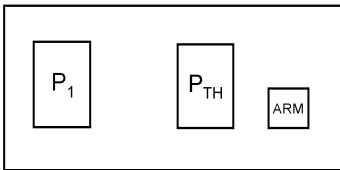


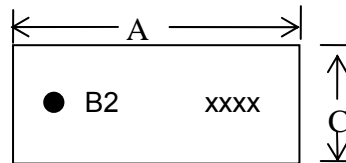
Specification Status: Released

PIN CONFIGURATION AND DESCRIPTION:

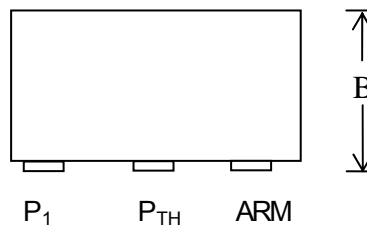
Pin Configuration (Bottom View of Device)



(Top View of Device)



(Side View of Device)



Note:
 B2 is product code
 xxxx is Batch Code
 P1 indicated by imolded mark

TABLE 1. DIMENSIONS:

	A		B		C	
	MIN	MAX	MIN	MAX	MIN	MAX
mm	11.60	12.00	6.00	6.35	5.25	5.50
in:	(0.46)	(0.47)	(0.24)	(0.25)	(0.21)	(0.22)

TABLE 2. ABSOLUTE MAX RATINGS:

Absolute Max Ratings		Max	Units
Max AC Open Voltage (V_r) ¹		250	V_{AC}
Rated Hold Current (I_r) ^{1,2,4}	@ 23+/-3°C	25	A
	@ 105+/-3°C	12	A
Max Interrupt Current (I_b) ^{1,3}	@ 250 V_{AC}	37.5	A
ESD rating (Human Body Model)		25	kV
Dielectric Strength Between Contacts (post operation)		1.0	kV_{AC}
Maximum Reflow Temperature (pre-arming)		260	°C
Holding Temperature Limits (T_h , post arming, non-opening)		-40 +105	°C
Rated Functioning Temperature (T_f)		145	°C
Maximum Temperature Limit (T_m)		210	°C

TABLE 3. PERFORMANCE CHARACTERISTICS (Typical unless otherwise specified):

Resistance and Open Characteristics P ₁ to P _{TH}		Min	Typ	Max	Units
R _{PP} (Resistance from P ₁ to P _{TH})	@ -40+/-3°C		0.6	1.0	mΩ
	@ 23+/-3°C		0.7	1.1	
	@ 105+/-3°C		0.9	1.2	
Operating Voltage			250		V _{AC}
Open Temperature, post-arming	I _{PP} = 0	135	140	145	°C
Thermal Resistance: Junction to Case	Case = P _{TH} pad		0.5		°C/W
Moisture Sensitivity Level Rating ⁵			1		

TABLE 4. ARMING CHARACTERISTICS:

Arming Characteristics ARM		Min	Typ	Max	Units
Arming Type		Electronically Armed			
R _{ARM} (Resistance from ARM to P ₁ or P _{TH})	Pre-Arming		300		mΩ
	Post-Arming	10			kΩ
Arming Current (I _{ARM}) ⁴	@ 23 +/-3°C	2		5	A
Arming Time (@23 +/-3°C) ⁴	@ 2A		0.10		Sec
	@ 5A		0.01		

