



PRODUCT DISCONTINUANCE NOTIFICATION

EOL-000205

Date: 20AUG2018

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<input checked="" type="checkbox"/>	Semtech Corporation, 200 Flynn Road, Camarillo CA 93012
<input type="checkbox"/>	Semtech Canada Corporation, 4281 Harvester Road, Burlington, Ontario L7L 5M4 Canada
<input type="checkbox"/>	Semtech Irvine, 5141 California Ave., Suite 100, Irvine CA 92617
<input type="checkbox"/>	Semtech Neuchatel Sarl, Route des Gouttes d'Or 40, CH-2000 Neuchatel Switzerland
<input type="checkbox"/>	Semtech Bristol, Nanotech Semiconductor, 2 West Point Court, Bristol, United Kingdom, BS32 4PY
<input type="checkbox"/>	Semtech Corpus Christi SA de CV, Carretera Matamorros Edificio 7, Reynosa, Tamaulipas, Mexico 88780
<input type="checkbox"/>	Semtech Plano, 1101 Resource Drive, Suite 121, Plano TX 75074
<input type="checkbox"/>	

Product Discontinuance Details

Purpose, Description and Effect of Change:

This notification is to inform your company that Semtech is discontinuing the manufacture of the products listed below. In accordance with Semtech's product discontinuation policy, we are hereby giving notice of these product changes in order for your company to make any final lifetime purchases of the discontinued product that are still in supply.

Part Number(s) Affected:
RCLAMP5011T.TNT

Customer Part Number(s) Affected: N/A

Replacement or Alternate Part Number(s)
RCLAMP5031T.TNT

N/A or Not Offered

Last Time Buy (LTB) Date	16FEB2019	Must Accept Final Delivery by	20AUG2019
Sample Availability of Alt. Part	<input checked="" type="checkbox"/> N/A	Qualification Report Availability of Alt. Part	<input checked="" type="checkbox"/> N/A

Supporting Documents for Alternate or Replacement parts/Attachments:

- Final Reliability Report – RCLAMP5031T
- Datasheet – RCLAMP5031T

Last Time Buy Conditions

We request you carefully review this information and notify your purchasing offices and buyers to place your company's final purchases for available discontinued products as soon as possible according to the following last time buy terms and conditions.

- 1. Availability:** The **Last Time Buy Date** and **Date to Accept Final Delivery** are noted above. All orders must have a **requested ship date before the Date to Accept Final Delivery** or the order will be rejected. **The Last Time Buy Date automatically expires when the final available inventory quantity has been scheduled and sold.**
- 2. Pricing:** The product unit price will be subject to Semtech's individual price quotation of your company's last time buy requirements.
- 3. Order Acceptance/Change Conditions:**
 - A. Semtech will accept last time orders from your company for the discontinued products as "Firm and Final".** As such, these orders will not be subject to any reschedule, cancellation, or



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termination by your company without Semtech's prior written authorization and payment of full termination charges.

- B. Semtech reserves its right to make changes in the scheduled delivery dates, or to terminate remaining undelivered quantities of your company's last time buy order, due to changes in Semtech's last time manufacturing capabilities, or for commercially impracticable circumstances which makes delivery not feasible.

- 4. **Quantities:** The following applies to final buy quantities for the available discontinued product:
 - A. **First:** The quantities in any existing unfilled orders and contracts acknowledged by Semtech will be honored, then
 - B. **Next:** The unfilled quantities in any volume agreement(s) or quantities in unexpired standalone quote(s) will be accepted, and
 - C. **Finally:** Any additional reasonable quantity of product that Semtech quotes based upon your company's identified requirements will be taken.

IN THE EVENT OF CONFLICT FOR THE LIMITED AVAILABILITY PRODUCT, QUANTITIES FOR CUSTOMER'S OR DISTRIBUTOR'S ORDERS WILL BE DETERMINED ON A FIRST-COME FIRST-SERVE BASIS; AND WILL BE SUBJECT TO SEMTECH'S AVAILABLE INVENTORY AND REMAINING MANUFACTURING CAPACITY FOR THE PRODUCT.

