PESD5V0S1BA ESD Protection Diode

Feature

- Bi-directional ESD protection of one line
- 250Watts peak pulse power (tp = 8/20μs)
- Working voltage: 5V
- Junction capacitance: 30pF(Typ)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 ±30kV contact ±30kV air
- IEC 61000-4-5 (Lightning) 16A (8/20μs)

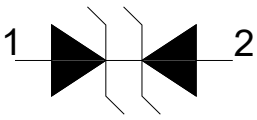
Application

- Control & monitoring systems
- Portable electronics
- Servers, notebooks, and desktop PCs
- Set-top box
- Communication systems

Mechanical Data

- Package: SOD-323
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Circuit Diagram



Ordering Information

Part Number	Package	Marking	Packing	Reel Size
PESD5V0S1BA	SOD-323		3000 Tape & Reel	7 inches

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

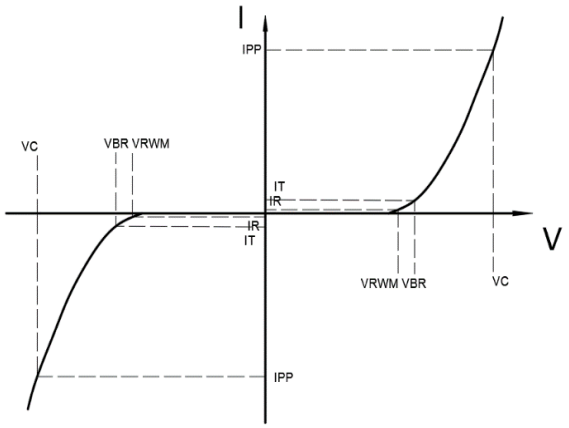
Parameter	Symbol	Min	Max	Unit
Peak pulse power (tp=8/20us)@25℃	P_{PK}	-	250	W
Peak pulse current (tp=8/20us)@25℃	I_{PP}		16	A
ESD (IEC61000-4-2 air discharge) @25℃	V_{ESD}	-	±30	kV
ESD (IEC61000-4-2 contact discharge) @25℃	V_{ESD}	-	±30	kV
Junction temperature	T_J	-	125	℃
Operating temperature	T_{OP}	-40	85	℃
Storage temperature	T_{STG}	-55	150	℃
Lead temperature	T_L	-	260	℃

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

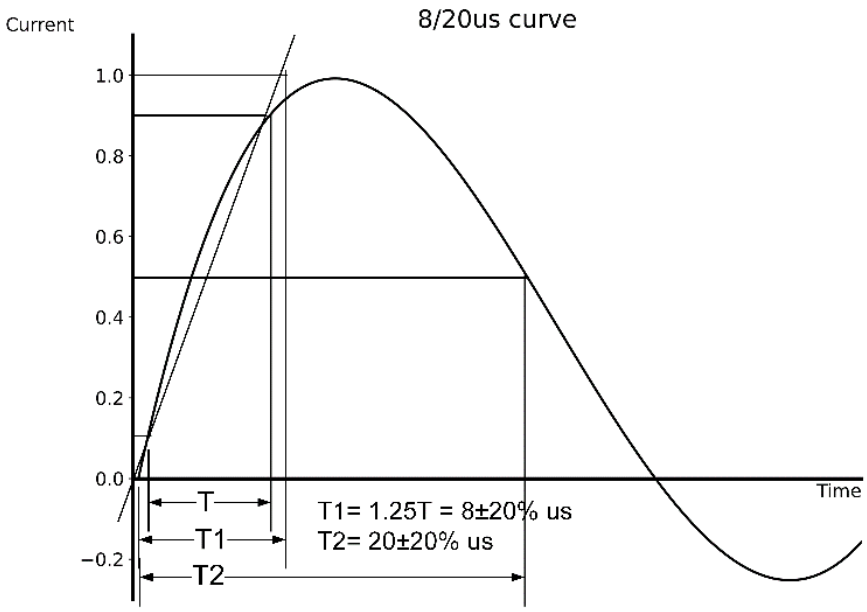
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Stand-off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	6			V
Reverse Leakage Current	I_R	V_{RWM}=5V			1	uA
Clamping Voltage	V_C	I_{PP}=1A; tp=8/20us		10		V
Clamping Voltage	V_C	I_{PP}=16A; tp=8/20us		18		V
Junction Capacitance	C_J	I/O to GND; V_R=0V; f=1MHz		30	45	pF

Electrical Parameters

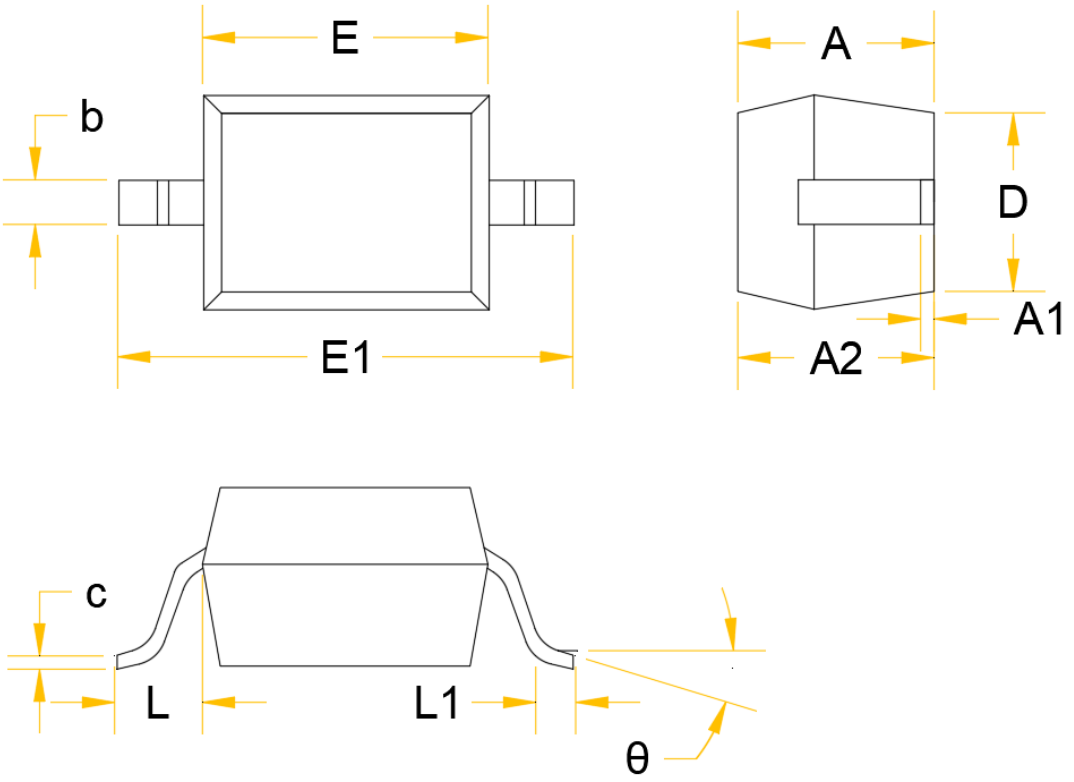
Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
I_F	Forward Current
V_F	Forward Voltage @ I_F



Typical Characteristics



Outline Drawing – SOD-323



Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min.	Max.	Min.	Max.
A		1.000		0.039
A1	0.000	0.100	0.000	0.004
A2	0.800	0.900	0.031	0.035
b	0.250	0.350	0.010	0.014
C	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.550	2.750	0.100	0.108
L	0.475REF		0.019REF	
L1	0.250	0.400	0.010	0.016
θ	0°	8°	0°	8°