeric PTC



MPTS Series

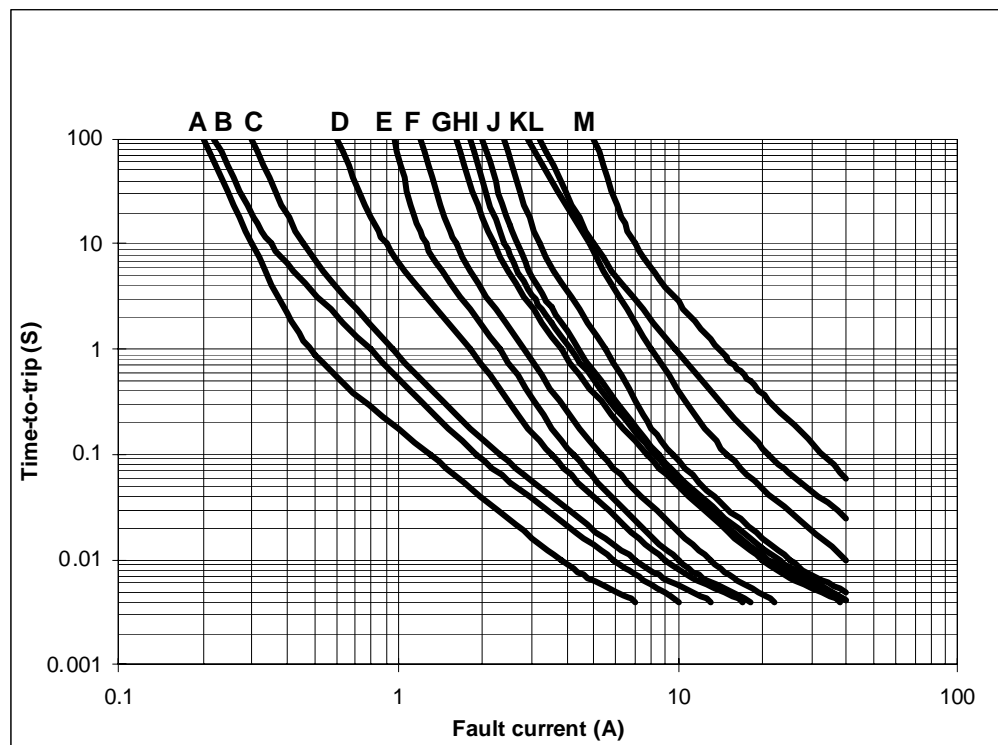
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Thermal Derating Curve



Typical Time-To-Trip at 23°C

- A = MPTS1812L010
- B = MPTS1812L014
- C = MPTS1812L020
- D = MPTS1812L035
- E = MPTS1812L050
- F = MPTS1812L075
- MPTS1812L075-24R
- MPTS1812L075-33R
- G = MPTS1812L110
- MPTS1812L110-16
- MPTS1812L110-24R
- H = MPTS1812L125
- I = MPTS1812L150
- MPTS1812L150-12R
- MPTS1812L150-24R
- J = MPTS1812L160
- MPTS1812L160-12R
- MPTS1812L160-16R
- K = MPTS1812L200R
- L = MPTS1812L260R
- MPTS1812L260-13R
- MPTS1812L260-16R
- M = MPTS1812L300R



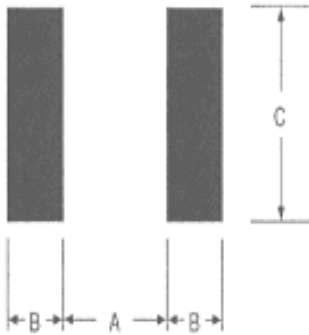
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MPTS Series

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The dimension in the table below provides the recommended pad layout for each MPTS1812 device



Pad dimensions (millimeters)

