

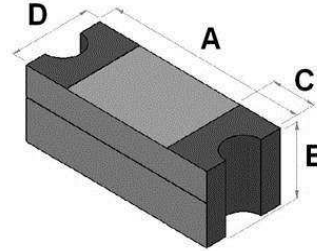
Surface Mount Fuse Very Fast Acting

PRODUCT: 2410SFV Family (Marked)

DOCUMENT: SCD27651
REV LETTER: G
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Specification Status: Released

Termination Material: Copper, Ni, Tin
Fuse Element: Copper/Copper alloy
Body Material: Fiberglass/Epoxy
Operating Temperature:
-55°C to +125°C (with de-rating)



Clear Time Characteristics

| % of current rating | Clear time at 25°C | |
|---------------------|--------------------|--------|
| | Min. | Max. |
| 100% | 4 hours | |
| 200% (0.5A-10.0A) | 0.01 sec | 5 sec |
| 200% (12.0A-20.0A) | 0.01 sec | 20 sec |

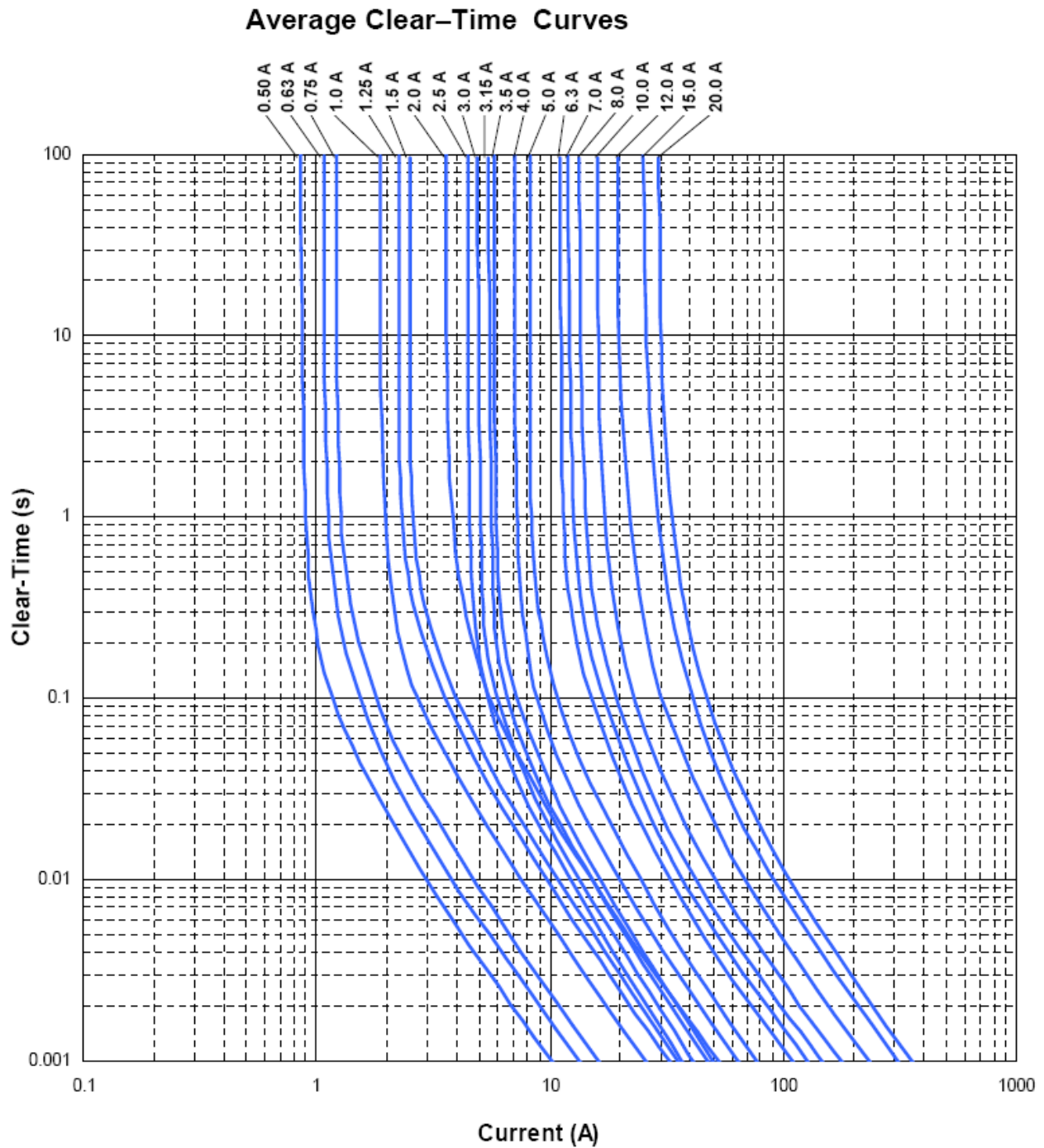
Dimensions

| | A | | B | | C | | D | |
|----|---------|---------|---------|---------|---------|---------|---------|---------|
| | MIN | MAX | MIN | MAX | MIN | MAX | MIN | MAX |
| mm | 5.95 | 6.25 | 1.96 | 2.36 | 0.97 | 1.73 | 2.34 | 2.64 |
| in | (0.234) | (0.246) | (0.077) | (0.093) | (0.038) | (0.068) | (0.092) | (0.104) |

| Part Number | Marking Code | Rated Current (A) | Interrupt Rating | Voltage Rating (V) | | Nominal Cold DC Resistance (DCR) (Ω)* | Nominal I ² t (A ² s) ² |
|-------------------|--------------|-------------------|---|--------------------|--------|---------------------------------------|--|
| | | | | AC | DC | | |