Limited Warranty

All discontinued product orders subject to this notice shall carry Semtech's standard limited warranty; or, if applicable, the warranty set forth in a duly executed formal contract between Semtech and your company will apply; except that:

- 1. Semtech will accept all valid warranty claims for credit only, unless a replacement order is otherwise agreed upon by Semtech and the replacement parts can be manufactured or delivered from remaining inventory.
- 2. The applicable warranty period for making any return claims for discontinued products will be no later than ninety (90) days following delivery of the discontinued products.
- 3. Any return claims must be made under Semtech's current Return Material Authorization "RMA" procedures.

Additional Provisions

SEMTECH ACCEPTS NO LIABILITY FOR EXCESS REPROCUREMENT COSTS OR FOR ANY SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES WHATSOEVER ASSOCIATED WITH THIS NOTICE, WITH ITS PRODUCTS, OR WITH THE FINAL MANUFACTURE AND PERFORMANCE AGAINST ANY LAST TIME BUY ORDERS RELATED TO THE DISCONTINUED PRODUCTS COVERED BY THIS NOTICE.

We regret the inconvenience and impact this notice may cause your company. Semtech's sales, marketing, and distribution personnel stand ready to assist you in placing your company's final orders, or in providing the product information you require.

For product inquiries or purchase order information, please contact your local Semtech sales representative.

Issuing Authority




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Semtech Business Unit:	Protection	
Semtech Contact Info:	Les Fang Yuen Semtech Corporation Qualit Assurance 200 Flynn Road Camarillo, CA 93012 Psanchez@semtech.com Office: (949) 269-4443 Fax: (805) 498-3804	
FOR FURTHER INFORMATION & WORLDWIDE SALES COVERAGE: http://www.semtech.com/contact/index.html#support		

Rel Job Detail Report

by Sublot, by Sequence
 Contact: Gurmail Sajjan
 (805) 480 2142
 gsajjan@semtech.com

<i>Businessunit</i>	<i>Protection</i>			
<i>Reljob#</i>	<i>Part_Number, Job Name/Type</i>	<i>Fab, Package</i>	<i>Rel Job Status</i>	<i>Key Dates:</i>
5939	RClamp5031T	Tower	Rel Testing Complete Passes All Requirements	<i>Job Accepted:</i> 23-Jan-2015
	New Device Qual	SLP0806P2T		<i>Requested CD:</i>
	New Product on qualified process and qualified package			<i>Actual Start Date:</i> 23-Jan-2015
				<i>ECD for Conditional:</i>
				<i>Job ECD:</i> 25-Mar-2015

Completed Tasks

<i>I.O</i>	<i>Lot</i>	<i>AssemblyLot</i>	<i>DateCode</i>				
	AER2239	AER2239	1504				
<i>Seq</i>	<i>TaskCode</i>	<i>SampleSize</i>	<i>Criteria</i>	<i>Complete</i>	<i>Failures</i>	<i>DataSource</i>	<i>Results/Comments</i>
1	Data-Prep	None	None	25-Feb-2015		Camarillo	
2	HTRB_Pre_Elect_150°C_RT24	210	Pass on Zero Fails	04-Mar-2015	0	Camarillo	
3	HTRB_150°C_Real Time_0024	210	Pass on Zero Fails	05-Mar-2015	0	Camarillo	
4	HTRB_Pre_Elect	105	Pass on Zero Fails	04-Mar-2015	0	Camarillo	
5	HTRB_150°C_0072	105	Pass on Zero Fails	09-Mar-2015	0	Camarillo	
6	HTRB_150°C_0408	105	Pass on Zero Fails	23-Mar-2015	0	Camarillo	
7	85/85_Pre Elec	20	Pass on Zero Fails	04-Mar-2015	0	Camarillo	
8	85/85_120hr_On/Off	20	Pass on Zero Fails	09-Mar-2015	0	Camarillo	
9	CSAM Analysis	22	Pass on Zero Fails	17-Mar-2015	0	Camarillo	
10	IR_Reflow_Char	22	Pass on Zero Fails	17-Mar-2015	0	Camarillo	
11	CSAM Analysis	22	Pass on Zero Fails	18-Mar-2015	0	Camarillo	
12	Pack_Clos	0	0	24-Mar-2015		Camarillo	

