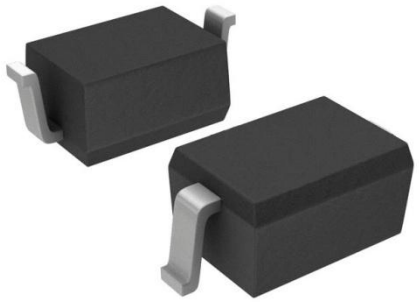
Low Capacitance ESD Protection Diode in SOD-323

Features

- 350Watts peak pulse power (tp = 8/20μs)
- Low clamping voltage
- Low leakage current
- Protection one power line
- Low Capacitance: 1.0 pF Typical
- IEC 61000-4-2 ±15kV contact ±8kV air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 22A (8/20μs



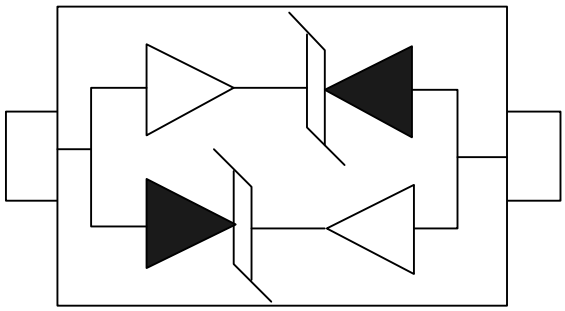
Applications

- Ethernet - 10/100/1000 Base T
- Cellular Phones
- Handheld - Wireless Systems
- Personal Digital Assistant (PDA)
- USB Interface

Mechanical Data

- SOD-323 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

Schematic & PIN Configuration



SOD-323

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (t_p =8/20μs)	P_{PP}	350	Watts
Peak Pulse Current (t_p =8/20μs) (note1)	I_{pp}	20	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	30 30	kV
Lead Soldering Temperature	T_L	260(10seconds)	℃
Junction Temperature	T_J	-55 to + 150	℃
Storage Temperature	T_{stg}	-55 to + 150	℃

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				3.0	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	4.0			V
Reverse Leakage Current	I_R	V_{RWM}=3.0V,T=25℃			1	uA
Clamping Voltage	V_C	I_{PP}=20A,t_p=8/20μs			18	V
Junction Capacitance	C_j	V_R = 0V, f = 1MHz		1.0	1.5	pF

Electrical Parameters (TA = 25°C unless otherwise noted)