| 2410SFV0.50FM/125 | C | 0.50 | UL: 0.5~2A 100A @250V _{AC} 2.5~8A 50A @ 125V _{AC} 0.5~8A 50A @ 125V _{DC} 300A @ 32V _{DC} TUV: 0.5A, 0.63A, 1A, 1.25A, 2A 100A @250V _{AC} 50A @125V _{DC} CQC: 0.5A, 1A, 2A 100A @250V _{AC} 50A @125V _{DC} | 250 | 125 | 0.2310 | 0.1 |
| 2410SFV0.63FM/125 | S | 0.63 | | 250 | 125 | 0.1740 | 0.16 |
| 2410SFV0.75FM/125 | D | 0.75 | | 250 | 125 | 0.1480 | 0.23 |
| 2410SFV1.00FM/125 | E | 1.00 | | 250 | 125 | 0.0930 | 0.59 |
| 2410SFV1.25FM/125 | F | 1.25 | | 250 | 125 | 0.0700 | 0.96 |
| 2410SFV1.50FM/125 | G | 1.50 | | 250 | 125 | 0.0620 | 1.19 |
| 2410SFV2.00FM/125 | I | 2.00 | | 250 | 125 | 0.0420 | 2.75 |
| 2410SFV2.50FM/125 | J | 2.50 | | 125 | 125 | 0.0310 | 1.21 |
| 2410SFV3.00FM/125 | K | 3.00 | | 125 | 125 | 0.0249 | 1.73 |
| 2410SFV3.15FM/125 | V | 3.15 | | 125 | 125 | 0.0232 | 2.2 |
| 2410SFV3.50FM/125 | L | 3.50 | | 125 | 125 | 0.0220 | 2.5 |
| 2410SFV4.00FM/125 | M | 4.00 | | 125 | 125 | 0.0172 | 4.1 |
| 2410SFV5.00FM/125 | N | 5.00 | | 125 | 125 | 0.0143 | 5.9 |
| 2410SFV6.30FM/125 | O | 6.30 | | 125 | 125 | 0.0100 | 12.5 |
| 2410SFV7.00FM/125 | P | 7.00 | | 125 | 125 | 0.0094 | 14.2 |
| 2410SFV8.00FM/125 | R | 8.00 | | 125 | 125 | 0.0086 | 20.3 |
| 2410SFV10.0FM/125 | Q | 10.00 | 125 | 125 | 0.0066 | 29.2 | |
| 2410SFV12.0FM/065 | X | 12.00 | UL: 50A @ 65V _{AC} 50A @ 65V _{DC} 300A @ 32V _{DC} | 65 | 65 | 0.0053 | 49.2 |
| 2410SFV15.0FM/065 | Y | 15.00 | | 65 | 65 | 0.0038 | 102.5 |
| 2410SFV20.0FM/065 | Z | 20.00 | UL: 50A @ 65V _{AC} 100A @ 65V _{DC} 300A @ 32V _{DC} | 65 | 65 | 0.0034 | 126.2 |

