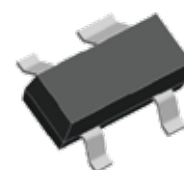


FEATURES

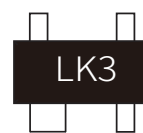
- | 250 Watts Peak Pulse Power per Line (tp=8/20μs)
- | Protects One Signal Line or I/O Port
- | Low clamping voltage
- | Low leakage current
- | Solid-state silicon avalanche technology

APPLICATIONS

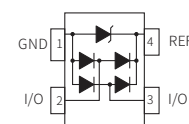
- | USB Power & Data Line Protection
- | Cell Phone & Handsets and Accessories
- | Microprocessor Based Equipment
- | Personal Digital Assistants(PDA' s)
- | Nootbooks,Desktops, and Servers



SOT-143



Marking



Schematic Symbol

IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) ±25kV (air), ±15kV (contact)
- | IEC61000-4-4 (EFT) 40A (5/50ns)

APPROVALS

- | | |
|-------------|------------------------------------|
| RoHS | Compliance with 2011/65/EU |
| HF | Compliance with IEC61249-2-21:2003 |

THERMAL CONSIDERATIONS

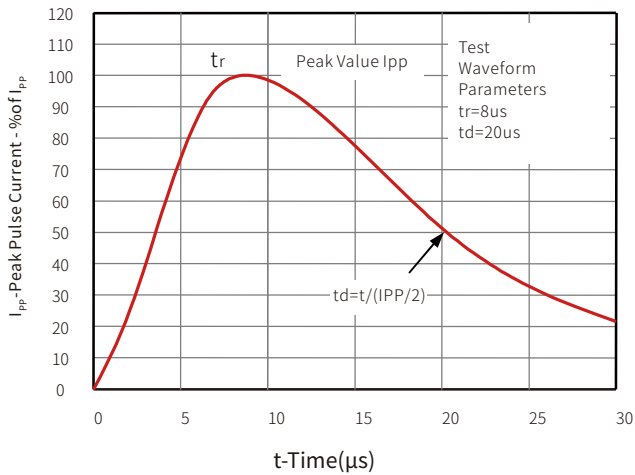
Symbol	Parameter	Value	Unit
P_{pp}	Peak Pulse Power (tp=8/20μs waveform)	250	Watts
T_J	Operating Temperature Range	-55 to +125	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C

ELECTRICAL CHARACTERISTICS

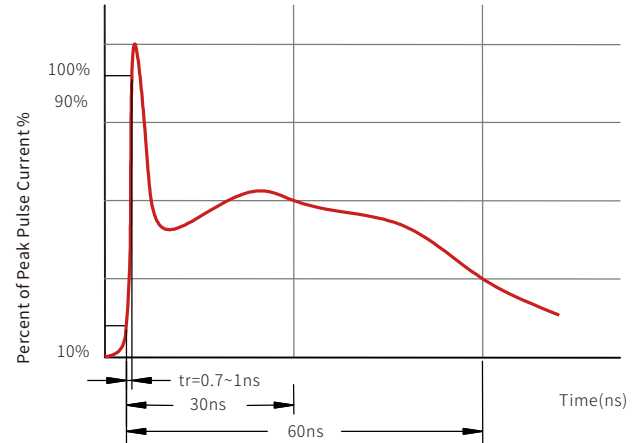
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_{RWM}	Reverse Stand-off Voltage				3.3	V
V_{BR}	Reverse Breakdown Voltage	$I_T=1mA$	4	5.2	7	V
V_F	Forward voltage	$I_F=1mA$		0.76		V
I_R	Reverse Leakage Current	$V_{RWM}=3.3V$			0.1	μA
V_C	Clamping Voltage	$I_{pp}=1A, tp=8/20μs$		6	6.5	V
V_C	Clamping Voltage	$I_{pp}=14A, tp=8/20μs$		16.7	18.5	V
I_{pp}	Peak Pulse Current	$tp=8/20μs$			14	A
C_J	Off State Junction Capacitance	$V_R=0V, f=1MHz$		1.4	2	pF

