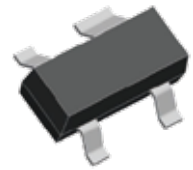


## FEATURES

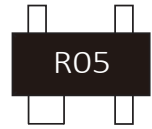
- | 125 Watts Peak Pulse Power per Line (tp=8/20μs)
- | Protects One Signal Line or I/O Port
- | Low clamping voltage
- | Low leakage current
- | Solid-state silicon avalanche technology

## APPLICATIONS

- | USB Power & Data Line Protection
- | Cell Phone & Handsets and Accessories
- | Microprocessor Based Equipment
- | Personal Digital Assistants(PDA's)
- | Nootbooks,Desktops, and Servers



SOT-143



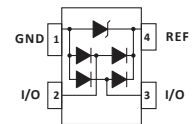
Marking

## IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- | IEC61000-4-4 (EFT) 40A (5/50ns)

## APPROVALS

<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003



Schematic Symbol

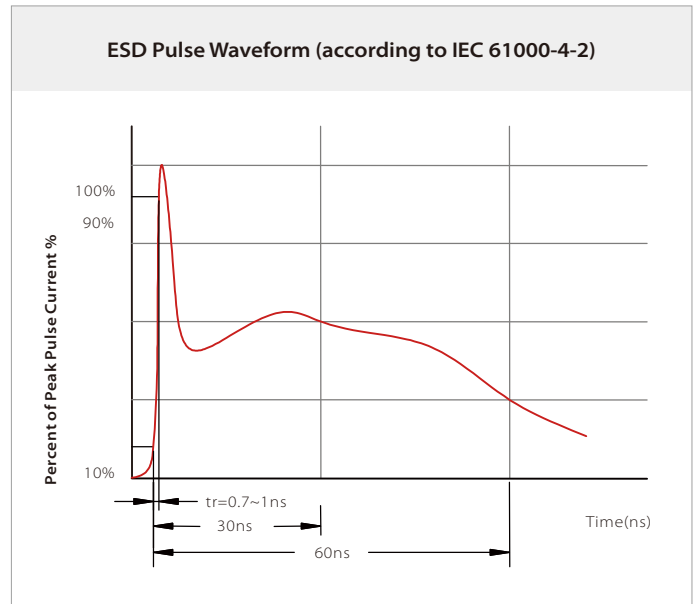
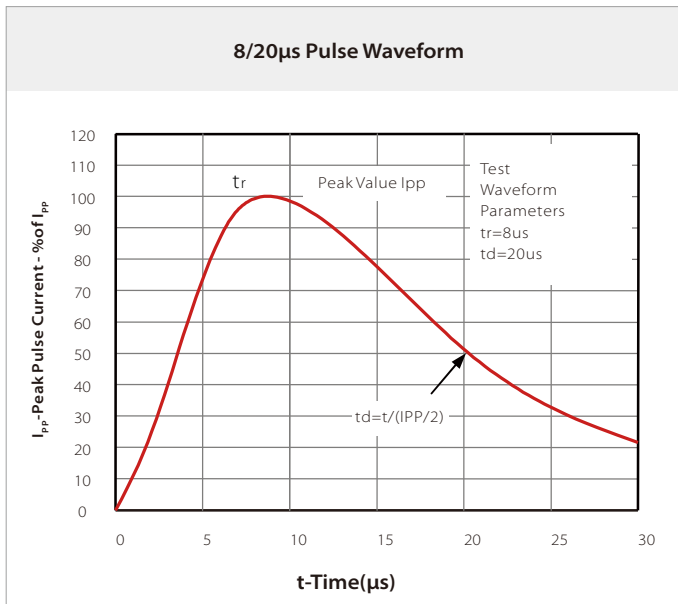
## THERMAL CONSIDERATIONS

Symbol	Parameter	Value	Unit
$P_{PP}$	Peak Pulse Power (tp=8/20μs waveform)	125	Watts
$T_J$	Operating Temperature Range	-55 to +125	°C
$T_{STG}$	Storage Temperature Range	-55 to +150	°C

## ELECTRICAL CHARACTERISTICS

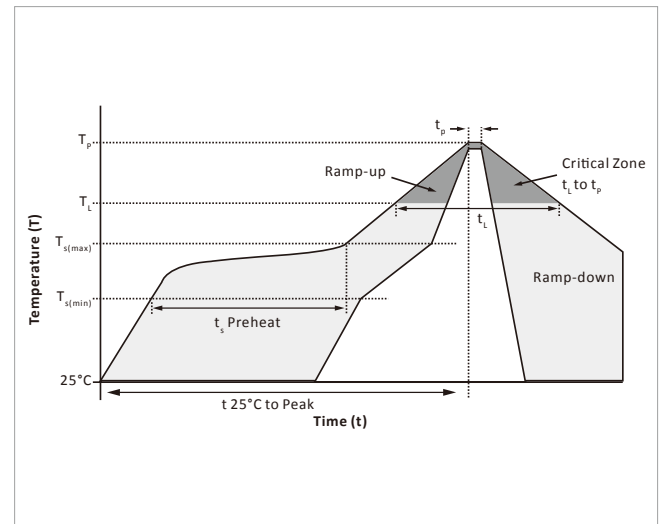
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
$V_{RWM}$	Reverse Stand-off Voltage				5	V
$V_{BR}$	Reverse Breakdown Voltage	$I_T=1mA$	6			V
$I_R$	Reverse Leakage Current	$V_{RWM}=5V$			1	μA
$V_C$	Clamping Voltage (Tp=8/20us)	$I_{pp}=1A, tp=8/20us$			15.5	V
$V_C$	Clamping Voltage (Tp=8/20us)	$I_{pp}=5A, tp=8/20us$			25	V
$I_{pp}$	Peak Pulse Current (Tp=8/20us)	tp=8/20us			5	A
$C_J$	Off State Junction Capacitance	$V_R=0V, f=1MHz$ I/O-I/O		1		pF
$C_J$	Off State Junction Capacitance	$V_R=0V, f=1MHz$ I/O-GND		2		pF

