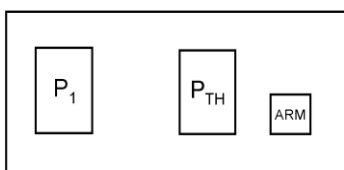


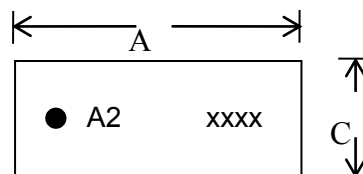
## Specification Status: Released

### PIN CONFIGURATION AND DESCRIPTION:

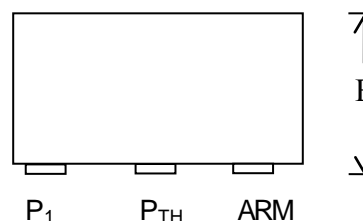
#### Pin Configuration (Bottom View of Device)



#### (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 <sup>1</sup>		32	V <sub>DC</sub>
Max DC Interrupt Current <sup>1</sup>	@ 16 V <sub>DC</sub>	200	A
	@ 24 V <sub>DC</sub>	130	
	@ 32 V <sub>DC</sub>	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.

## Reflowable Thermal Protection Device

**PRODUCT: RTP200R060SA**

DOCUMENT: SCD28104  
REV LETTER: E  
REV DATE: OCTOBER 30, 2013  
PAGE NO.: 2 OF 5

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

Resistance and Open Characteristics P <sub>1</sub> to P <sub>TH</sub>		Min	Typ	Max	Units
R <sub>PP</sub> (Resistance from P <sub>1</sub> to P <sub>TH</sub> )	@ 23+/-3°C		0.6	0.8	mΩ
	@ 175+/-3°C		0.8	1.2	
Operating Voltage			32		V <sub>DC</sub>
Open Temperature, post-arming	I <sub>PP</sub> = 0	196	205	213	°C
Thermal Resistance: Junction to Case	Case = P <sub>TH</sub> pad		0.5		°C/W
Installation dependent Operating Current, post-arming <sup>2,3</sup>	@ 23+/-3°C	32	34		A
	@ 100+/-3°C	27	28		
	@ 175+/-3°C		10		
Moisture Sensitivity Level Rating <sup>4</sup>			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<sub>TH</sub> pad, and a 387 sq. mm Cu heat spreader connected to the P<sub>1</sub> 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 <sub>ARM</sub> (Resistance from ARM to P <sub>1</sub> or P <sub>TH</sub> )	Pre-Arming		300		mΩ
	Post-Arming	10			KΩ
Arming Current (I <sub>ARM</sub> ) <sup>5</sup>	@ 23 +/-3°C	2		5	A
Arming Time (@23 +/-3°C) <sup>5</sup>	@ 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<sub>TH</sub> pad, and a 387 sq. mm Cu heat spreader connected to the P<sub>1</sub> 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.

## Reflowable Thermal Protection Device

**PRODUCT: RTP200R060SA**

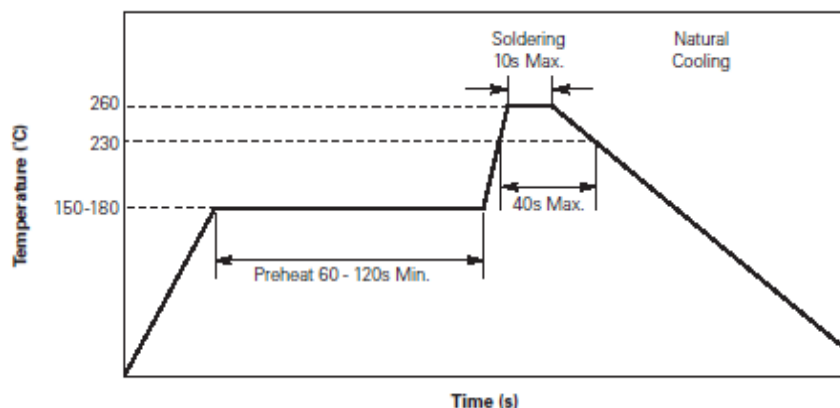
DOCUMENT: SCD28104  
REV LETTER: E  
REV DATE: OCTOBER 30, 2013  
PAGE NO.: 3 OF 5