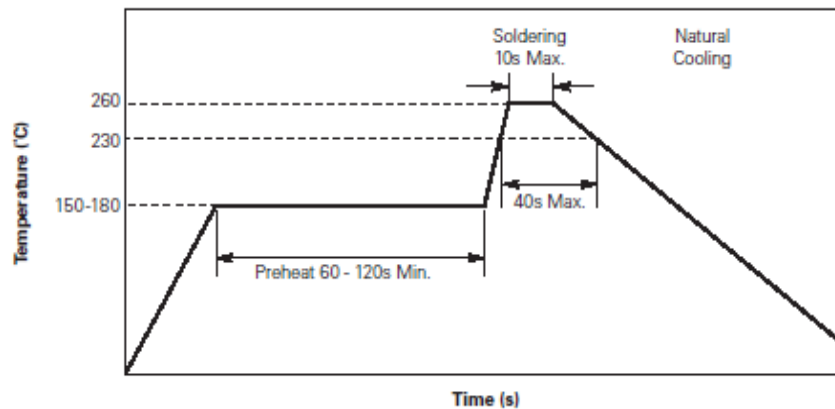
- Performance capability at these conditions can be influenced by board design. Performance should be verified in the user's system.
- Hold Current ratings apply to Power Factors of 1.0 and 0.6.
- Interrupt Current ratings apply to a Power Factor of 1.0.
- Results obtained on 44.4mm x 57.2mm x 1.6mm single layer FR4 boards with 2oz Cu traces, a 108 sq. mm, 2oz Cu heat spreader connected to the P_{TH} pad, and a 131 sq. mm Cu heat spreader connected to the P₁ pad of the RTP device. Results are highly installation-dependent. Users should confirm for their own applications.
- As per JEDEC J-STD-020C

SOLDER REFLOW RECOMMENDATION:

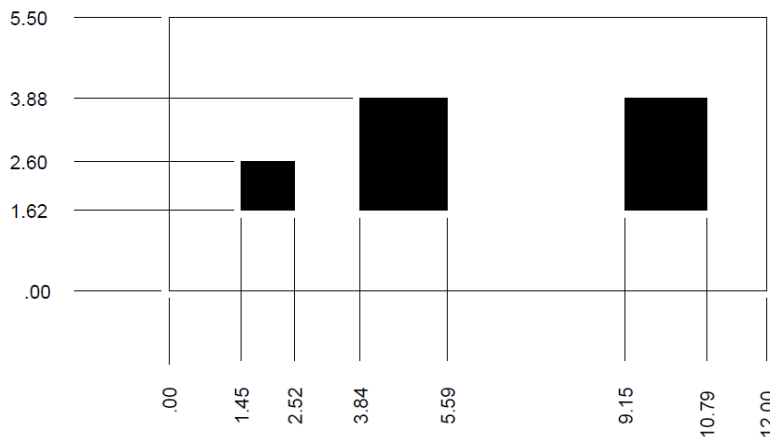
Classification Reflow Profiles

Profile Feature	Pb-Free Assembly
Average ramp up rate ($T_{S_{MAX}}$ to T_p)	3°C/second max.
Preheat	
• Temperature min. ($T_{S_{MIN}}$)	150°C
• Temperature max. ($T_{S_{MAX}}$)	200°C
• Time ($t_{S_{MIN}}$ to $t_{S_{MAX}}$)	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	
Time (t_p)	20-40 seconds
Ramp down rate	6°C/second max.
Time 25°C to peak temperature	8 minutes max.

Note: All temperatures refer to topside of the package, measured on the package body surface.



RECOMMENDED PAD LAYOUT (mm):



308 Constitution Drive
 Menlo Park, CA USA
 www.circuitprotection.com

ARMING INSTRUCTIONS:

Electronic arming must be performed after reflow of the RTP device.

The device is armed by sending a specified arming current through the ARM pin of the device. Arming is a time and current dependent event. Typical arming times vs. current are provided in the "Arming Characteristics" section of this document. Current can flow in either direction through the ARM pin.

