

DESCRIPTION

The SE3D15B3.0MA is a low capacitance transient voltage suppressor array, designed to protect applications such as portable electronics and SMART phones. This series is rated at 150 Watts for an 8/20 μ s waveshape.

The SE3D15B3.0MA meets IEC 61000-4-2 (ESD) and IEC 61000-4-4 (EFT) requirements. At higher operating frequencies or faster edge rates, insertion loss and signal integrity are a major concern. The SE3D15B3.0MA offers a low capacitance and low leakage current in a miniature SOD-323 package.

FEATURES

- >150 Watts Peak Pulse Power per Line (tp=8/20 μ s)
- >Protects One Power or I/O Port
- >Low clamping voltage
- >Low leakage current
- >Weight: 5.0mg

APPLICATIONS

- >Ethernet - 10/100/1000 Base T
- >Cellular Phones
- >I²C Bus Protection
- >Parallel & Serial Port Protection
- >Personal Digital Assistant (PDA)
- >Microcontroller Input Protection
- >WAN/LAN Equipment

IEC COMPATIBILITY

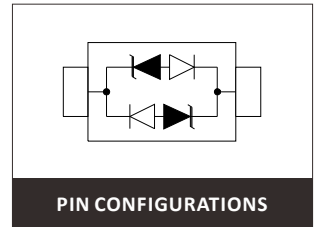
- >IEC61000-4-2 (ESD) $\pm$ 15kV (air), $\pm$ 8kV (contact)
- >IEC61000-4-4 (EFT) 40A (5/50ns)

MAXIMUM RATINGS @ 25°C UNLESS OTHERWISE SPECIFIED

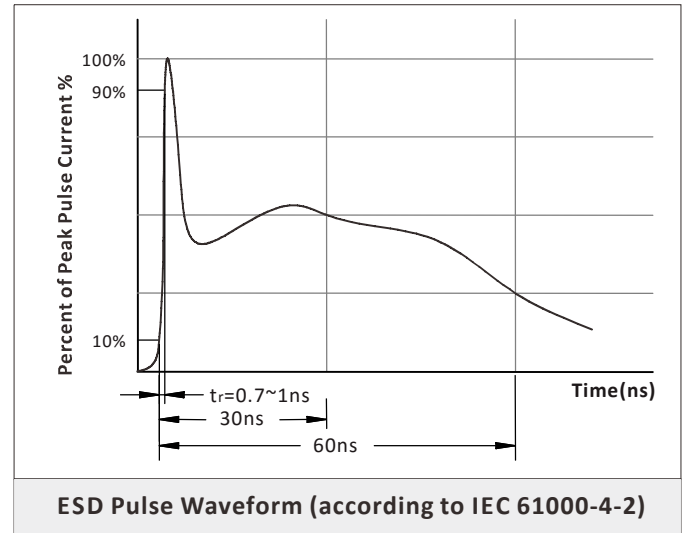
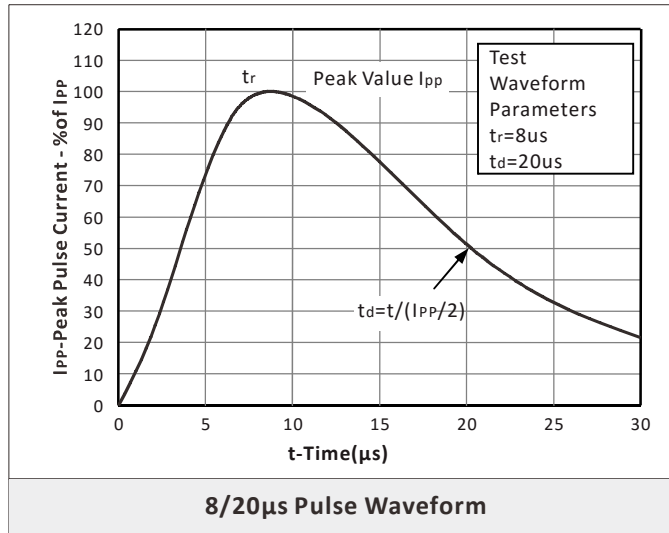
PARAMETER	SYMBOL	VALUE	UNIT
Peak Pulse Power (tp=8/20 μ s waveform)	PP	150	Watts
Lead Soldering Temperature	T _L	260(10 sec.)	°C
Operating Temperature Range	T _J	-40~150	°C
Storage Temperature Range	T _{STG}	-40~150	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C UNLESS OTHERWISE SPECIFIED

PART NUMBER	DEVICE MARKING	V _{RWM}	V _B	I _T	V _C @1A	V _C		I _R	C _T
		(V) Max.	(V) Min.	(mA)	Max.	Max.	@A	(μ A) Max.	(pF) Typ.
SE3D15B3.0MA	CA1	3.0	3.5	1	5.8	15.0	10.0	0.5	1.5



