# PTC Resettable Fuse
# High Temperature type

MPTS1206-H series

MERITEK

## FEATURE

- Operation Temperature Range: -40ºC to 125ºC
- Operating Current: 200mA
- Maximum Voltage: 32VDC
- Excellent for high density applications
- Faster time to trip than standard SMD devices
- UL/cUL safety approved: certification No: E223037
- TUV safety approved: certification No: R50223766


## PART NUMBERING SYSTEM

**MPTS 1206L 020 32 H**
(1) (2) (3) (4) (5)

RoHS

| No | item | Digit | Description | Series Reference |
|---|---|---|---|---|
| (1) | **Product Code** | MPTS | Polymer Resettable Fuse Series | Surface Mount Type |
| (2) | **Size Code** | 1206L | 1206L: EIA 1206 | WxL: 3.5x1.8mm |
| (3) | **Current Rating** | 020 | 020: 0.20A | Hold Current |
| (4) | **Voltage Rating** | 32 | 32: 32VDC | Rated DC Voltage, Max |
| (5) | **Series Code** | H | 125ºC High temperature series | Operation Temperature: -40ºC to 125ºC |

## ELECTRICAL CHARACTERISTICS AT 23ºC

| Part Number | Hold Current | Trip Current | Rated Voltage | Max Current | Typical Power | Max Time to Trip | | Resistance | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Current | Time | $R_{MIN}$ | $R1_{MAX}$ |
| | $I_H$, A | $I_T$, A | $V_{MAX}$, $V_{DC}$ | $I_{MAX}$, A | $P_d$, W | A | Sec | Ω | Ω |
| **MPTS1206L02032H** | 0.20 | 0.50 | 30 | 10 | 0.9 | 8.00 | 0.10 | 0.60 | 4.50 |

| Item | Symbol | Characteristics |
|---|---|---|
| **Hold Current** | $I_H$ | Hold current-maximum current at which the device will not trip at 23ºC still air. |
| **Trip Current** | $I_T$ | Trip current-minimum current at which the device will always trip at 23ºC still air. |
| **Rated Voltage** | $V_{MAX}$ | Maximum voltage device can withstand without damage at its rated current ($I_{MAX}$). |
| **Max Current** | $I_{MAX}$ | Maximum fault current device can withstand without damage at rated voltage ($V_{MAX}$). |
| **Typical Power** | $P_d$ | Typical power dissipated by the device when in the tripped state in 23ºC still air environment. |
| **Device Resistance** | $R_{MIN}$ | Minimum device resistance at 23ºC prior to tripping. |
| | $R1_{MAX}$ | Maximum device resistance at 23ºC measured 1 hour after tripping or reflow soldering of 260ºC for 20 seconds. |

Note: Termination pad materials: Pure Tin

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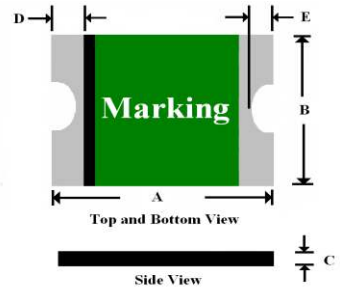
## DIMENSIONS



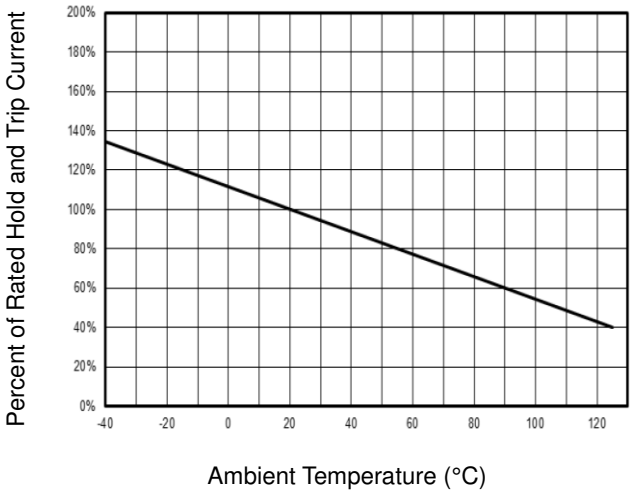

| Part Series | A (mm) | | B (mm) | | C (mm) | | D (mm) | | E (mm) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| MPTS1206-H | 3.00 | 3.50 | 1.50 | 1.80 | 0.30 | 1.10 | 0.10 | 0.75 | 0.10 | 0.45 |