Device	A Nominal	B Nominal	C Nominal
All 1812 Series	3.45	1.78	3.50

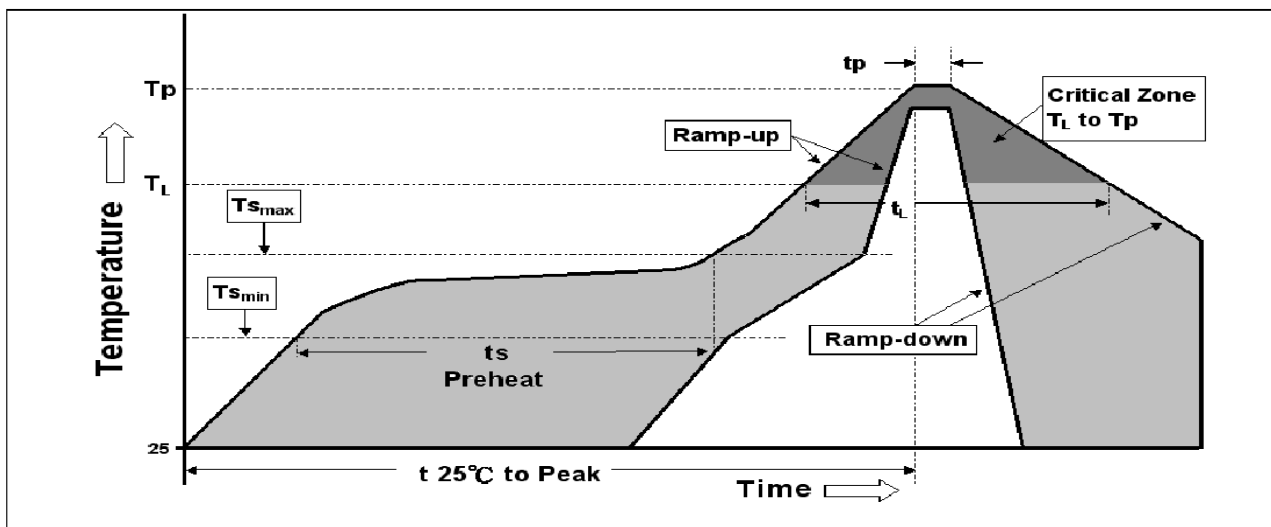
Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (T _{smax} to T _p)	3 °C/second max.
Preheat :	
Temperature Min (T _{smin})	150 °C
Temperature Max (T _{smax})	200 °C
Time (t _{smin} to t _{smax})	60-180 seconds
Time maintained above:	
Temperature(T _L)	217 °C
Time (t _L)	60-150 seconds
Peak/Classification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

Solder reflow

- Due to "Lead Free" nature, Temperature and Dwell time for the soldering zone is higher than those for Non-compliant parts. This may cause damage to other components.
- Recommended max solder paste thickness > 0.25mm.
- Devices can be cleaned using standard methods and aqueous solvent.
- Rework should utilize standard industry practices. These changes should apply to all notes for each case size.
- Storage Environment : < 30°C / 60%RH

Caution:

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



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MPTS Series

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Electrical Characteristics (23°C)

MPTS2920

Part Number	Hold Current	Trip Current	Rated Voltage	Max Current	Typical Power	Max Time to Trip		Resistance	
	I_H, A	I_T, A	V_{MAX}, Vdc	I_{MAX}, A	Pd, W	Current A	Time Sec	R_{MIN} Ω	$R1_{MAX}$ Ω
MPTS2920L030	0.30	0.60	60	10	1.5	1.5	3.0	1.000	4.800
MPTS2920L050	0.50	1.00	60	10	1.5	2.5	4.0	0.300	1.400
MPTS2920L075	0.75	1.50	33	40	1.5	8.0	0.3	0.180	1.000
MPTS2920L100	1.10	2.20	33	40	1.5	8.0	0.5	0.090	0.410
MPTS2920L125	1.25	2.50	33	40	1.5	8.0	2.0	0.050	0.250
MPTS2920L150	1.50	3.00	33	40	1.5	8.0	2.0	0.050	0.230
MPTS2920L185	1.85	3.70	33	40	1.5	8.0	2.5	0.040	0.150
MPTS2920L200	2.00	4.00	16	40	1.5	8.0	4.5	0.035	0.120
MPTS2920L250	2.50	5.00	16	40	1.5	8.0	16.0	0.025	0.085
MPTS2920L260	2.60	5.20	6	40	1.5	8.0	20.0	0.020	0.075
MPTS2920L300	3.00	5.20	6	40	1.5	8.0	25.0	0.010	0.048

I_H =Hold current-maximum current at which the device will not trip at 23°C still air.

