

ESD Protection Diode

Features

- 350 Watts Peak Pulse Power per Line ($t_p = 8/20\mu s$)
- Unidirectional & Bidirectional Configuration
- Protects One Power or I/O Port
- ESD Protection > 40 kilovolts
- Low Clamping Voltages
- Available in Multiple Voltage Types Ranging from 3V to 24V
- Ultra Low Capacitance: 1.0 pF Typical
- AEC-Q101 qualified (Automotive grade with suffix "Q".)
- Exsemi technology



IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 25kV$ (air), $\pm 15kV$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)

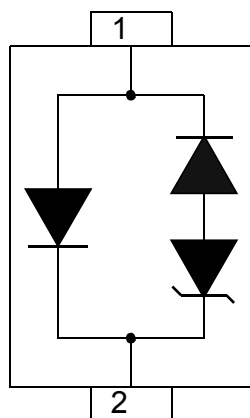
Mechanical Characteristics

- 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/WEEE Compliant

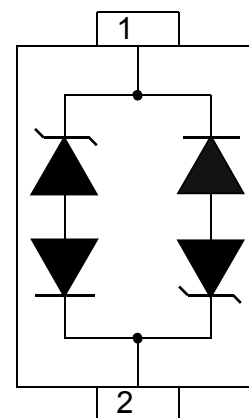
Applications

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

PIN Configuration



Uni



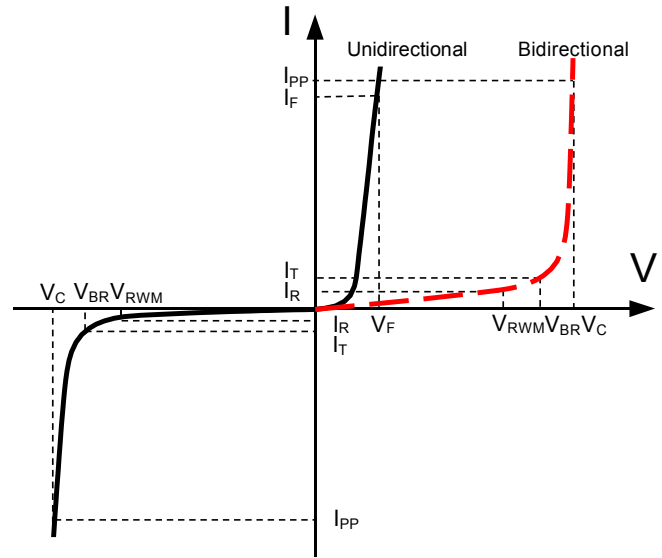
Bi

Absolute Maximum Rating

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

Electrical Parameters(T=25 $^{\circ}C$)

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
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics

PART NUMBER (See Note 1 & Note 2)	DEVICE MARKING	RATED STAND-OFF VOLTAGE V_{WM} (Volts)	MINIMUM BREAKDOWN VOLTAGE @ 1mA V_{BR} (Volts)	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $I_P = 1A$ V_C (Volts)	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $8/20\mu s$ V_C @ I_{PP}	MAXIMUM LEAKAGE CURRENT @ V_{WM} I_d (μA)	TYPICAL CAPACITANCE @ 0V, 1 MHz C (pF)
EPD3A031L	03	3.3	4.0	7.0	19.0V @ 20.0A	1	1
EPD3C031L	3B	3.3	4.0	7.0	19.0V @ 20.0A	0.050	1
EPD3A051L	05	5.0	6.0	9.8	18.3V @ 17.0A	1	1
EPD3C051L	5B	5.0	6.0	9.8	18.3V @ 17.0A	0.045	1
EPD3A081L	08	8.0	8.5	13.4	18.5V @ 17.0A	1	1
EPD3C081L	8B	8.0	8.5	13.4	18.5V @ 17.0A	1	1
EPD3A121L	12	12.0	13.3	19.0	28.6V @ 11.0A	1	1
EPD3C121L	AB	12.0	13.3	19.0	28.6V @ 11.0A	1	1
EPD3A151L	15	15.0	16.7	24.0	31.8V @ 10.0A	1	1
EPD3C151L	BB	15.0	16.7	24.0	31.8V @ 10.0A	1	1
EPD3A241L	24	24.0	26.7	43.0	56.0V @ 6.0A	1	1
EPD3C241L	CB	24.0	26.7	43.0	56.0V @ 6.0A	1	1