CHARACTERISTIC CURVES

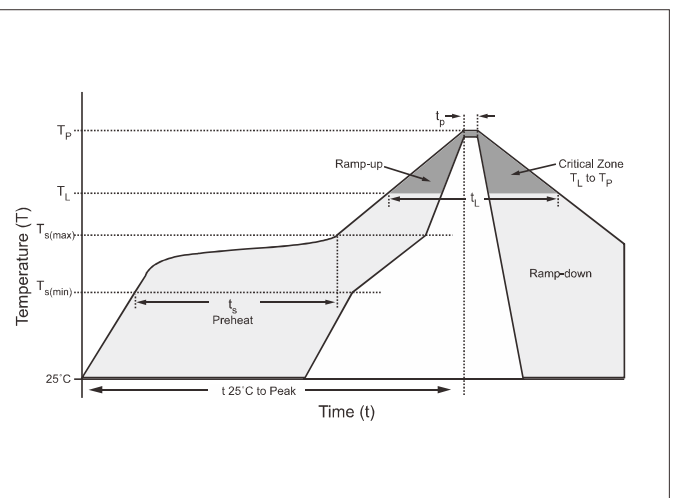


ENVIRONMENTAL CHARACTERISTICS

Testing Items	Technical Standards
High Temperature Reverse Bias Test	Temperature: $150 \pm 3^\circ C$; Bias = $80\% V_{DRM}$; Time: 168H
High Temperature Life Test	Temperature: $150^\circ C$; Time: 168H
High-Low Temperature Cycle Test	Temperature: From $-40^\circ C$ to $150^\circ C$; Dwell Time: 30min, 10-100 Cycles
High Temperature & High Humidity Test	Temperature: $85^\circ C$; Humidity: 85%; Time: 168H
Pressure Cooker Test	Temperature: $121^\circ C$, 2 atm; Humidity: 100%; Time: 24H To 168H
Resistance Of Soldering Heat	Temperature: $260 \pm 5^\circ C$; Time Of Dip Soldering: 10s, 3 Times

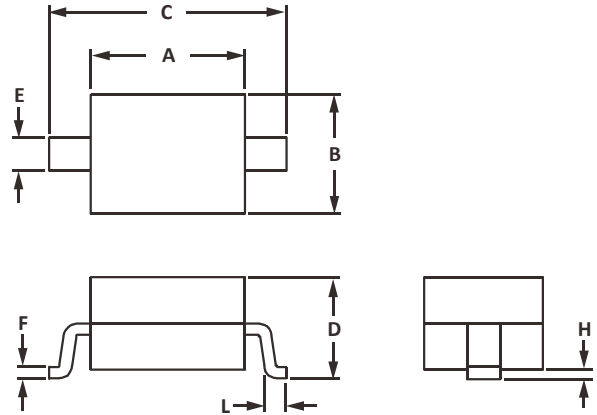
REFLOW PROFILE

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

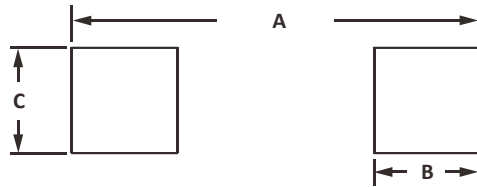


SOD-323 PACKAGE INFORMATION

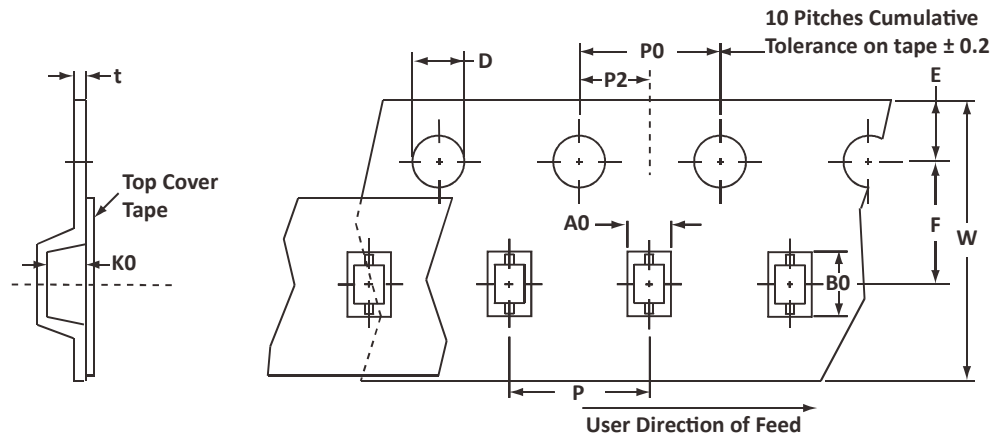
OUTLINED DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.60	1.90	0.063	0.075
B	1.15	1.45	0.045	0.057
C	2.39	2.70	0.094	0.106
D	0.80	1.10	0.031	0.043
E	0.25	0.40	0.010	0.016
F	0.10	0.20	0.004	0.008
H	-	0.10	-	0.004
L	0.20	-	0.008	-



PAD LAYOUT DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.87	3.12	0.113	0.123
B	0.66	0.91	0.026	0.036
C	0.66	0.91	0.026	0.036



TAPE AND REEL



SPECIFICATIONS

REEL DIA.	TAPE WIDTH	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")	8mm	1.55 ± 0.10	2.90 ± 0.10	1.35 ± 0.10	1.50 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.30	4.00 ± 0.10	2.00 ± 0.05	4.00 ± 0.10	0.25

NOTES

- Dimensions are in millimeters.
- Surface mount product is taped and reeled in accordance with EIA-481.
- Suffix - T7 = 7" Reel - 3,000 pieces per 8mm tape.
- Marking on Part - marking code (see page 1)



ORDERING INFORMATION					
BASE PART NUMBER	LEAD FREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
SE3D15B3.0MA	-LF	-T7	3,000	7"	n/a
This device is only available in a Lead-Free configuration.					

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