## CHARACTERISTIC CURVES

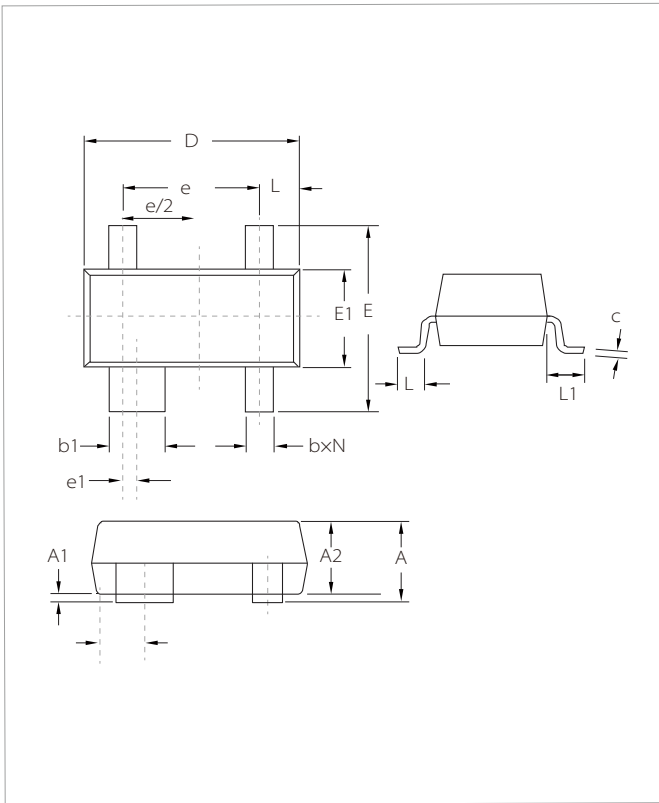


## SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ( $T_{s(min)}$ )	150°C
	Temperature Max ( $T_{s(max)}$ )	200°C
	Time (min to max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		3°C/second max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/second max
Reflow	Temperature ( $T_L$ ) (Liquidus)	217°C
	Time (min to max) ( $t_L$ )	60 – 150 seconds
Peak Temperature ( $T_p$ )		260°C
Time within 5°C of actual peak Temperature ( $t_p$ )		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature ( $T_p$ )		8 minutes max.
Do not exceed		260°C

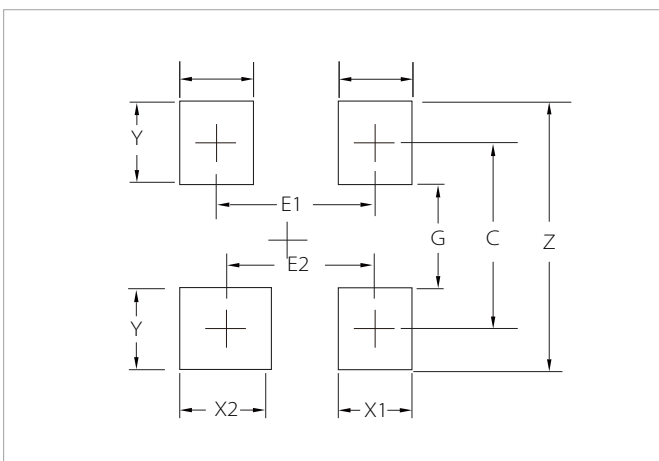


## SOT-143 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.80	1.22	0.031	0.048
A1	0.013	0.15	0.000	0.008
A2	0.75	1.07	0.029	0.042
b	0.30	0.51	0.011	0.020
b1	0.76	0.94	0.029	0.037
c	0.06	0.20	0.002	0.008
D	2.80	3.04	0.110	0.120
E	2.10	2.64	0.082	0.104
E1	1.20	1.40	0.047	0.055
e	1.92BSC		0.075	
e1	0.20BSC		0.008	
L	0.40	0.60	0.015	0.024
L1	(0.54)		(0.021)	
N	4		4	

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
C	(2.2)	(0.087)
E1	1.92	0.076
E2	1.72	0.068
G	0.80	0.031
X1	1.00	0.039
X2	1.20	0.047
Y	1.40	0.055
Z	3.60	0.141

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SESR05	SOT-143	3000PCS	7"

**Headquarters**

No.3387 Shendu Road Pujiang  
I&E Park  
Minhang Shanghai China  
201000

**Hotline**

400-021-5756

**Web**

<https://www.semiware.com>

**Sales Center**

Tel: 86-21-3463-7458  
Email: [sales18@semiware.com](mailto:sales18@semiware.com)

**Customer Service**

Tel: 86-21-5484-1001  
Email: [sales17@semiware.com](mailto:sales17@semiware.com)

**Technical Support**

Tel: 86-21-3463-7654  
Email: [fae01@semiware.com](mailto:fae01@semiware.com)

**Complaint & Suggestions**

Tel: 86-21-3463-7172  
Ext: 8868  
Email: [cs03@semiware.com](mailto:cs03@semiware.com)

**By QR Code**

Website



Wechat

To find your local partner within Semiware's global network: [www.semiware.com](http://www.semiware.com)

© 2022 Semiware Semiconductor Inc.

The content of this document has been carefully checked and understood. However, neither Semiware nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Semiware does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Chinese law and resulting disputes shall be settled by the courts at the place of business of Semiware. Latest publications and a complete disclaimer can be downloaded from the Semiware website. All trademarks recognized.