

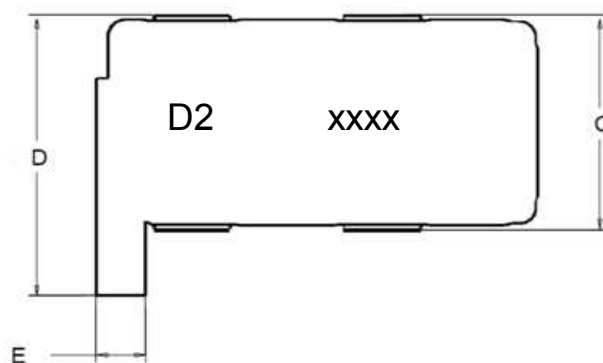
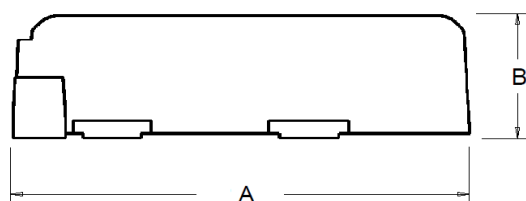
High Current Reflowable Thermal Protection Device

PRODUCT: RTP200HR010SA

DOCUMENT: SCD28246
REV LETTER: B
REV DATE: JANUARY 16, 2014
PAGE NO.: 1 OF 5

Specification Status: Released

PIN CONFIGURATION AND DESCRIPTION:



**Note: D2 is product code
xxxx is Batch code**

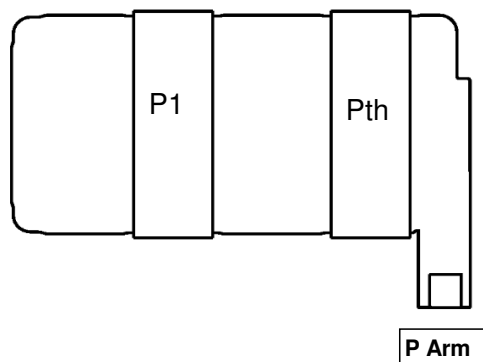


TABLE 1. DIMENSIONS:

	A		B		C		D		E	
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
mm	11.35	11.85	3.00	3.70	5.70	6.40	7.90	8.40	1.30	1.60
in:	(0.447)	(0.467)	(0.118)	(0.146)	(0.224)	(0.252)	(0.311)	(0.331)	(0.051)	(0.063)

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TABLE 2. ABSOLUTE MAX RATINGS:

Absolute Max Ratings	Max	Units	Conditions
Max DC Open Voltage ¹	16	V _{DC}	
Max DC Interrupt Current ¹	500	A	@ 16 VDC
ESD rating (Human Body Model)	25	KV	
Max Reflow Temperature (pre-arming)	260	°C	
Operating temperature limits, Junction (Pth) and Storage Temperature	-55 150	°C	
	175	°C	10A, 100 h

1. Performance capability at these conditions can be influenced by board design. Performance should be verified in the user's system.

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})	@ 23+/-3°C @ 150+/-3°C		100 150	150 250	μΩ
Operating Voltage			16		V _{DC}
Open Temperature, post-arming	I _{PP} = 0	202	210	218	°C
Installation dependent Operating Current, post-arming ²	@ 23+/-3°C @ 140+/-3°C	90 45			A
Moisture Sensitivity Level Rating ³			1		

2. Results obtained on 44.4mm x 57.2mm x 1.6mm of 2-sided FR4 board T4350 with 4.0 oz Copper trace.
RTP device pad connection of:
 - 283 sq. mm 4.0 oz copper heat spreader connected to I P1 pad.
 - 237 sq. mm 4.0 oz copper heat spreader connected to I PTH pad.
 Results are highly installation-dependent. Users should confirm for their own applications.
3. As per JEDEC J-STD-020C

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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		500		mΩ
	Post-Arming	10			KΩ
Arming Current (I _{ARM}) ⁴	@ 23 +/-3°C	2		5	A
Arming Time (@23 +/-3°C) ⁴	@ 2A		0.020		Sec
	@ 5A		0.005		

4. Results obtained on 44.4mm x 57.2mm x 1.6mm of 2-sided FR4 board T4350 with 4.0 oz Copper trace.

RTP device pad connection of:

- 283 sq. mm 4.0 oz copper heat spreader connected to I P₁ pad.
- 237 sq. mm 4.0 oz copper heat spreader connected to I P_{TH} pad.

