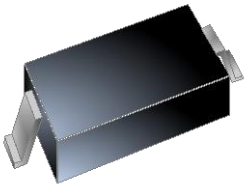
ESD Protection Diode

Features

- 350 Watts Peak Pulse Power per Line (tp = 8/20μs)
- Bidirectional Configuration
- Protects One Power or I/O Port
- Low Clamping Voltages
- Ultra Low Capacitance: 1.0 pF Typical
- AEC-Q101 qualified (Automotive grade with suffix " Q".)
- Exsemi technology



SOD-323

IEC COMPATIBILITY (EN61000-4)

- **IEC 61000-4-2 (ESD) ±30kV (air), ±30kV (contact)**
- **IEC 61000-4-4 (EFT) 40A (5/50ns)**
- **IEC 61000-4-5(Surge): 17A (8/20μs)**

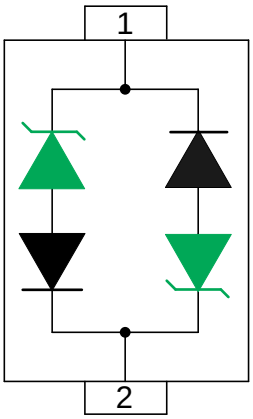
Mechanical Characteristics

- Molded JEDEC SOD-323 package
- Weight 10 milligrams (Approximate)
  Flammability rating UL 94V-0
- 8mm Tape and Reel Per EIA Standard 481
- Device Marking: Marking Code
- RoHS Compliant

Applications

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

PIN Configuration



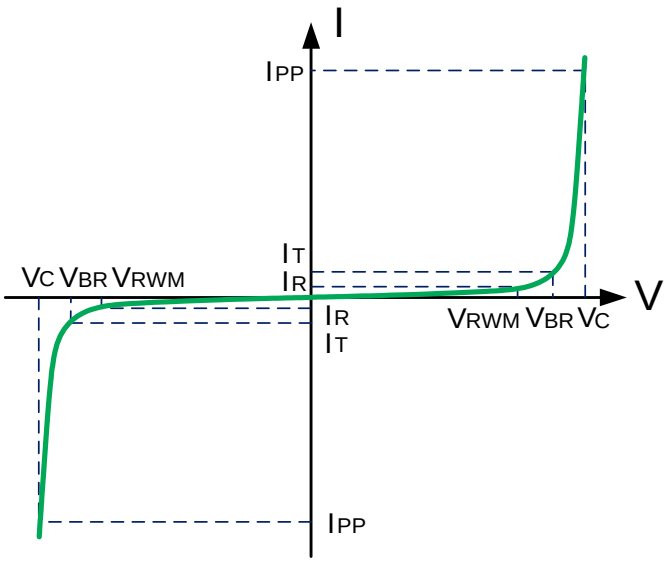
BIDIRECTIONAL

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (t_p=8/20μs) - See Figure 1	P_{PP}	350	Watts
Operating Temperature	T_J	-55 to + 150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Parameters (T=25℃)

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



Electrical characteristics

PART NUMBER (See Note 1 & Note 2)	RATED STAND-OFF VOLTAGE V_{WM}(Volts)	MINIMUM BREAKDOWN VOLTAGE @ 1mA V_{BR}(Volts)	MAXIMUM CLAMPING VOLTAGE @ IP = 1A V_C(Volts)	MAXIMUM CLAMPING VOLTAGE @8/20μs V_C @ I_{PP}	MAXIMUM LEAKAGE CURRENT @V_{WM} Id(μA)	TYPICAL CAPACITANCE @0V, 1 MHz C(pF)
EPD03CL	3.3	4.0	8.0	19.0V @ 20.0A	1	1
EPD05CL	5.0	6.0	9.8	18.3V @ 17.0A	1	1
EPD08CL	8.0	8.5	13.4	26.8V @ 20.0A	1	1
EPD12CL	12.0	13.3	19.0	28.6V @ 11.0A	1	1
EPD15CL	15.0	16.7	23.5	40.0V @ 10.0A	1	1
EPD24CL	24.0	26.7	33.0	54.0V @ 9.0A	1	1

