

ESD5V0BOE

Description

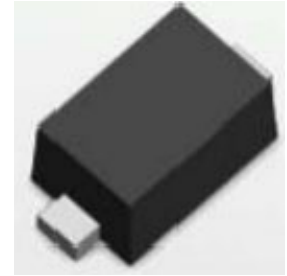
ESD5V0BOE is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium.

Features

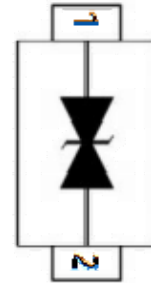
- ◆ 100 Watts Peak Pulse Power per Line (tp=8/20us)
- ◆ Operating voltage: 5V
- ◆ Low leakage current
- ◆ Package: SOD-523
- ◆ Low clamping voltage
- ◆ Complies with following standards:
 - IEC61000-4-2 (ESD) immunity test
 - Air discharge: ± 15 kv
 - Contact discharge: ± 8 kv
 - IEC61000-4-4 (EFT) 40A (5/50ns)

Applications

- ◆ Cell Phone Handsets and Accessories
- ◆ Microprocessor based equipment
- ◆ Personal Digital Assistants (PDA's)
- ◆ Notebooks, Desktops, and Servers
- ◆ Portable Instrumentation
- ◆ Peripherals
- ◆ Pagers



Schematic & PIN Configuration



Absolute Maximum Ratings

Parameter	Symbol	Value	Units
Peak Pulse Power (8/20us)	P_{PP}	200	Watts
IEC61000-4-2 (Contact)	V_{ESD}	8	KV
IEC61000-4-2 (Air)	V_{ESD}	15	KV
Lead Soldering Temperature	T_L	260 (10 sec)	$^{\circ}C$
Operating Temperature	T_J	-40 to 125	$^{\circ}C$
Storage Temperature Range	T_{STG}	-55 to 155	$^{\circ}C$

Dated: 09/2019
Rev: 1.0

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Electrical Characteristics (T =25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_t = 1mA$	5.6		7.8	V
Reverse Leakage Current	I_R	$V_R = V_{RWM}$			1	μA
Clamping Voltage	V_C	$I_{PP}=5A, t_P = 8/20\mu s$			11.6	V
		$I_{PP}=MAX, t_P = 8/20\mu s$			18.6	V
Junction Capacitance	C_J	$V_R=0V, f = 1MHz$			25	PF

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Rating & Characteristic Curves

Figure 1- Power Derating Curve

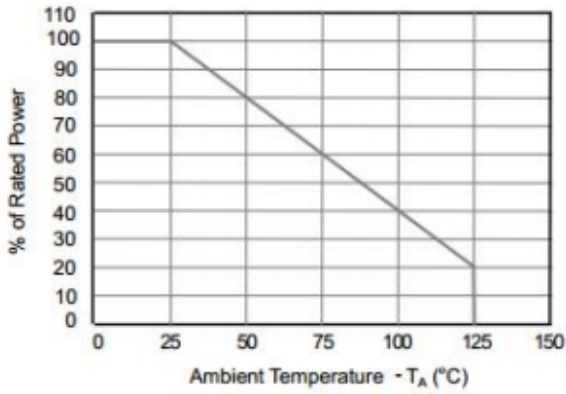


Figure 2- ESD Pulse Waveform
(according to IEC 61000-4-2)

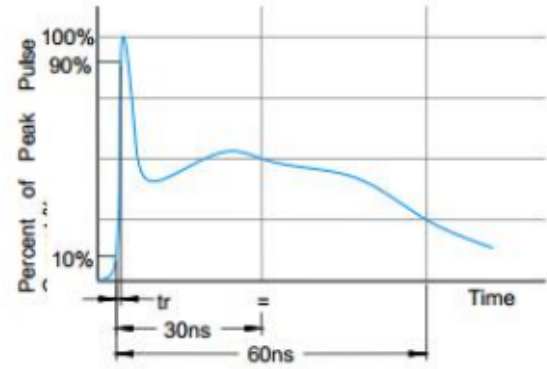
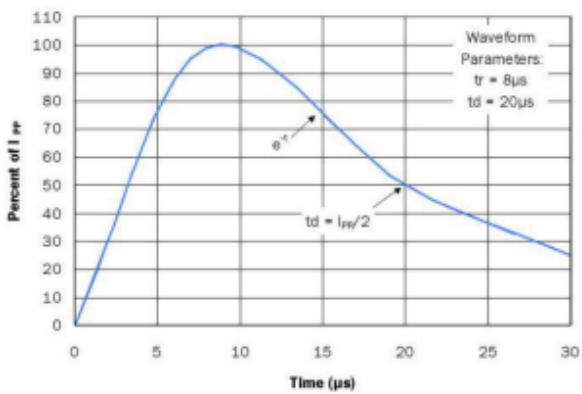


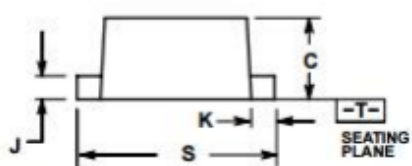
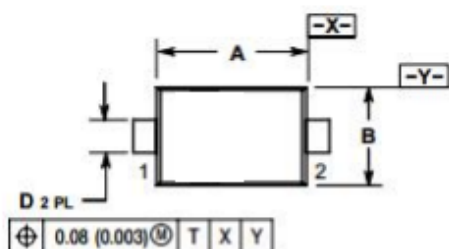
Figure3- 8/20 μ s Pulse Waveform



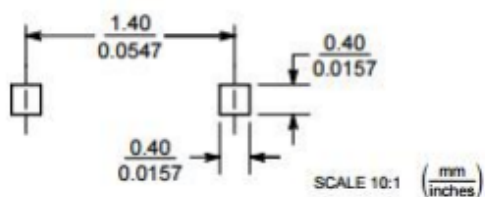
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Package Outline

SOD-523



SOLDERING FOOTPRINT*



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982
2. CONTROLLING DIMENSION: MILLIMETER.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.10	1.20	1.30	0.043	0.047	0.051
B	0.70	0.80	0.90	0.028	0.032	0.035
C	0.50	0.60	0.70	0.020	0.024	0.028
D	0.25	0.30	0.35	0.010	0.012	0.014
J	0.07	0.14	0.20	0.0028	0.0055	0.0079
K	0.15	0.20	0.25	0.006	0.008	0.010
S	1.50	1.60	1.70	0.059	0.063	0.067

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