Solder Reflow Recommendation:

Classification Reflow Profiles

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

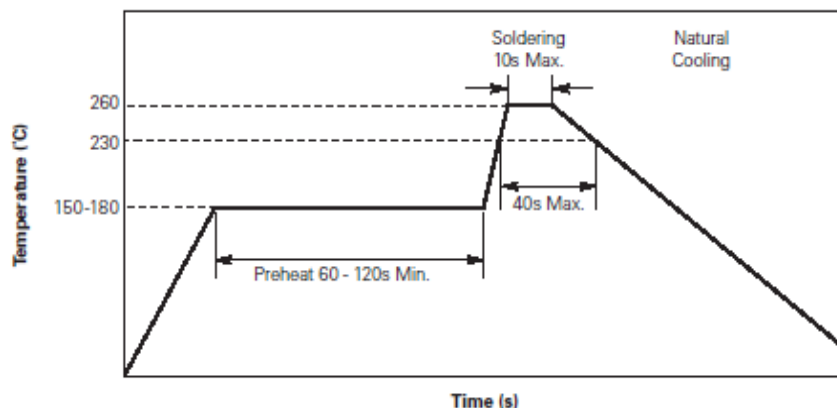
Time within 5°C of actual peak temperature

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.



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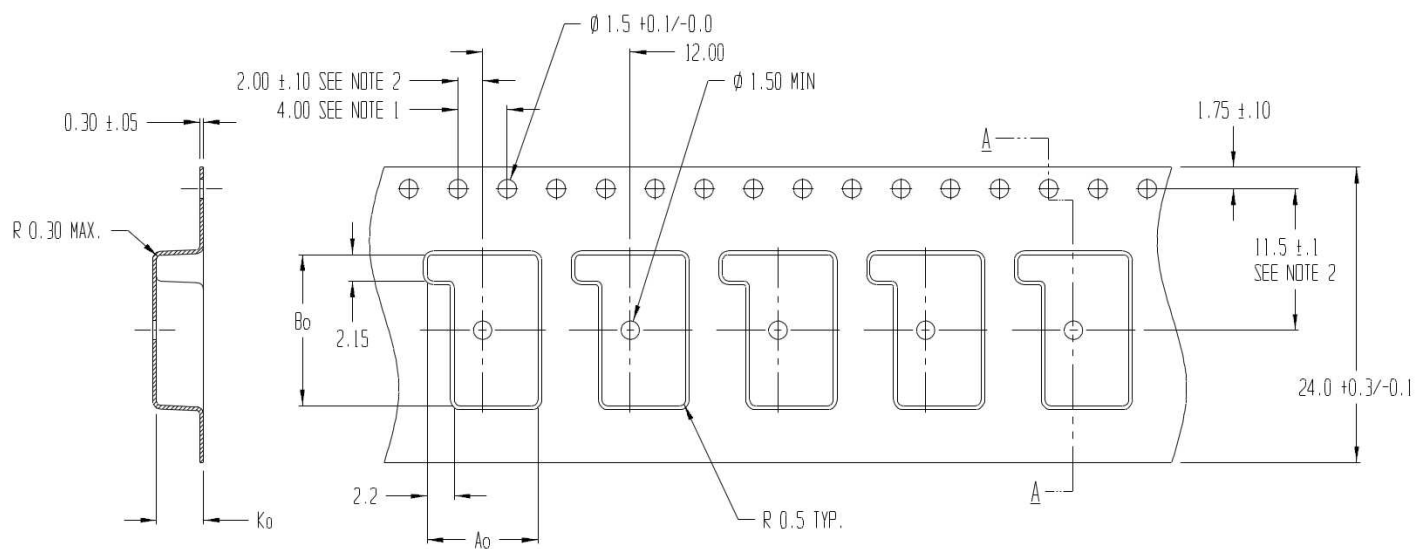
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Recommended Pad Layout (dimensions in mm):



Package Information (dimensions are in mm):



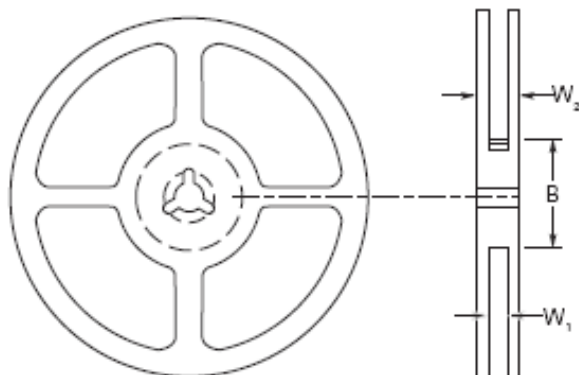
SECTION A - A

$A_0 = 9.00$
 $B_0 = 12.30$
 $K_0 = 3.80$

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

Precedence:
Effectivity:

This specification takes precedence over documents referenced herein.
Reference documents shall be the issue in effect on the date of invitation for bid.

Important Installation Instructions:

Note 1: RTP200HR010SA devices are to be board-mounted using only solder pastes referenced in Engineering Report: Q40213
Note 2: RTP200HR010SA devices are not compatible with conformal coating. If selective coatings are used, avoid covering the RTP200HR010SA device.

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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