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

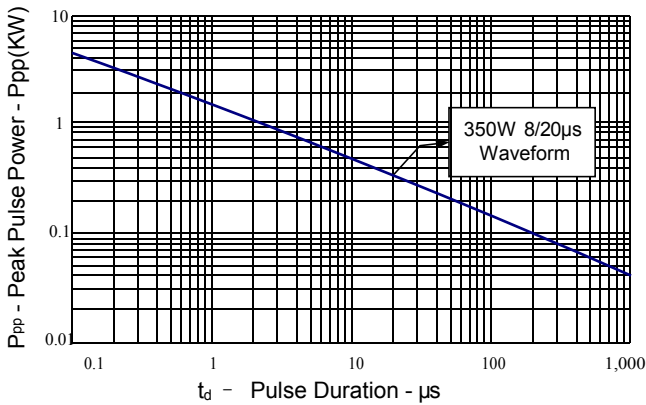


Figure 2: Power Derating Curve

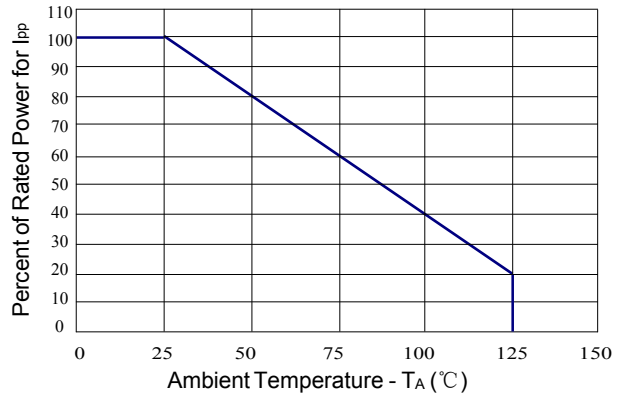


Figure 3: Clamping Voltage vs. Peak Pulse Current

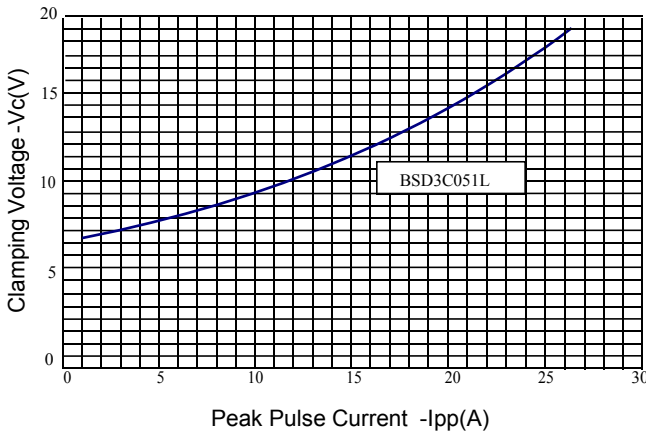


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

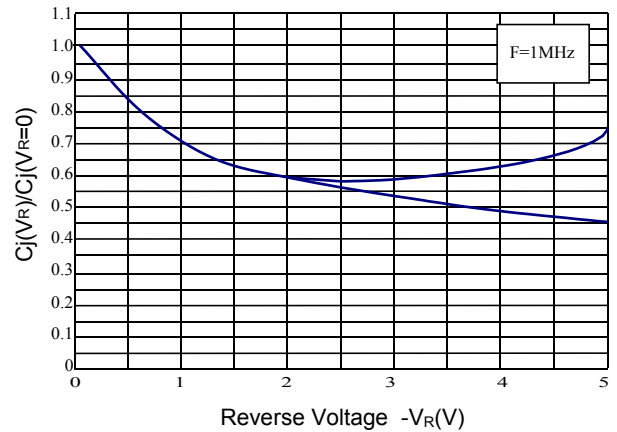


Figure 5: Pulse Waveform

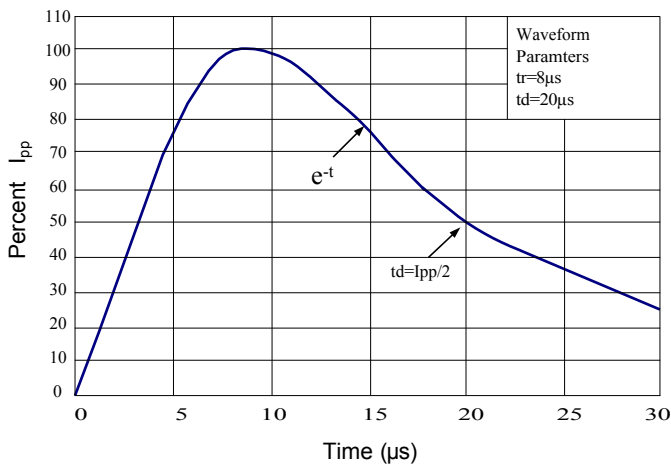
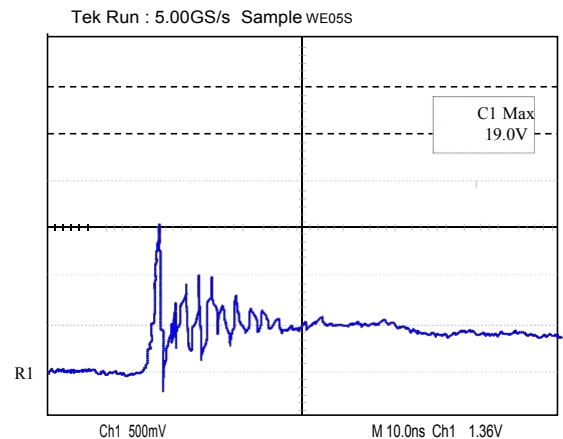
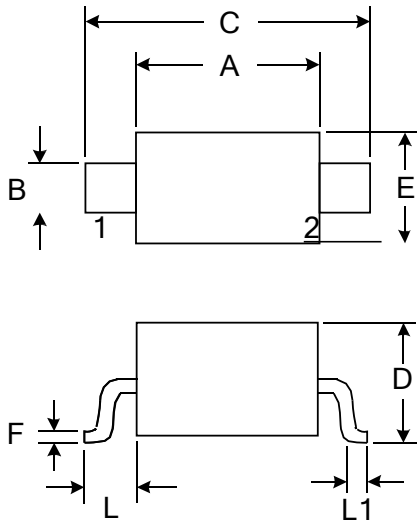


Figure 6: ESD Clamping(8kV Contact per IEC 61000-4-2)



OutlineDrawing–SOD323

PACKAGE OUTLINE



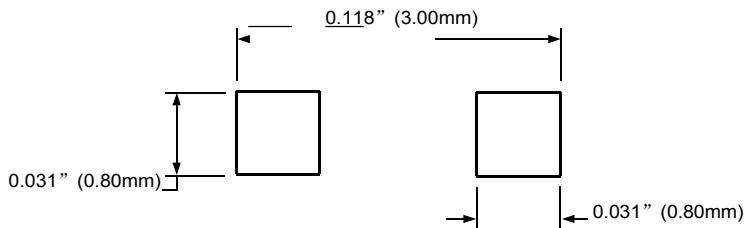
DIMENSIONS

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	1.00	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

Notes

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

MOUNTING PAD



Package

Qty: 3k/Reel

Marking Codes

Part Number	Marking Code
EPD3A031L	03
EPD3C031L	3B
EPD3A051L	05
EPD3C051L	5B
EPD3A081L	08
EPD3C081L	8B
EPD3A121L	12
EPD3C121L	AB
EPD3A151L	15
EPD3C151L	BB
EPD3A241L	24
EPD3C241L	CB