I_T =Trip current-minimum current at which the device will always trip at 23°C still air.

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

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

Pd =Typical power dissipated-type amount of power dissipated by the device when in the tripped state in 23°C still air environment.

R_{MIN} =Minimum device resistance at 23°C prior to tripping.

$R1_{MAX}$ =Maximum device resistance at 23°C measured 1 hour after tripping or reflow soldering of 260°C for 20 seconds.

Termination pad characteristics

Termination pad materials: Pure Tin

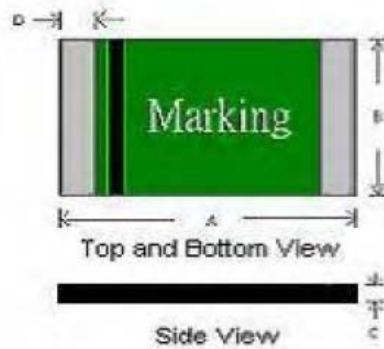
Polymeric PTC



MPTS Series	MERITEK
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Product Dimensions (Millimeters)

MPTS2920



Part Number	A		B		C		D		E	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
MPTS2920L030	6.73	7.98	4.80	5.44	0.60	1.15	0.50	1.20	0.50	0.90
MPTS2920L050	6.73	7.98	4.80	5.44	0.60	1.15	0.50	1.20	0.50	0.90
MPTS2920L075	6.73	7.98	4.80	5.44	0.40	1.15	0.50	1.20	0.50	0.90
MPTS2920L100	6.73	7.98	4.80	5.44	0.40	1.00	0.50	1.20	0.50	0.90
MPTS2920L125	6.73	7.98	4.80	5.44	0.40	0.90	0.50	1.20	0.50	0.90
MPTS2920L150	6.73	7.98	4.80	5.44	0.40	0.90	0.50	1.20	0.50	0.90
MPTS2920L185	6.73	7.98	4.80	5.44	0.30	0.90	0.50	1.20	0.50	0.90
MPTS2920L200	6.73	7.98	4.80	5.44	0.30	0.90	0.50	1.20	0.50	0.90
MPTS2920L250	6.73	7.98	4.80	5.44	0.30	0.90	0.50	1.20	0.50	0.90
MPTS2920L260	6.73	7.98	4.80	5.44	0.30	0.90	0.50	1.20	0.50	0.90
MPTS2920L300	6.73	7.98	4.80	5.44	0.40	0.90	0.50	1.20	0.50	0.90