## SOLDERING PAD SPECIFACTION

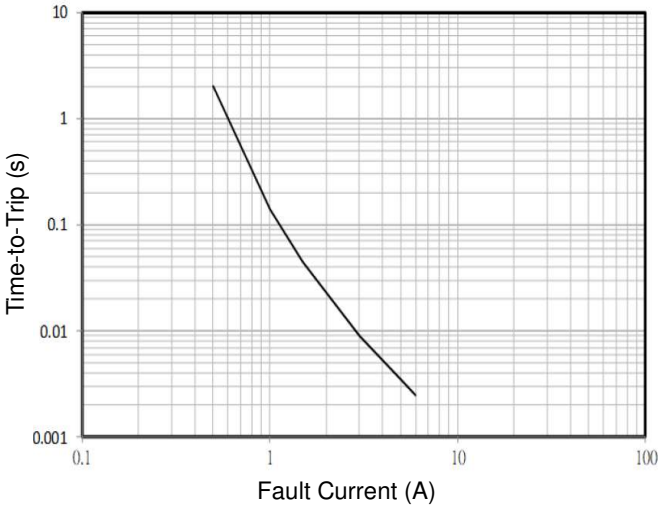
| Size | A (mm) | B (mm) | C (mm) |
|---|---|---|---|
| 1206 | 2.00 | 1.00 | 1.90 |


## CHARACTERISTIC CURVE

**Thermal Derating Curve**

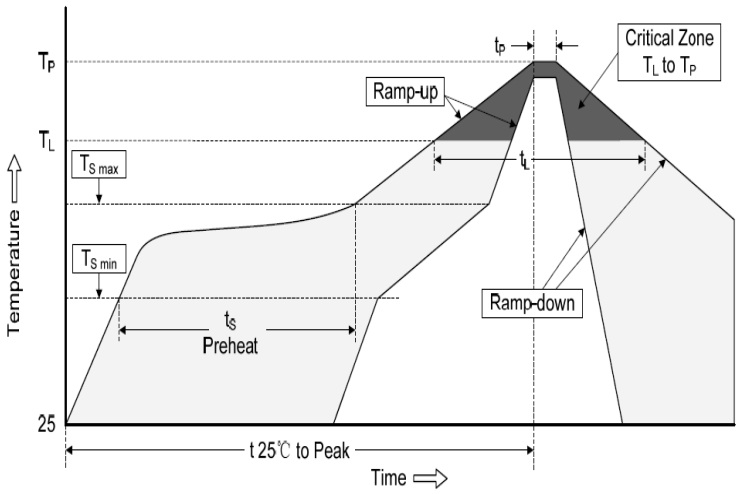



**Typical Time-To-Trip At 23°C**



## RECOMMENDED SOLDERING PROFILES

| Reflow Condition | | |
|---|---|---|
| Pre Heat | Temp. Min $T_{s(min)}$ | 150°C |
| | Tempe. Max $T_{s(max)}$ | 200°C |
| | Time (min. to max.) ($t_s$) | 60-180 seconds |
| Average ramp up rate (Temperature) ($T_L$) to peak | | 3°C/second max. |
| $T_{s(max)}$ to $T_A$ (Ramp-up rate) | | 3°C/second max. |
| Reflow | Temp. ($T_A$) | 217°C |
| | Time (min. to max.) ($t_s$) | 60-150 seconds |
| Peak Temperature ($T_P$) | | $260^{+/-0.5}$ °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 Temp. ($T_P$) | | 8 minutes max. |




## REWORK RECOMMENDATIONS

**Solder reflow**

- Recommended max past thickness > 0.25mm.
- Devices can be cleaned using standard methods and aqueous solvent.
- Rework should utilize standard industry practices.
- Storage Environment : < 30ºC / 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.

## WARNING

- Operation beyond the specified maximum ratings or improper use may result in damage and possible electrical arcing and/or flame.
- PPTC device are intended for occasional overcurrent protection. Application for repeated overcurrent condition and/or prolonged trip is not anticipated.
- Avoid contact of PPTC device with chemical solvent. Prolonged contact will damage the device performance

*Specifications subject to change without notice.