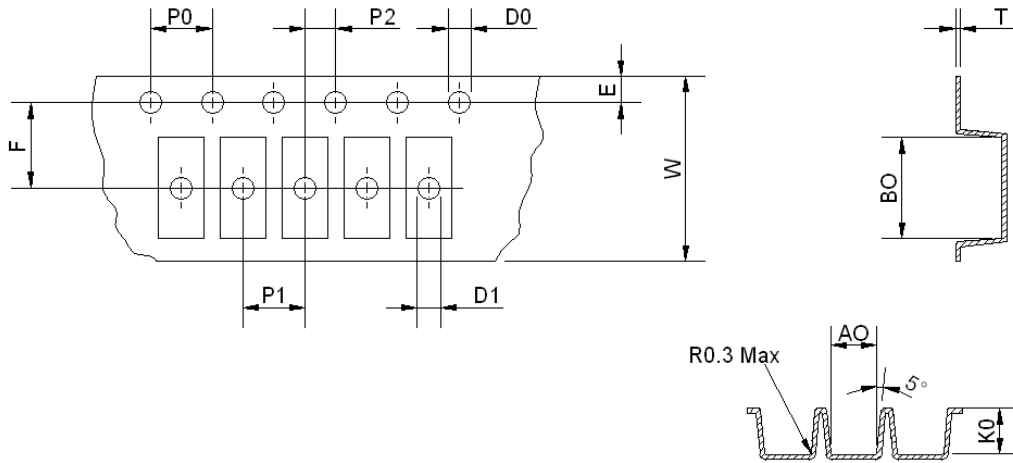
Prior to arming, R_{ARM} should have resistance levels as specified in the "Arming Characteristics" section of this document. Once armed, the ARM pin will be electrically open relative to the P1 or PTH pins.

Arming has been successful once R_{ARM} exceeds the post-arming minimum resistance specified in the "Arming Characteristics" section. RTP devices must be armed individually and cannot be armed simultaneously in series.

ADDITIONAL INSTRUCTIONS:

1. To avoid possible damage to the RTP device; TE Circuit Protection should be contacted when the end-use application involves sealing in of the device or the use of cleaning solvents.
2. The RTP device is a non-repairable item. In case of replacement, an RTP device with the same part number must be used, and mounted in the exact same configuration.

PACKAGE INFORMATION:



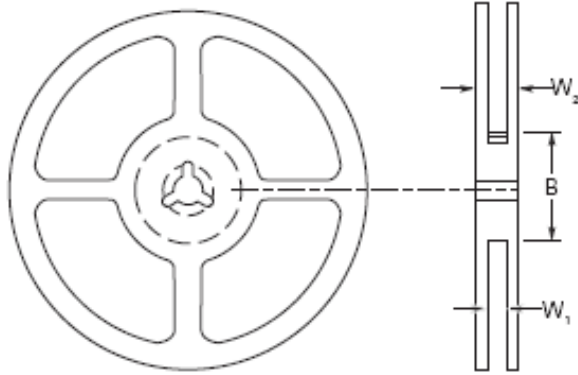
	E	F	W	P1	P0	P2
mm	1.75±0.10	11.50±0.10	24.00±0.30	12.00±0.10	4.00±0.10	2.00±0.10
(in)	(0.069±0.004)	(0.453±0.004)	(0.945±0.012)	(0.472±0.004)	(0.157±0.004)	(0.079±0.004)
	D0	D1	T	A0	BO	K0
mm	1.50+0.10/-0.00	1.50±0.10	0.46±0.046	5.70±0.18	12.40±0.18	6.50±0.18
(in)	(0.059+0.004/-0.000)	(0.059±0.004)	(0.018±0.002)	(0.224±0.007)	(0.488±0.007)	(0.256±0.007)

Reflowable Thermal Protection Device

PRODUCT: RTP140R060S

DOCUMENT: SCD28140
 REV LETTER: B
 REV DATE: SEPTEMBER 13, 2012
 PAGE NO.: 5 OF 5

308 Constitution Drive
 Menlo Park, CA USA
 www.circuitprotection.com



	B	W ₁	W ₂ Max
mm	102.0 ± 2.0	24	29
(in)	(4.0 ± 0.079)	(0.945)	(1.14)

Agency Recognitions: UL Recognized File # E348213
 Precedence: This specification takes precedence over documents referenced herein.
 Effectivity: 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.

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