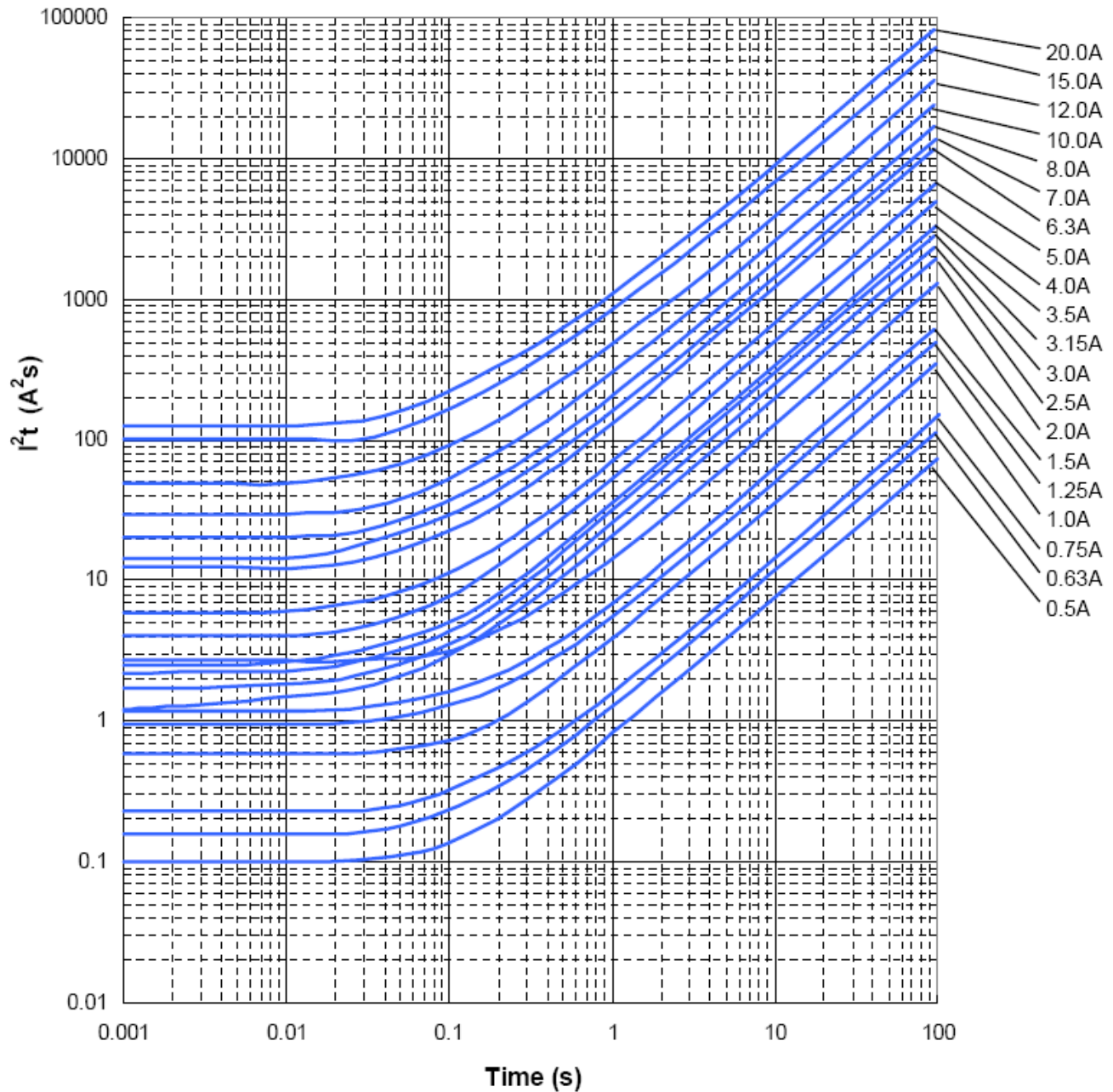
* Measured at ≤10% of rated current and 25°C ambient

