

## ESD Protection Diode

### Features

- 300 Watts Peak Pulse Power per Line ( $t_p = 8/20\mu s$ )  
Replacement for MLV (0805)
- Unidirectional & Bidirectional Configurations
- Protects one I/O or power line
- Low Clamping Voltage
- AEC-Q101 qualified (Automotive grade with suffix "Q".)
- Exsemi technology



### IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD)  $\pm 15kV$  (air),  $\pm 8kV$  (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 24A (8/20 $\mu s$ )

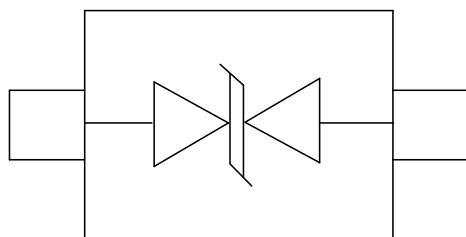
### Mechanical Characteristics

- JEDEC SOD-323 package
- Molding compound flammability rating:  
UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS/WEEE Compliant

### Applications

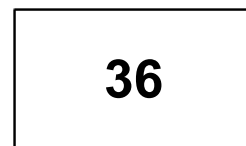
- Laptop Computers
- Cellular Phones
- Digital Cameras
- Personal Digital Assistants (PDAs)

### Dimensions and Pin Configuration



Circuit and Pin Schematic

### Marking Information



36=Device MarkingCode

### Ordering Information

Part Number	Marking	Packaging	Reel Size
EPD36C-H	36	3000/Tape & Reel	7 inch

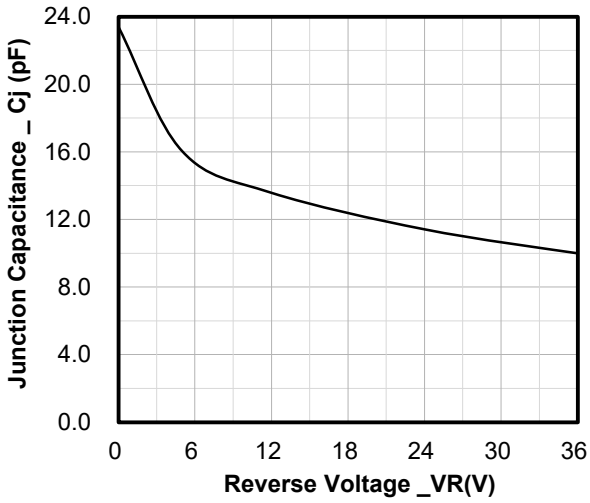
### Absolute Maximum Ratings ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	Ppk	500	W
Peak Pulse Current (8/20 $\mu\text{s}$ )	Ipp	8	A
ESD per IEC 61000-4-2 (Air)	VESD	$\pm 30$	kV
ESD per IEC 61000-4-2 (Contact)		$\pm 30$	
Operating Temperature Range	TJ	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}\text{C}$

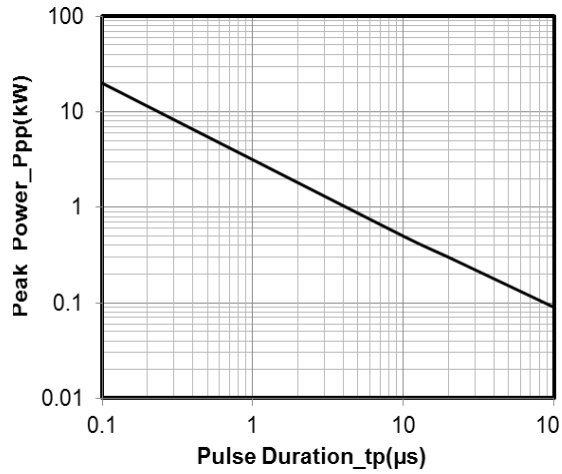
### Electrical Characteristics ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			36	V	
Breakdown Voltage	VBR	38			V	$I_T = 1\text{mA}$
Reverse Leakage Current	$I_R$			0.2	$\mu\text{A}$	$V_{RWM} = 36\text{V}$
Clamping Voltage	$V_C$			50	V	$I_{PP} = 1\text{A}$ (8 x 20 $\mu\text{s}$ pulse)
	$V_C$			75	V	$I_{PP} = 8\text{A}$ (8 x 20 $\mu\text{s}$ pulse)
Junction Capacitance	CJ		25	40	pF	$V_R = 0\text{V}$ , $f = 1\text{MHz}$

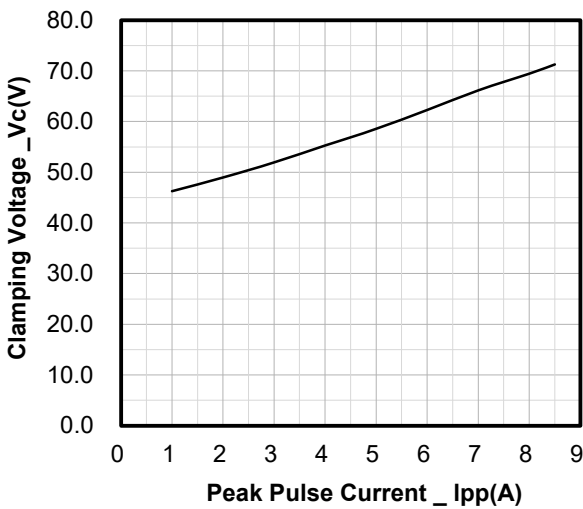
Typical Performance Characteristics (TA=25°C unless otherwise Specified)