CHARACTERISTIC CURVES

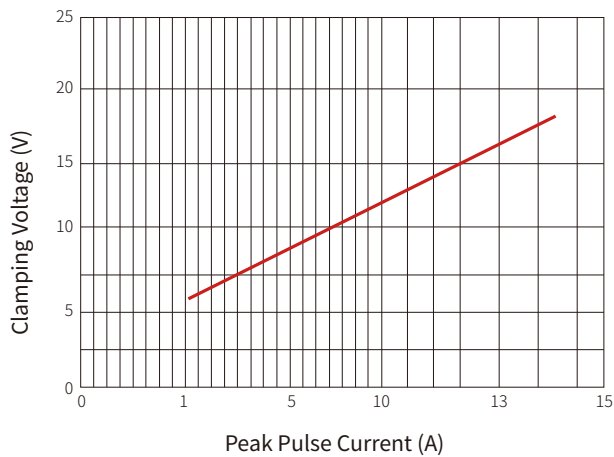
8/20 μ s Pulse Waveform



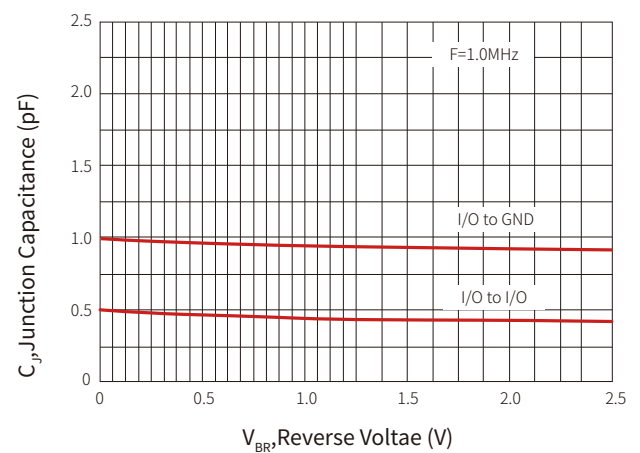
ESD Pulse Waveform (according to IEC 61000-4-2)



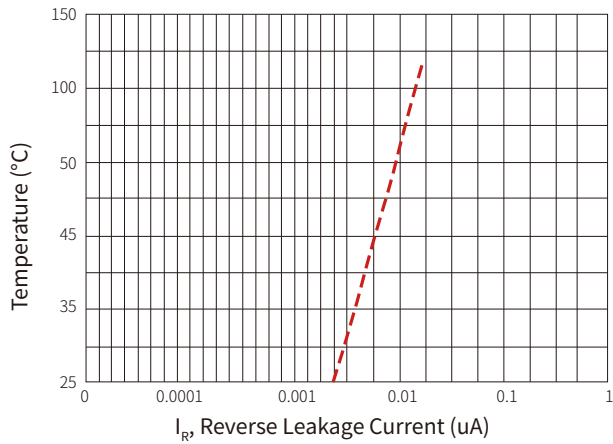
8/20 μ s Clamping Voltage vs. Peak Pulse Current