PROTECTION PRODUCTS - RailClamp[®]
Description

RClamp[®] TVS diodes are ultra low capacitance devices designed to protect sensitive electronics from damage or latch-up due to ESD, EFT, and EOS. They are designed for use on high speed ports in applications such as cell phones, notebook computers, and other portable electronics. These devices offer desirable characteristics for board level protection including fast response time, low operating and clamping voltage, and no device degradation.

RClamp5031T feature extremely good ESD protection characteristics highlighted by low typical dynamic resistance of 0.25 Ohms, low peak ESD clamping voltage, and high ESD withstand voltage (+/-15kV contact per IEC 61000-4-2). Low maximum capacitance (0.45pF at VR=0V) minimizes loading on sensitive circuits. Each device will protect one high-speed data line operating at 5 Volts.

RClamp5031T is in a 2-pin SLP0806P2T package measuring 0.8 x 0.6 x 0.4mm. Leads are finished with lead-free NiPdAu. The combination of working voltage, low dynamic resistance, and low capacitance makes these devices ideal for use in applications such as HDMI, MHL, and USB 3.0.

Features

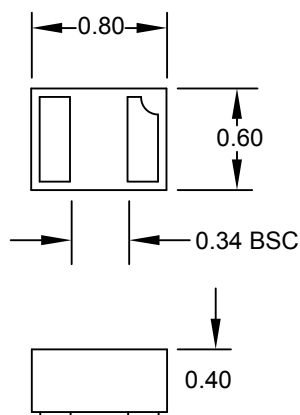
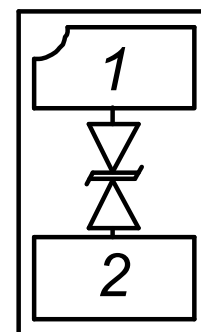
- ◆ Transient protection to
IEC 61000-4-2 (ESD) 18kV (air), 15kV (contact)
IEC 61000-4-4 (EFT) 40A (5/50ns)
IEC 61000-4-5 (Lightning) 3A (8/20µs)
- ◆ Protects one high-speed data line
- ◆ Low capacitance: 0.45pF maximum
- ◆ Operating Voltage: 5V
- ◆ Low dynamic resistance: 0.25 Ohms (Typ)
- ◆ Low ESD clamping voltage
- ◆ Low leakage current
- ◆ Solid-state silicon-avalanche technology

Mechanical Characteristics

- ◆ SLP0806P2T package
- ◆ Pb-Free, Halogen Free, RoHS/WEEE Compliant
- ◆ Lead Finish: NiPdAu
- ◆ Molding compound flammability rating: UL 94V-0
- ◆ Marking : Marking code
- ◆ Packaging : Tape and Reel