### Solder Reflow Recommendation:

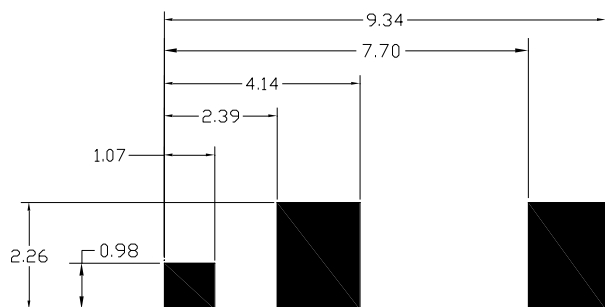
#### Classification Reflow Profiles

Profile Feature	Pb-Free Assembly
Average ramp up rate ( $T_{s\_MAX}$ to $T_p$ )	3°C/second max.
<b>Preheat</b>	
• 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
<b>Time maintained above:</b>	
• Temperature ( $T_L$ )	217°C
• Time ( $t_L$ )	60-150 seconds
Peak/Classification temperature ( $T_p$ )	260°C
<b>Time within 5°C of actual peak temperature</b>	
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

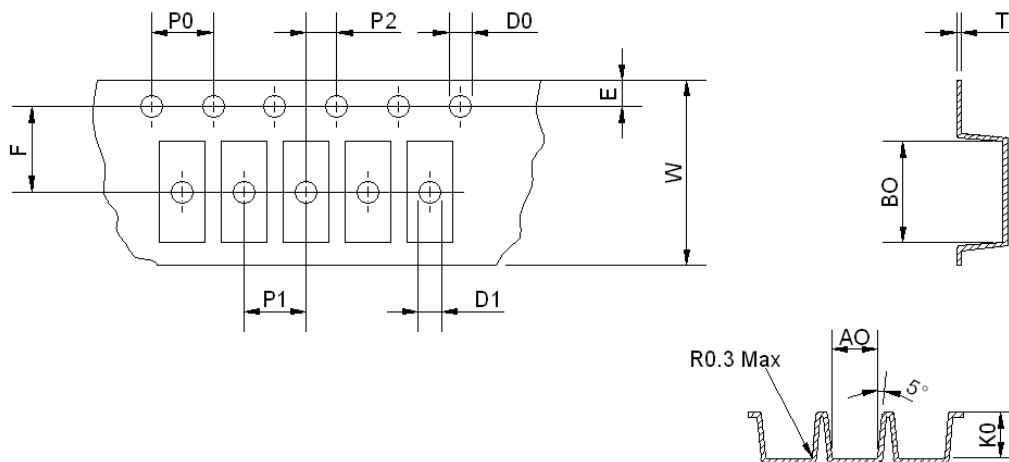


## Reflowable Thermal Protection Device

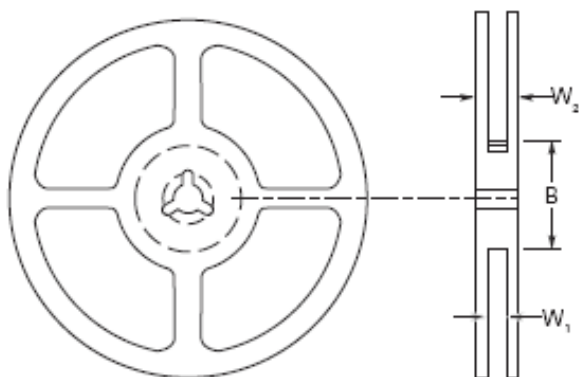
**PRODUCT: RTP200R060SA**

DOCUMENT: SCD28104  
REV LETTER: E  
REV DATE: OCTOBER 30, 2013  
PAGE NO.: 4 OF 5

### 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)

## Reflowable Thermal Protection Device

**PRODUCT: RTP200R060SA**DOCUMENT: SCD28104  
REV LETTER: E  
REV DATE: OCTOBER 30, 2013  
PAGE NO.: 5 OF 5

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.

### ***Important Installation Instructions:***

RTP200R060SA devices are compatible with some, but not all, conformal coating materials and processes. Avoid significant intrusion of coating inside the device enclosure. Where conformal coating is required, selective coating may be used to avoid covering the RTP device. All devices should be coated and tested using the customer's production equipment to verify minimal coating intrusion and appropriate performance

## **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.

Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Tyco Electronics Corporation and its affiliates in the TE Connectivity Ltd. group of companies ("TE") reserves the right to change or update, without notice, any information contained in this publication; to change, without notice, the design, construction, processing, or specification of any product; and to discontinue or limit production or distribution of any product. This publication supersedes and replaces all information previously supplied. Without expressed or written consent by an officer of TE, TE does not authorize the use of any of its products as components in nuclear facility applications, aerospace, or in critical life support devices or systems. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. TE's only obligations are those in the TE Standard Terms and Conditions of Sale and in no case will TE be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of its products.

© 2011, 2013 Tyco Electronics Corporation, a TE Connectivity Ltd. company. All rights reserved.