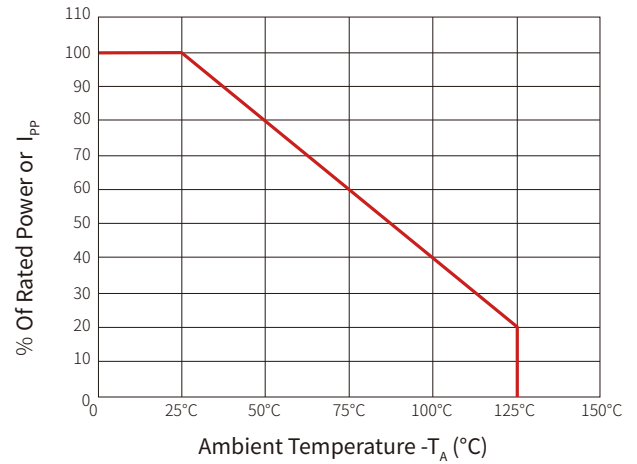
Typic Capacitance vs. Reverse Voltage



Typic Reverse Leakage vs. Temperature

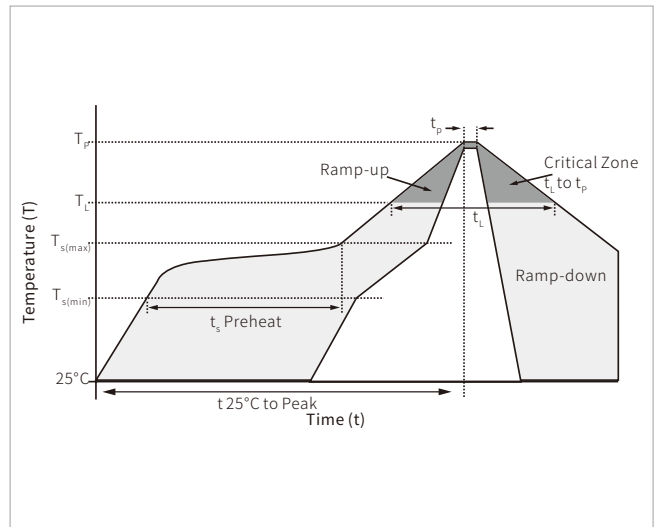


Power Derating Curve

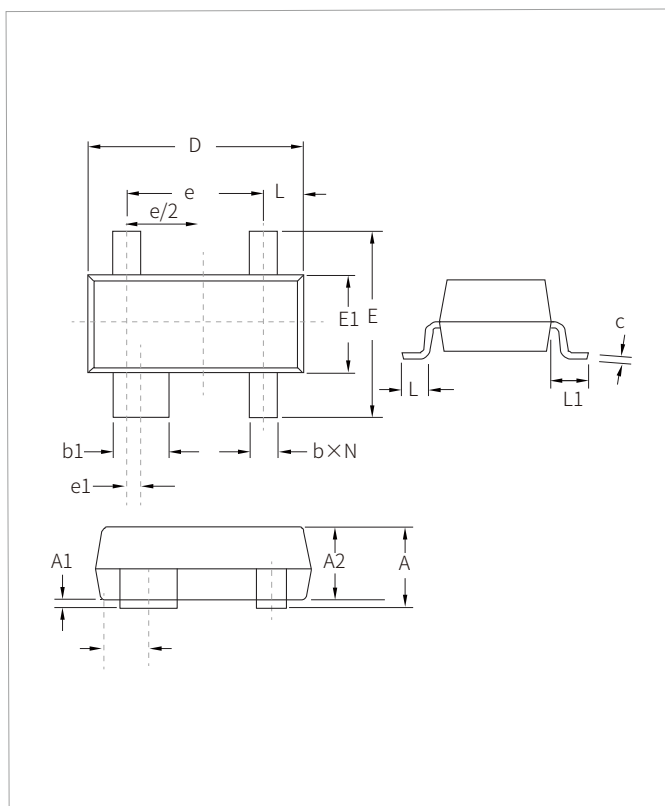


SOLDERING PARAMETERS

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

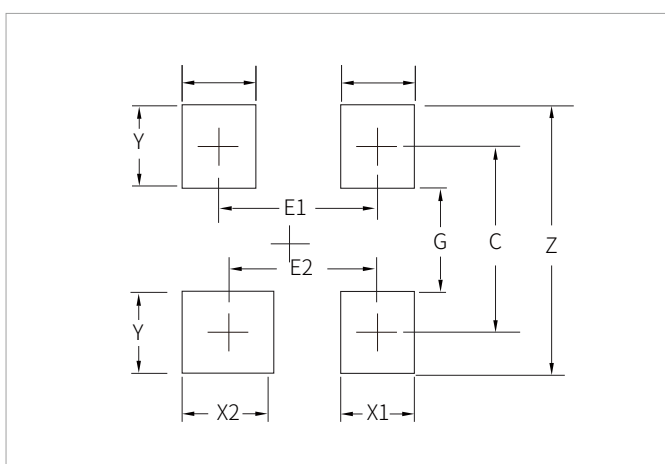


SOT-143 PACKAGE INFORMATION



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
SE41T25U3.3LB1	SOT-143	3000PCS	7"

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By QR Code

Website



Wechat

To find your local partner within Semiware's global website: www.semiware.com

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