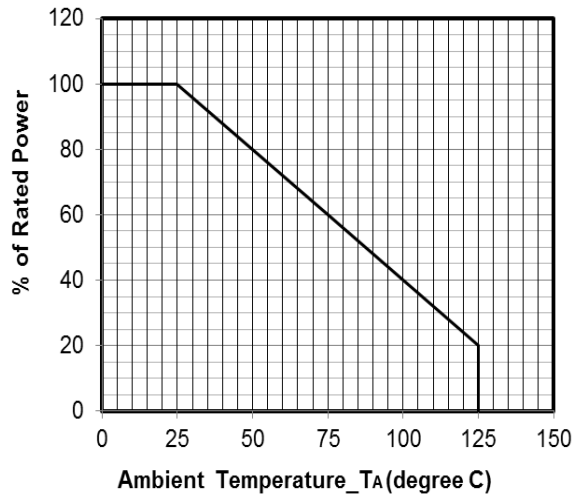
Junction Capacitance vs. Reverse Voltage



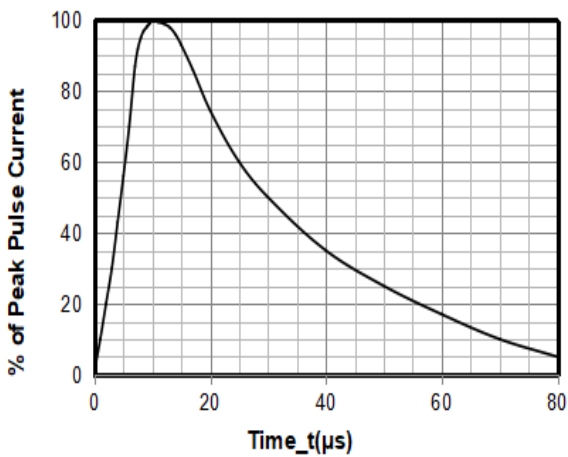
Peak Pulse Power vs. Pulse Time



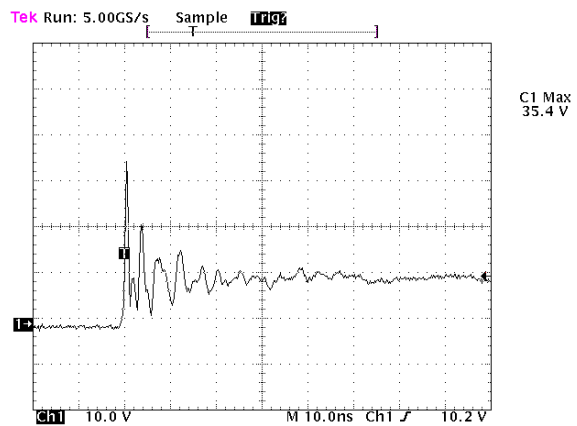
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve

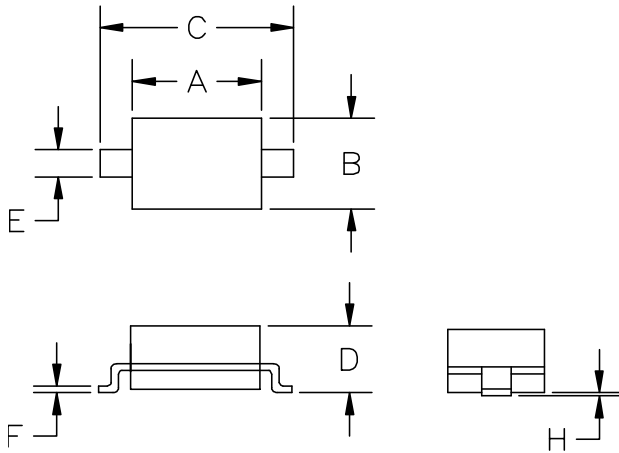


8 X 20μs Pulse Waveform



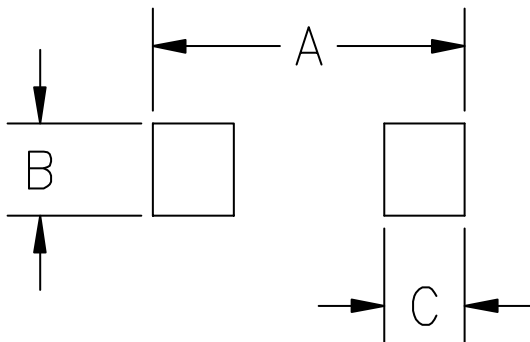
Note: Data is taken with a 10x attenuator  
 ESD Clamping Voltage  
 8 kV Contact per IEC61000-4-2

## SOD-323 Package Outline Drawing



SYM	DIMENSIO			
	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.50	1.80	0.060	0.071
B	1.20	1.40	0.045	0.054
C	2.30	2.70	0.090	0.107
D	-	1.10	-	0.043
E	0.30	0.40	0.012	0.016
F	0.10	0.25	0.004	0.010
H	-	0.10	-	0.004

## Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
A	3.15	0.120
B	0.80	0.031
C	0.80	0.031