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

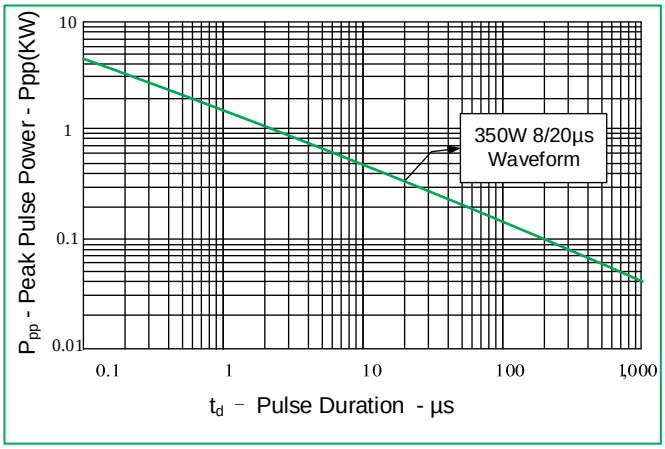


Figure 2: Power Derating Curve

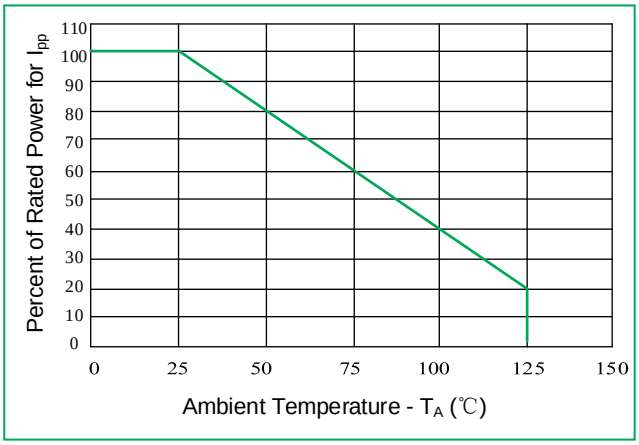


Figure 3: Clamping Voltage vs. Peak Pulse Current

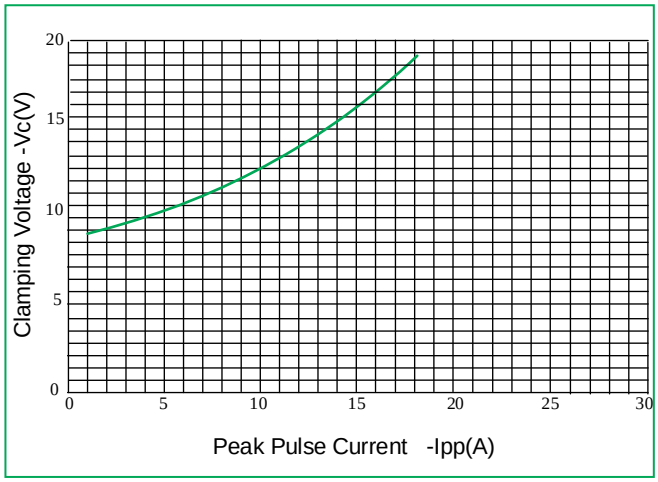


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

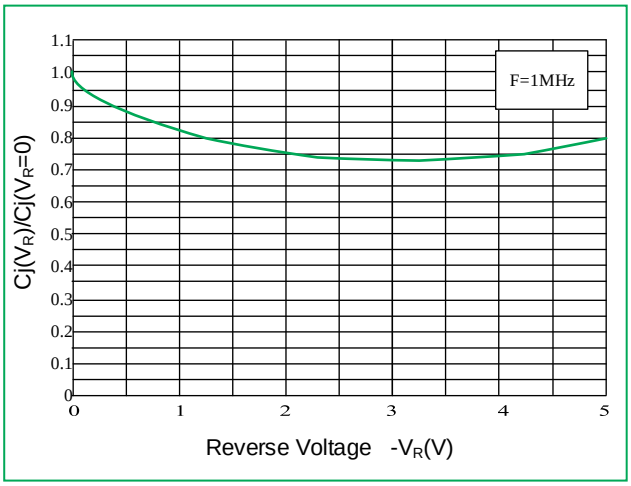
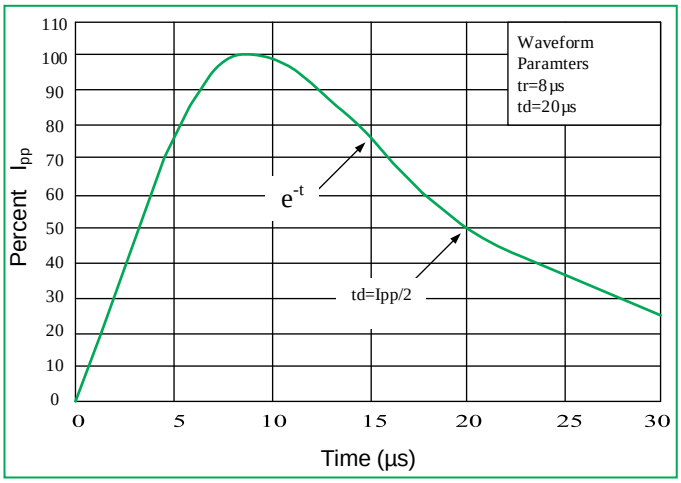
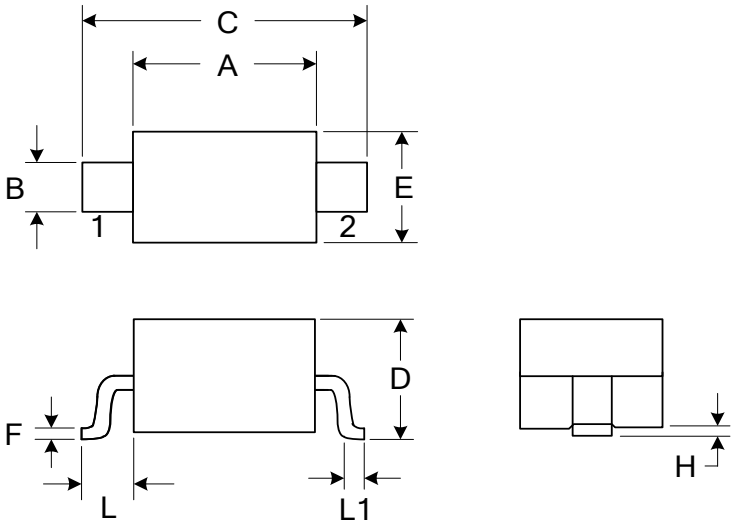


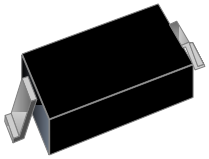
Figure 5: Pulse Waveform



PACKAGE OUTLINE

Outline Drawing – SOD-323