Applications

- ◆ HDMI 1.4
- ◆ MHL
- ◆ USB 3.0
- ◆ MiPi / MDDI
- ◆ FM Antenna

Nominal Dimensions

Functional Schematic


PROTECTION PRODUCTS

Absolute Maximum Ratings

Rating	Symbol	Value	Units
Peak Pulse Current ($t_p = 8/20\mu s$)	I_{PP}	3	A
ESD per IEC 61000-4-2 (Air) ¹	V_{ESD}	18	kV
ESD per IEC 61000-4-2 (Contact) ¹		15	
Operating Temperature	T_J	-40 to +85	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Characteristics (T=25°C unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}	T = -40 to +85°C			5	V
Breakdown Voltage	V_{BR}	$I_{BR} = 10mA$	6.5	9.5	10.5	V
Holding Current	I_H			50		mA
Reverse Leakage Current	I_R	$V_{RWM} = 5V$		<5	100	nA
Clamping Voltage	V_C	$I_{PP} = 3A, t_p = 8/20\mu s$			10	V
ESD Clamping Voltage ²	V_C	$I_{PP} = 4A$ $t_p = 0.2/100ns$		5.5		V
ESD Clamping Voltage ²	V_C	$I_{PP} = 16A$ $t_p = 0.2/100ns$		8.5		V
Dynamic Resistance ^{2,3}	R_{DYN}	$t_p = 0.2/100ns$		0.25		Ohms
Junction Capacitance	C_J	VR = 0V; f = 1MHz		0.35	0.45	pF

Notes

1) Measured with a 20dB attenuator, 50 Ohm scope input impedance, 2GHz bandwidth. ESD gun return path connected to ESD ground plane.

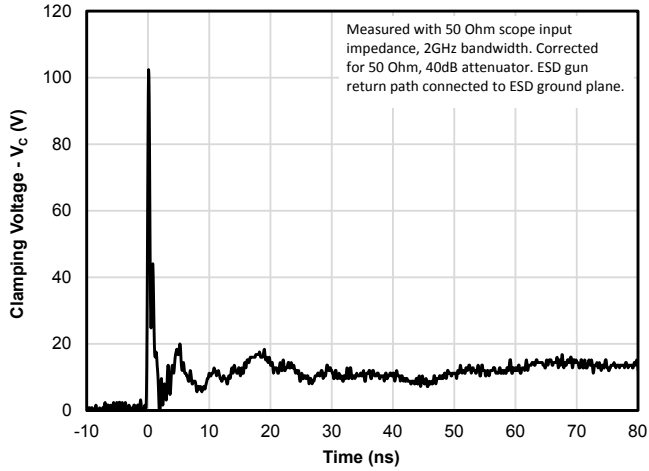
2) Transmission Line Pulse Test (TLP) Settings: $t_p = 100ns$, $t_r = 0.2ns$, I_{TLP} and V_{TLP} averaging window: $t_1 = 70ns$ to $t_2 = 90ns$.

3) Dynamic resistance calculated from $I_{TLP} = 4A$ to $I_{TLP} = 16A$

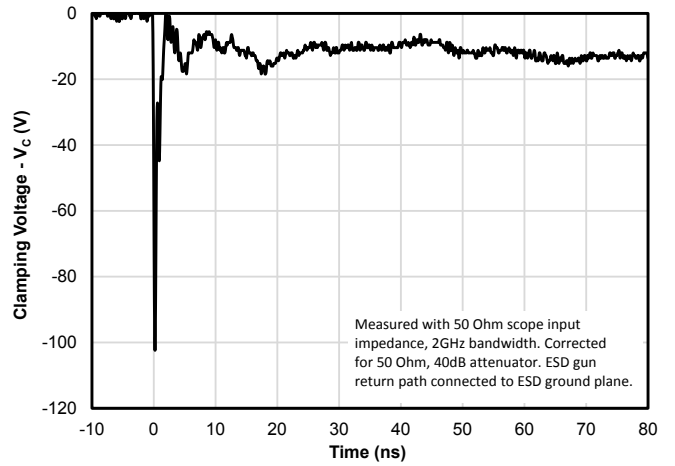
PROTECTION PRODUCTS

Typical Characteristics

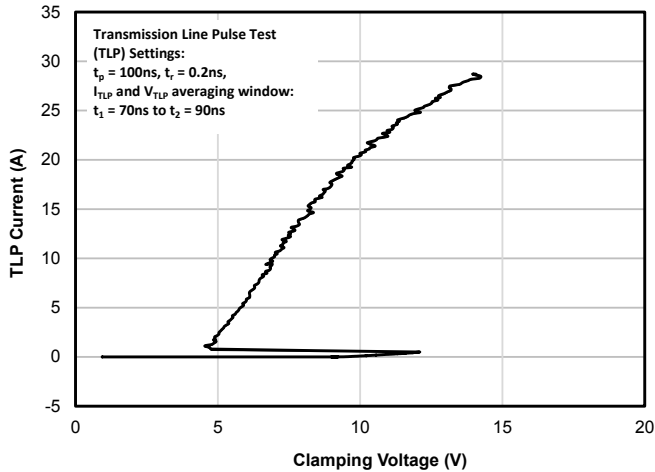
ESD Clamping (+8kV Contact per IEC 61000-4-2)



