

Reflowable Thermal Protection Device

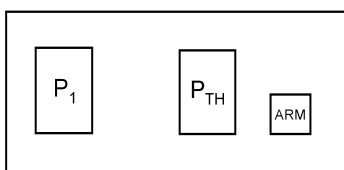
PRODUCT: RTP200R060SA

DOCUMENT: SCD28104
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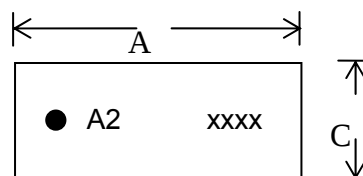
Specification Status: Released

PIN CONFIGURATION AND DESCRIPTION:

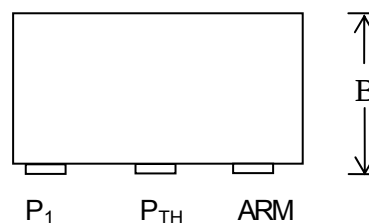
Pin Configuration (Bottom View of Device)



(Top View of Device)



(Side View of Device)



Note:

A2 is product code

xxxx is Batch Code

P1 indicated by inmolded 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 DC Open Voltage ¹		32	V _{DC}
Max DC Interrupt Current ¹	@ 16 V _{DC}	200	A
	@ 24 V _{DC}	130	
	@ 32 V _{DC}	100	
ESD rating (Human Body Model)		25	KV
Max Reflow Temperature (pre-arming)		260	°C
Operating temperature limits, post-arming, non-opening		-55 +175	°C

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

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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		0.6	0.8	mΩ
	@ 175+/-3°C		0.8	1.2	
Operating Voltage			32		V _{DC}
Open Temperature, post-arming	I _{PP} = 0	196	205	213	°C
Thermal Resistance: Junction to Case	Case = P _{TH} pad		0.5		°C/W
Installation dependent Operating Current, post-arming ^{2,3}	@ 23+/-3°C	32	34		A
	@ 100+/-3°C	27	28		
	@ 175+/-3°C		10		
Moisture Sensitivity Level Rating ⁴			1		

- Results obtained on 44.4mm x 57.2mm x 1.6mm single layer FR4 boards with 2oz Cu traces, a 645 sq. mm, 2oz Cu heat spreader connected to the P_{TH} pad, and a 387 sq. mm Cu heat spreader connected to the P₁ pad of the RTP device. (See RTP test board drawing in the RTP Datasheet). Results are highly installation-dependent. Users should confirm for their own applications.
- Operating current is measured on the RTP test board (see the RTP Datasheet) at the specified temperature. It is a highly installation dependent value. Users should confirm for their own applications.
- As per JEDEC J-STD-020C

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}) ⁵	@ 23 +/-3°C	2		5	A
Arming Time (@23 +/-3°C) ⁵	@ 2A		0.10		Sec
	@ 5A		0.01		

- Results obtained on 44.4mm x 57.2mm x 1.6mm single layer FR4 boards with 2oz, Cu traces, a 645 sq. mm 2oz Cu heat spreader connected to the P_{TH} pad, and a 387 sq. mm Cu heat spreader connected to the P₁ pad of the RTP device. (See RTP test board drawing in the RTP Datasheet.) Results are highly installation dependent. Users should confirm for their own applications.

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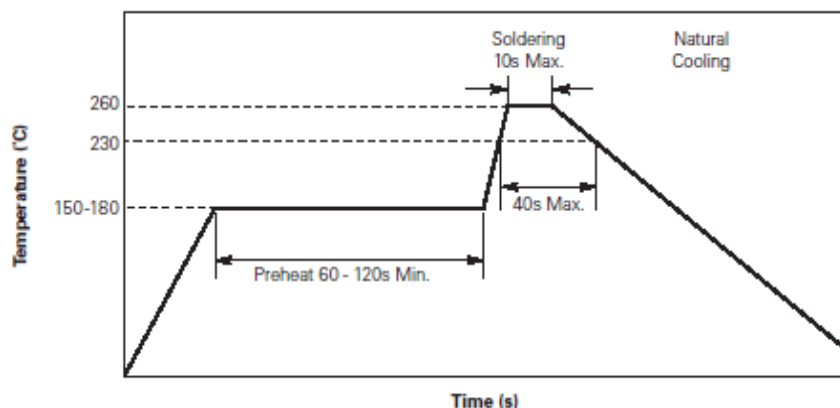
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Solder Reflow Recommendation:

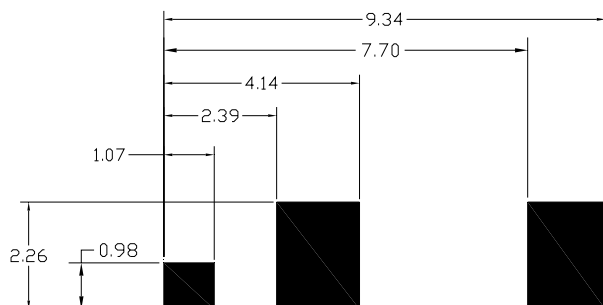
Classification Reflow Profiles

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

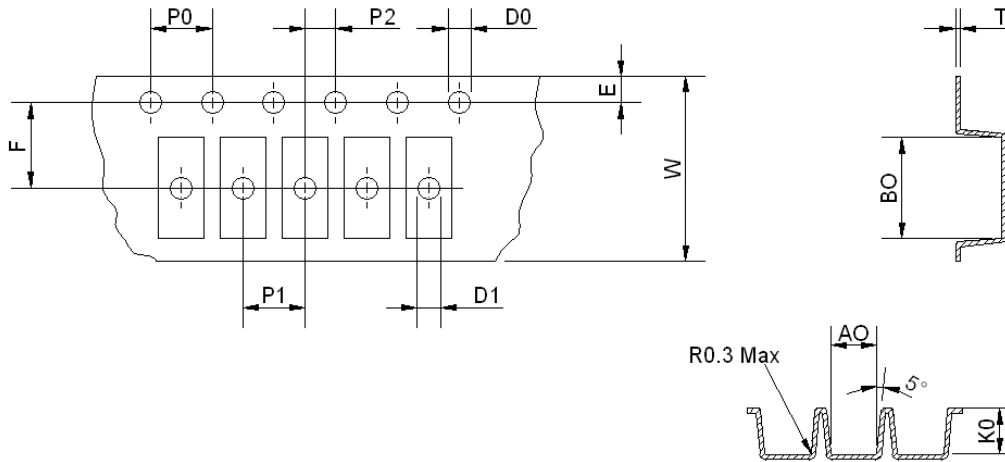


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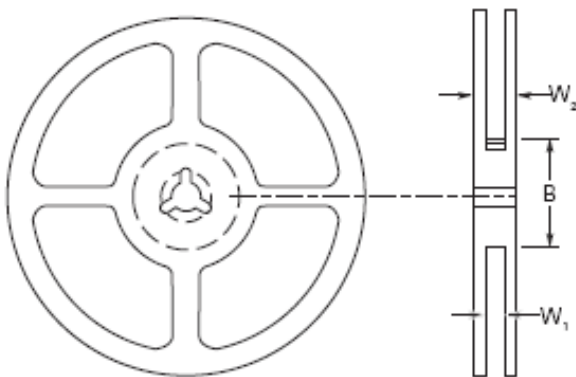
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Package Information:



	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	B0	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)



	B	W1	W2 Max
mm	102.0 ± 2.0	24	29
(inch)	(4.0 ± 0.079)	(0.945)	(1.14)

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PAGE NO.: 5 OF 5Precedence:
Effectivity: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 CompliantDirective 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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