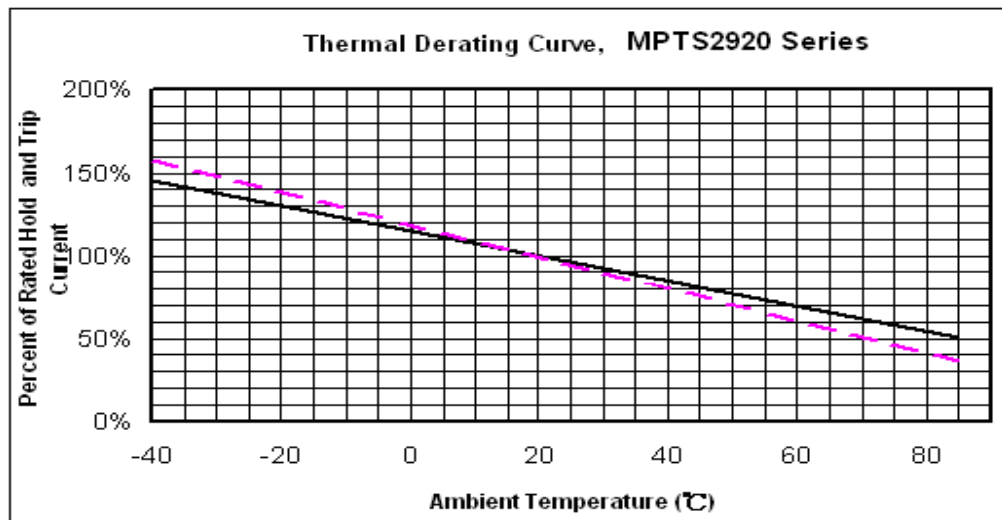
Polymeric PTC



MPTS Series

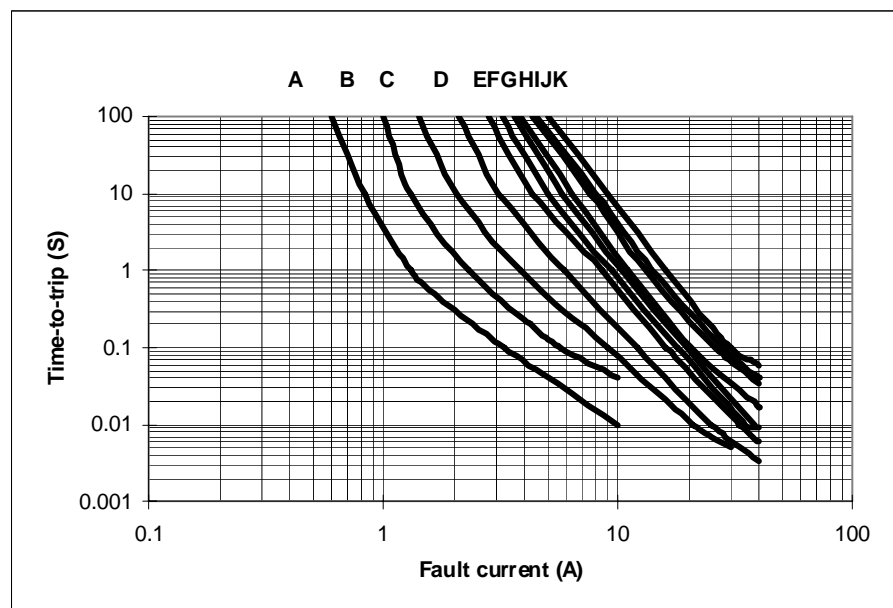
MERITEK

Thermal Derating Curve



Typical Time-To-Trip at 23°C

- A = MPTS2920L030
- B = MPTS2920L050
- C = MPTS2920L075
- D = MPTS2920L100
- E = MPTS2920L125
- F = MPTS2920L150
- G = MPTS2920L185
- H = MPTS2920L200
- I = MPTS2920L250
- J = MPTS2920L260
- K = MPTS2920L300



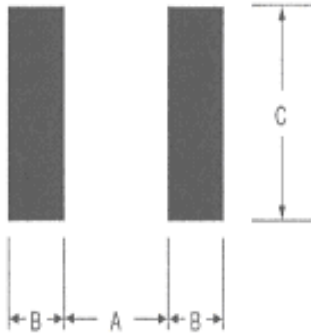
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MPTS Series

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The dimension in the table below provides the recommended pad layout for each MPTS2920 device



Pad dimensions (millimeters)

Device	A Nominal	B Nominal	C Nominal
All 2920 Series	5.10	2.30	5.60

Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (T _{smax} to T _p)	3 °C/second max.
Preheat :	
Temperature Min (T _{smin})	150 °C
Temperature Max (T _{smax})	200 °C
Time (t _{smin} to t _{smax})	60-180 seconds
Time maintained above:	
Temperature(T _L)	217 °C
Time (t _L)	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/second max.
Time 25 °C to Peak Temperature :	8 minutes max.

Solder reflow

- Due to “Lead Free” nature, Temperature and Dwell time for the soldering zone is higher than those for Non-compliant parts. This may cause damage to other components.
- Recommended max solder paste thickness > 0.25mm.
- Devices can be cleaned using standard methods and aqueous solvent.
- Rework should utilize standard industry practices. These changes should apply to all notes for each case size.
- Storage Environment : < 30°C / 60%RH

Caution:

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