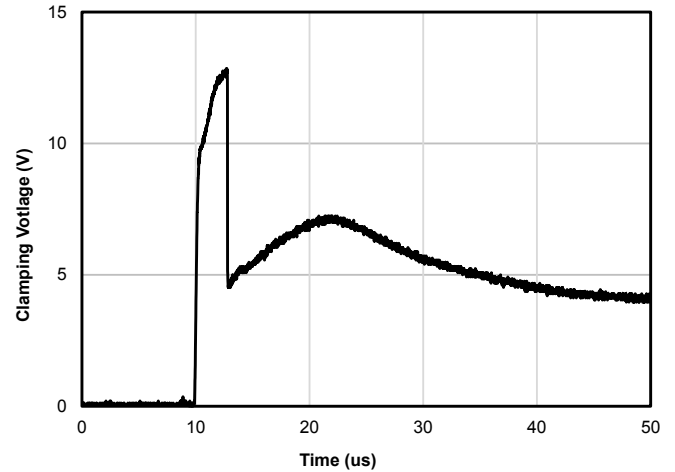
ESD Clamping (-8kV Contact per IEC 61000-4-2)



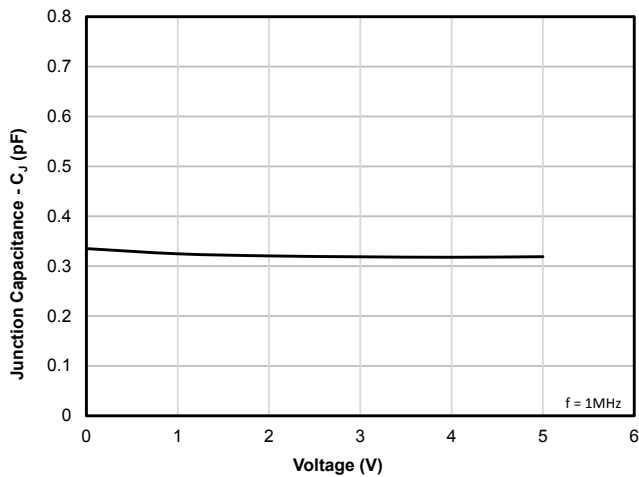
TLP Characteristic



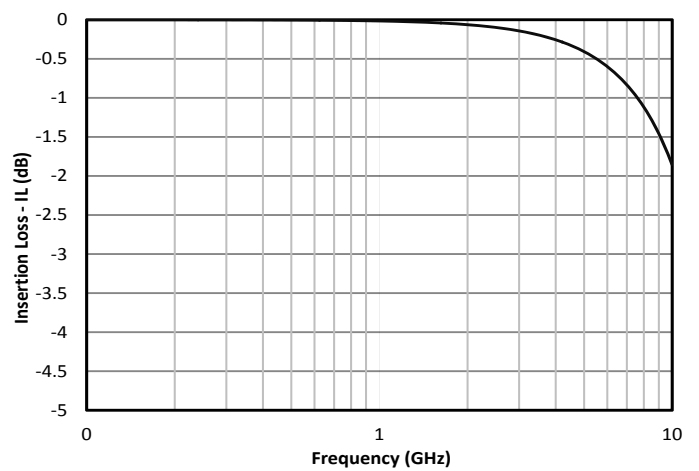
Clamping Voltage Waveform (1.2/50us Pulse)