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

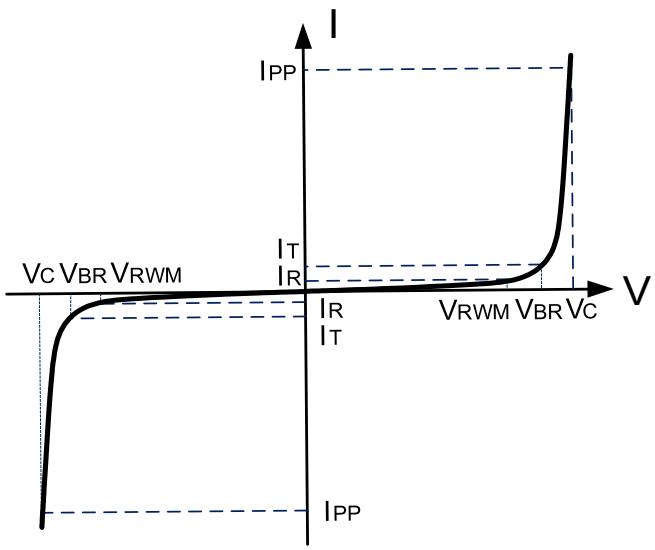


Figure 1: Peak Pulse Power vs. Pulse Time

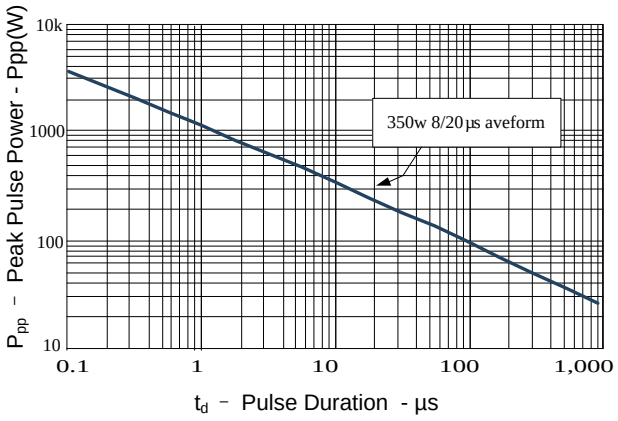


Figure 2: Power Derating Curve

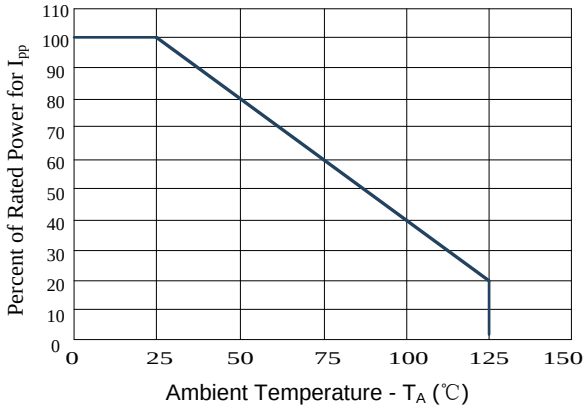


Figure3: Pulse Waveform

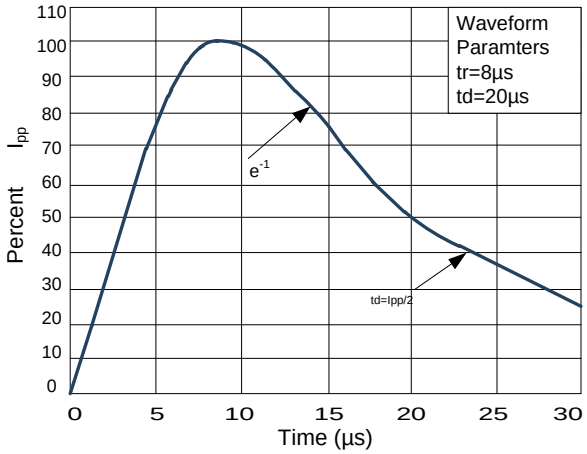
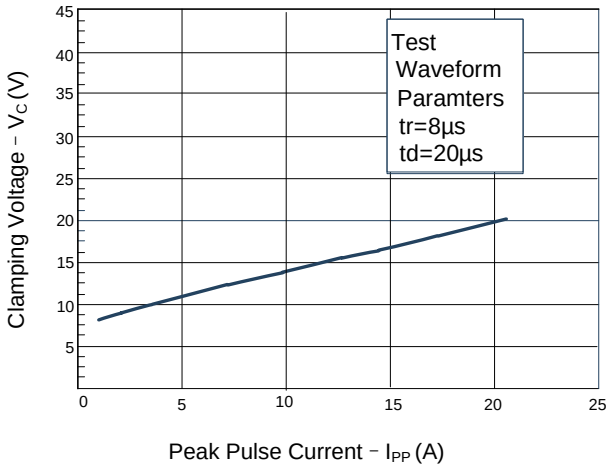
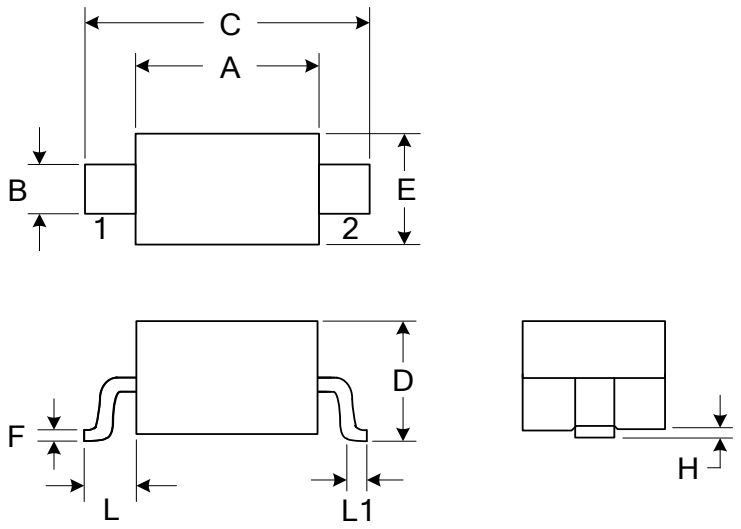


Figure 4: Clamping Voltage vs.Ipp



Outline Drawing – SOD323



DIMENSIONS				
SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	1.600	1.800	0.063	0.071
B	0.250	0.350	0.010	0.014
C	2.500	2.700	0.098	0.106
D		1.000		0.039
E	1.200	1.400	0.047	0.055
F	0.080	0.150	0.003	0.006
L	0.475 REF		0.019REF	
L1	0.250	0.400	0.010	0.016
H	0.000	0.100	0.000	0.004

Marking

Pin Style: 1. Cathode 2. Anode

Ordering information

Order code	Package	Base qty	Delivery mode
CESD323LC3VB-M	SOD323	3000	Tape and reel

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