Average Clear-Time Curves for 2410 Devices



I²t Curves for 2410 Devices

Average I²t vs. t Curves





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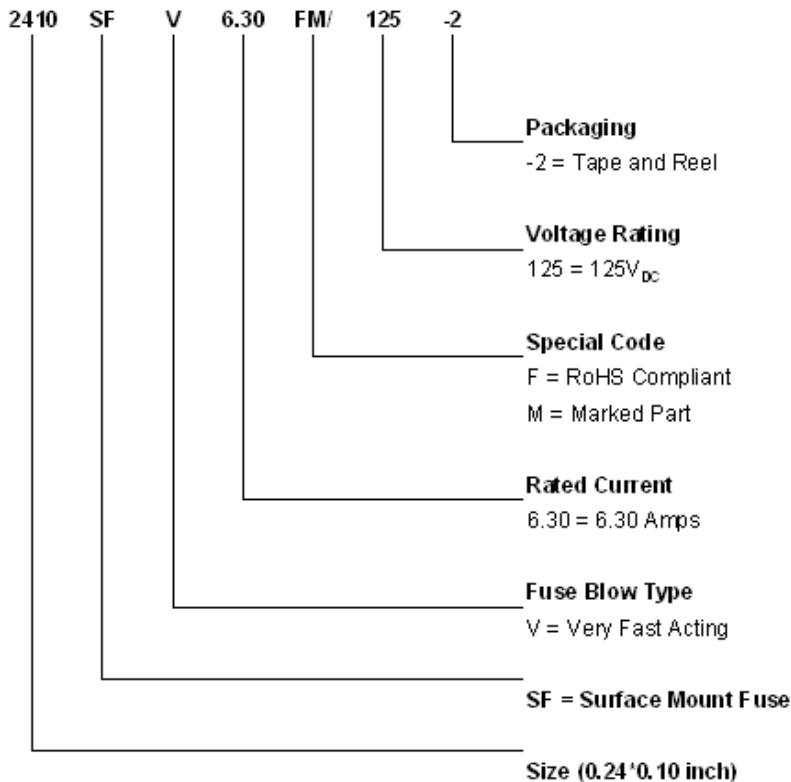
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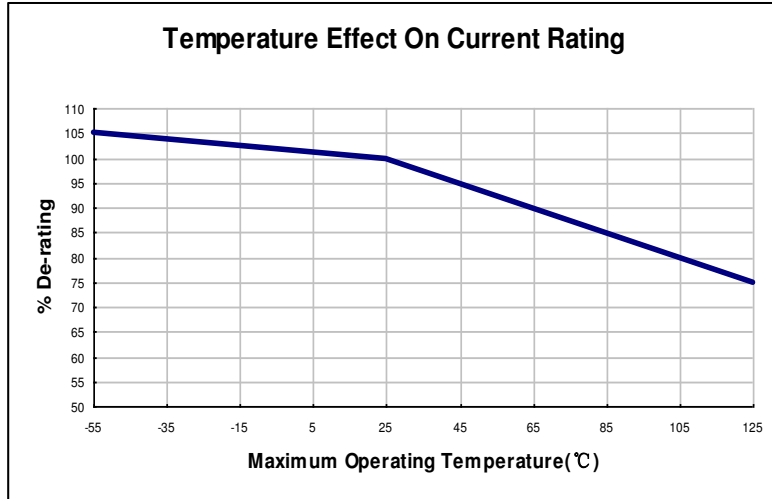
Product Characteristics for 2410 Devices