Capacitance vs. Reverse Voltage



Insertion Loss - S21



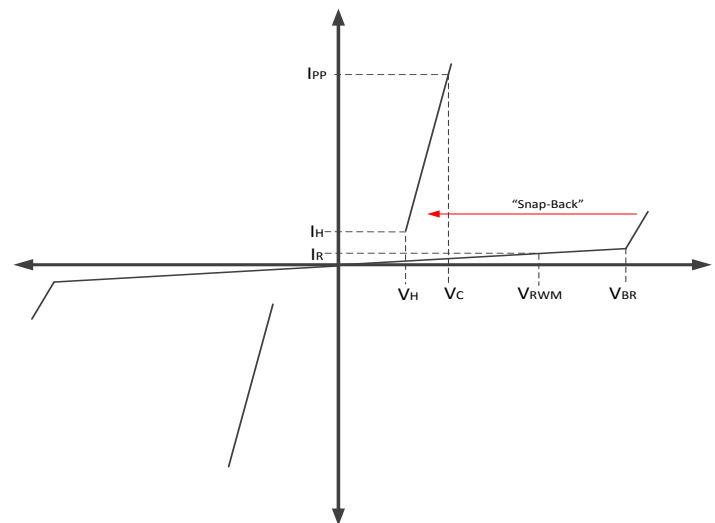
PROTECTION PRODUCTS

Applications Information

Device Operation

This device utilizes a multi-junction structure that is designed to switch to a low voltage state when triggered by ESD, EOS, or other transient events. During normal operation, the device will present a high-impedance to the circuit for voltage up to the working voltage (V_{RWM}) of the device. When the voltage across the device terminals exceeds the breakdown voltage (V_{BR}), avalanche breakdown occurs in the blocking junction causing the device to “snap-back” or switch to a low impedance on-state. This has the advantage of lowering the overall clamping voltage (V_C) as ESD peak pulse current (I_{PP}) flows through the device. Once the current decreases below the holding current (I_H), the device will return to a high-impedance off-state. Since this device is bidirectional, it will behave the same way for positive or negative polarity transient events.

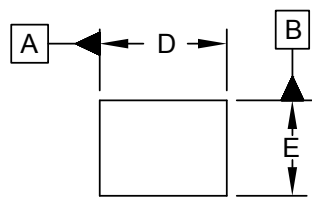
Symbol	Parameter
V_{RWM}	Maximum Working Voltage
V_{BR}	Breakdown Voltage
V_C	Clamping Voltage
I_H	Holding Current
I_R	Reverse Leakage Current
I_{PP}	Peak Pulse Current



Characteristic Curve

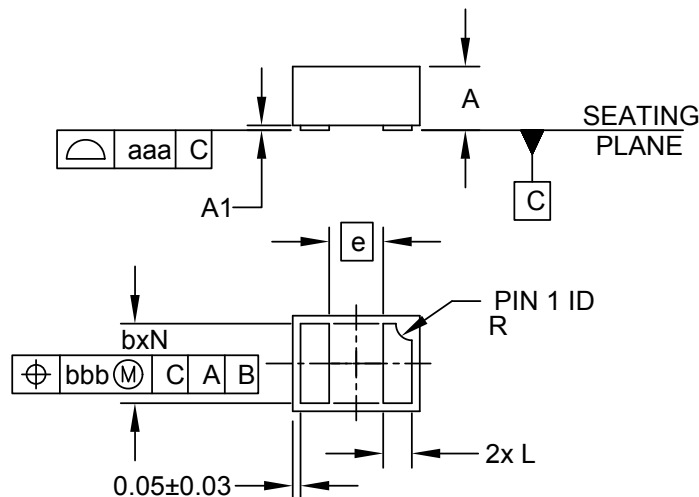
PROTECTION PRODUCTS

Outline Drawing - SLP0806P2T



TOP VIEW

DIMENSIONS			
DIM	MILLIMETERS		
	MIN	NOM	MAX
A	0.37	0.40	0.43
A1	0.00	0.03	0.05
b	0.45	0.50	0.55
D	0.75	0.80	0.875
E	0.55	0.60	0.675
e	0.34 BSC		
L	0.13	0.18	0.23
R	0.05	0.10	0.15
N	2		
aaa	0.08		
bbb	0.10		