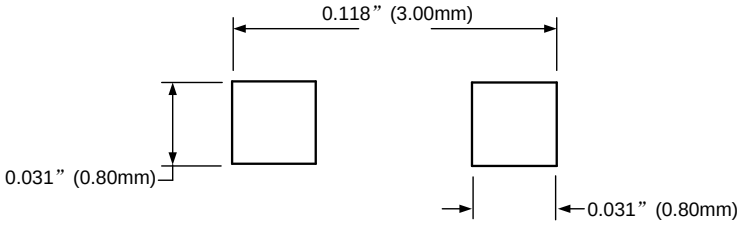


SOD-323

DIMENSIONS

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	1.60	1.80	0.063	0.071
B	0.25	0.35	0.010	0.014
C	2.50	2.70	0.098	0.106
D	0.00	1.20	0.000	0.039
E	1.20	1.40	0.047	0.055
F	0.08	0.15	0.003	0.006
L	0.475 REF		0.019REF	
L1	0.25	0.40	0.010	0.016
H	0.00	0.10	0.000	0.004

MOUNTING PAD



Notes

1. Controlling Dimensions in Millimeters.
2. Dimensions are exclusive of mold flash and metal burrs.

Package Information

Qty：3k/Reel

Marking

Part Number	Marking
EPD03CL	CC
EPD05CL	AC
EPD08CL	BC
EPD12CL	DC
EPD15CL	EC
EPD24CL	HC