| Reliability Test | Test Condition and Requirement |
|---------------------------|---|
| Reflow & Bend | 3 reflows at 245°C followed by a 2 mm bend, 20% DCR change max. (10% for ≤1A), no mechanical damage |
| Solderability | 245°C, 5 seconds, new solder coverage 90% minimum |
| Soldering Heat Resistance | 260°C (according to MIL-STD-202, Method 210, Test condition B) |
| Life | 25°C, 2000 hours, 80% rated current (75% for <1A), voltage drop change ≤±20% |
| Thermal Shock | -65°C to +125°C, 100 cycles, 10% DCR change max., no mechanical damage |
| Mechanical Vibration | 5 – 3000 Hz, 0.4 inch double amplitude or 30 G peak, 10% DCR change max., no mechanical damage |
| Mechanical Shock | 1500 G, 0.5 milliseconds, half-sine shocks, 10% DCR change max., no mechanical damage |
| Salt Spray | 5% salt solution, 48 hour exposure, 10% DCR change max., no excessive corrosion |
| Moisture Resistance | 10 cycles, 15% DCR change max., no excessive corrosion |

Part Naming for 2410 Devices

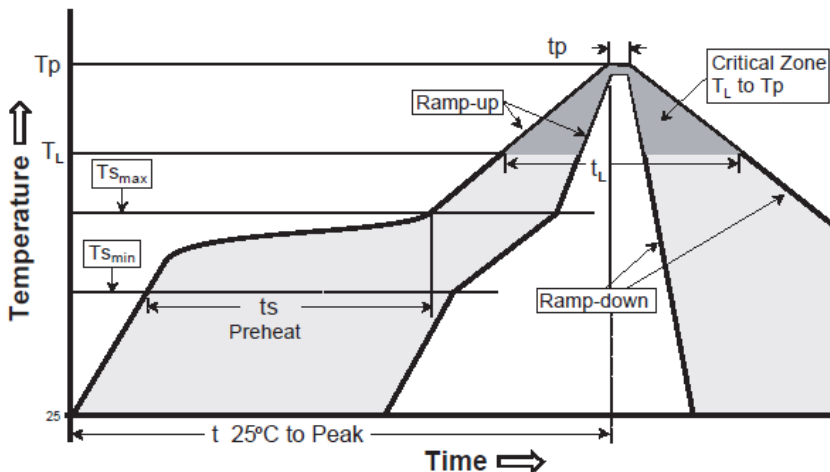


Temperature De-rating Curve for 2410 Devices

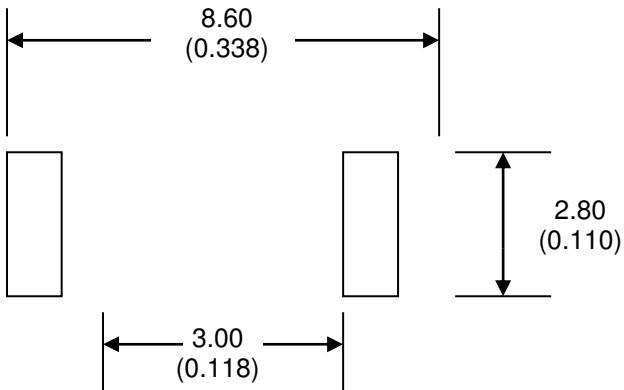


Solder Reflow Recommendation for 2410 Devices

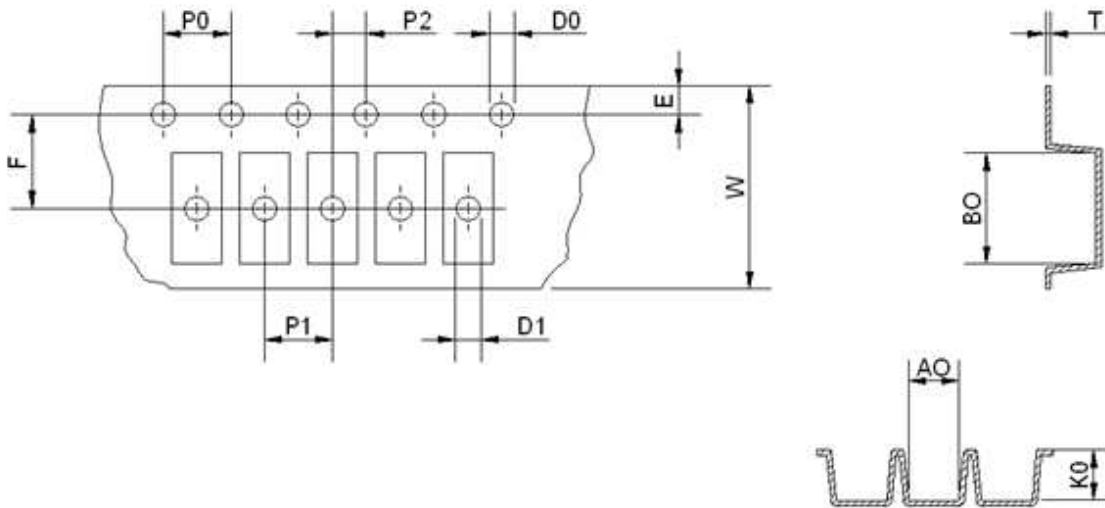
| Profile Feature | |
|---|------------------|
| Average ramp up rate ($T_{S_{MAX}}$ to T_p) | 3°C/second max. |
| Preheat | |
| • Temperature min. (T_{SMIX}) | 150°C |
| • Temperature max. ($T_{S_{MAX}}$) | 200°C |
| • Time ($t_{S_{MIN}}$ to $t_{S_{MAX}}$) 60-180 seconds | 40 – 100 Seconds |
| Time maintained above: | |
| • Temperature (T_L) | 200°C |