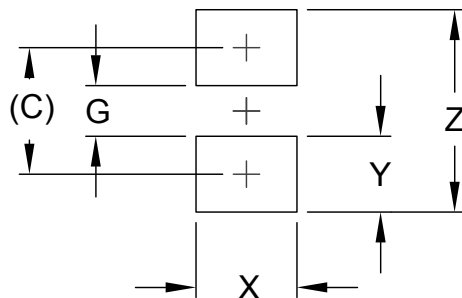


BOTTOM VIEW

NOTES:

1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).

Land Pattern - SLP0806P2T



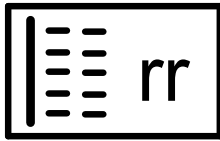
DIMENSIONS	
DIM	MILLIMETERS
(C)	0.75
G	0.30
X	0.60
Y	0.45
Z	1.20

NOTES:

1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
2. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY. CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR COMPANY'S MANUFACTURING GUIDELINES ARE MET.

PROTECTION PRODUCTS

Marking



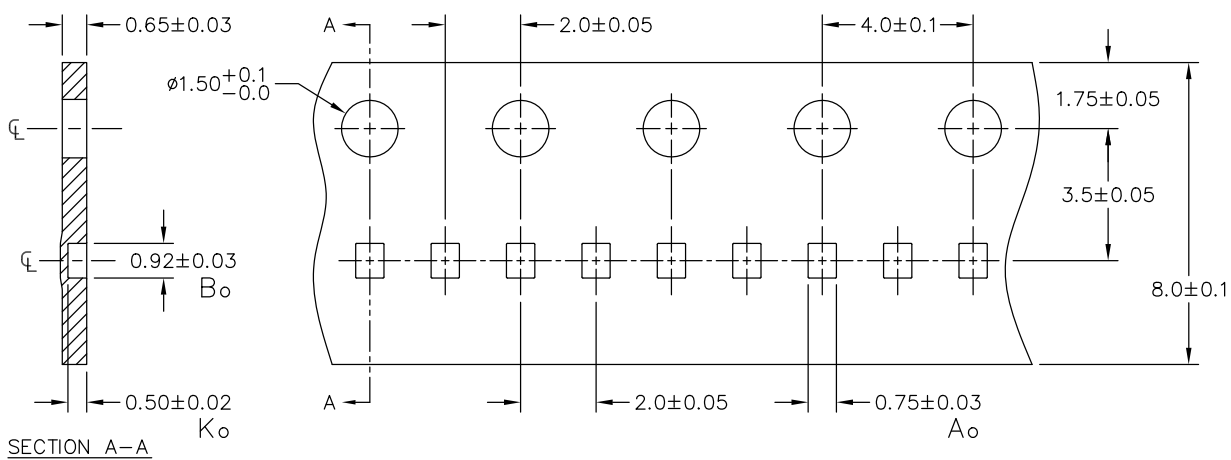
Notes: Marking will also include line matrix date code

Ordering Information

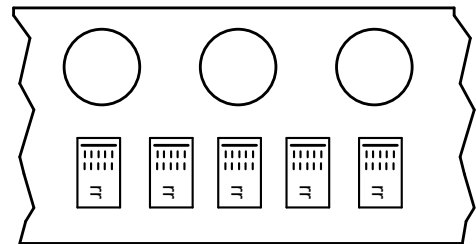
Part Number	Qty per Reel	Pocket Pitch	Reel Size
RClamp5031T.TNT	10000	2mm	7"

RailClamp and RClamp are registered trademarks of Semtech Corporation.

Tape and Reel Specification



NOTES: ALL DIMENSIONS IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.



Contact Information

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 Protection Products Division
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 Phone: (805)498-2111 FAX (805)498-3804