| • Time (t_L) | 30 Seconds Min. |
| Peak/Classification temperature (T_p) | 250°C Max. |
| Time within 5°C of actual peak temperature | |
| Time (t_p) | 30 – 40 Seconds |
| From 25°C to preheating (150°C) | 40 – 100 seconds |
| Ramp down rate | Natural Cooling |



Recommended Pad Layout for 2410 Devices mm (inch)



Package Information for 2410 Devices

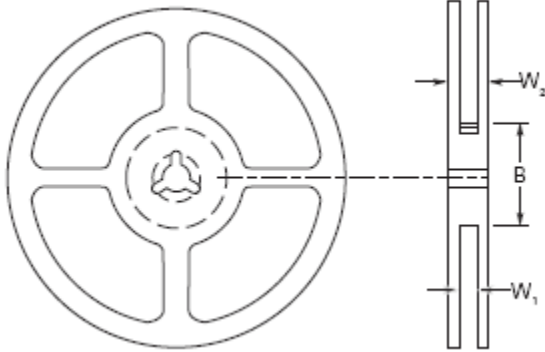


| | E | F | W | P1 | P0 | P2 |
|------|----------------------|---------------|---------------|---------------|---------------|---------------|
| mm | 1.75±0.10 | 5.50±0.10 | 12.00±0.10 | 4.00±0.10 | 4.00±0.10 | 2.00±0.05 |
| (in) | (0.069±0.004) | (0.217±0.004) | (0.472±0.004) | (0.157±0.004) | (0.157±0.004) | (0.079±0.002) |
| | D0 | D1 | T | A0 | B0 | K0 |
| mm | 1.50+0.10/-0.00 | 1.55±0.10 | 0.25±0.05 | 2.85±0.10 | 6.40±0.10 | 2.35±0.10 |
| (in) | (0.059+0.004/-0.000) | (0.61±0.004) | (0.010±0.002) | (0.112±0.004) | (0.252±0.004) | (0.093±0.004) |

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| | B | W ₁ | W ₂ |
|------|--------|----------------|----------------|
| mm | 60.2 | 13.40 | 16 |
| (in) | (2.37) | (0.528) | (0.63) |

Agency Recognition:
Precedence:
Effectivity:

UL E197536, CQC 12012078873, TUV 50269651
This specification takes precedence over documents referenced herein.
Reference documents shall be the issue in effect on the date of invitation for bid.

Materials Information

ROHS Compliant

Directive 2002/95/EC
Compliant

ELV Compliant

Directive 2000/53/EC
Compliant

Pb-Free



Halogen Free*



* Halogen Free refers to: Br≤900ppm, Cl≤900ppm, Br+Cl≤1500ppm