

**Description**

The PDCSD36C is a 36V bi-directional TVS diode, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive data and power line. The PDCSD36C complies with the IEC 61000-4-2 (ESD) standard with  $\pm 25$  kV air and  $\pm 20$  kV contact discharge. It is assembled into an ultra-small lead-free SOD-323 package. The small size and high ESD surge protection make PDCSD36C an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

**Features**

- 300W peak pulse power (8/20 $\mu$ s)
- Protects one data or power line
- Ultra low leakage: nA level
- Operating voltage: 36V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test Air discharge:  $\pm 25$ kV
  - IEC61000-4-5 (Lightning) 4A (8/20 $\mu$ s)
- RoHS Compliant

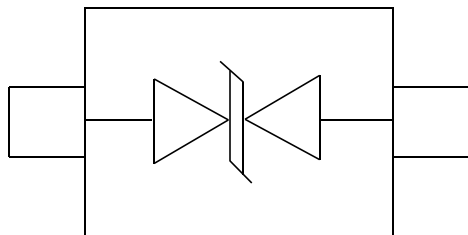
**Mechanical Characteristics**

- Package: SOD-323
- Case Material: "Green" Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Marking Information: See Below

**Applications**

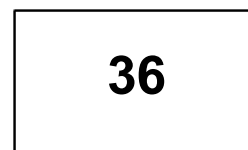
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Peripherals
- Digital Cameras
- Audio Players

**Dimensions and Pin Configuration**



Circuit and Pin Schematic

**Marking Information**



36=Device MarkingCode

**Ordering Information**

Part Number	Marking	Packaging	Reel Size
PDCSD36C	36	3000/Tape & Reel	7 inch

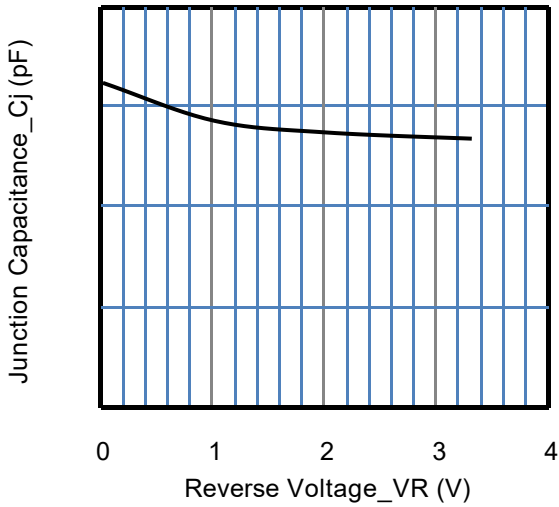
**Absolute Maximum Ratings (TA=25°C unless otherwise specified)**

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20µs)	Ppk	300	W
Peak Pulse Current (8/20µs)	Ipp	4	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	VESD	±25 ±20	kV
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

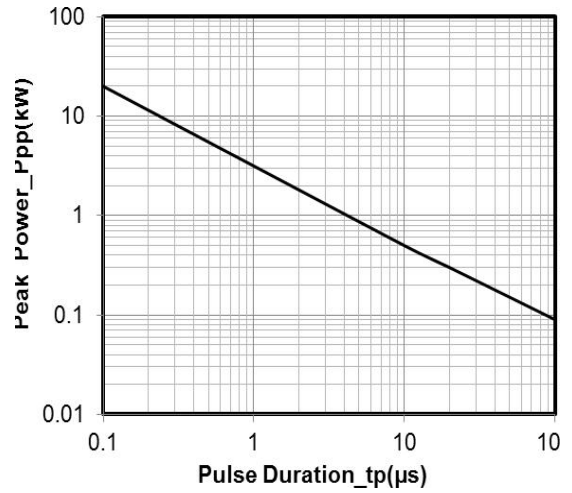
**Electrical Characteristics (TA=25°C unless otherwise specified)**

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			36	V	
Breakdown Voltage	VBR	38			V	IT = 1mA
Reverse Leakage Current	IR			0.2	µA	VRWM = 36V
Clamping Voltage	VC			50	V	I <sub>PP</sub> = 1A (8 x 20µs pulse)
	VC			75	V	I <sub>PP</sub> = 4A (8 x 20µs pulse)
Junction Capacitance	CJ			40	pF	VR = 0V, f = 1MHz

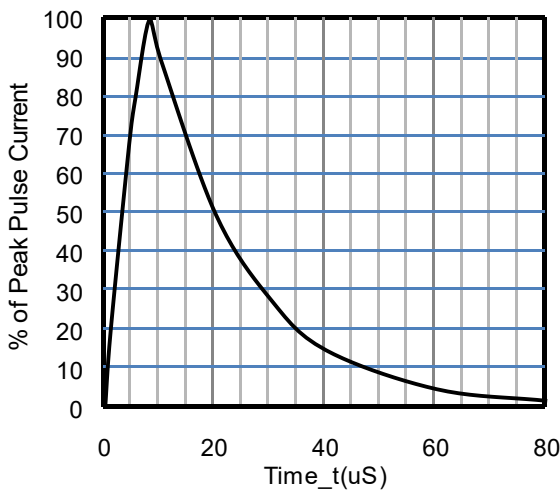
**Typical Performance Characteristics (TA=25°C unless otherwise Specified)**



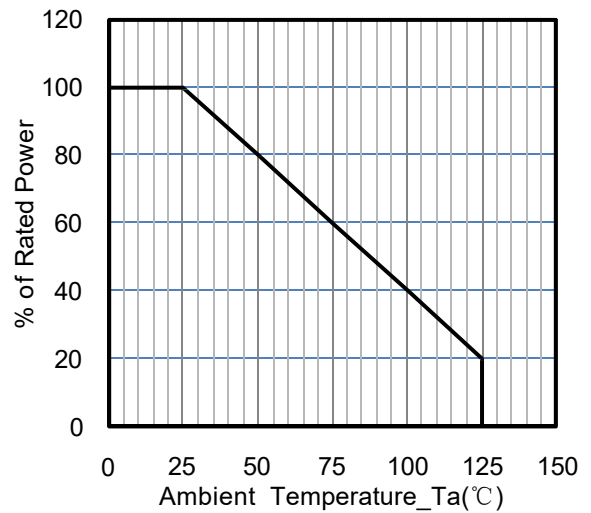
**Junction Capacitance vs. Reverse Voltage**



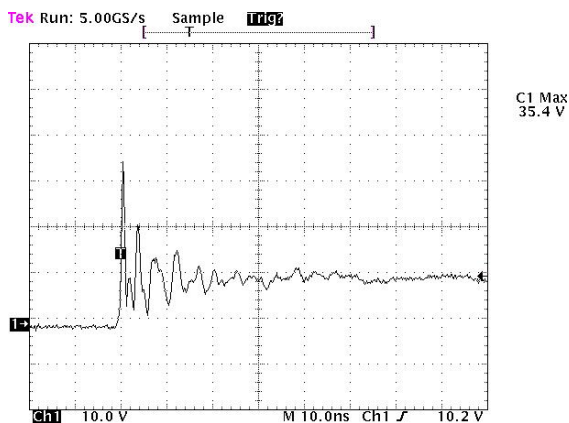
**Peak Pulse Power vs. Pulse Time**



**8 X 20μs Pulse Waveform**



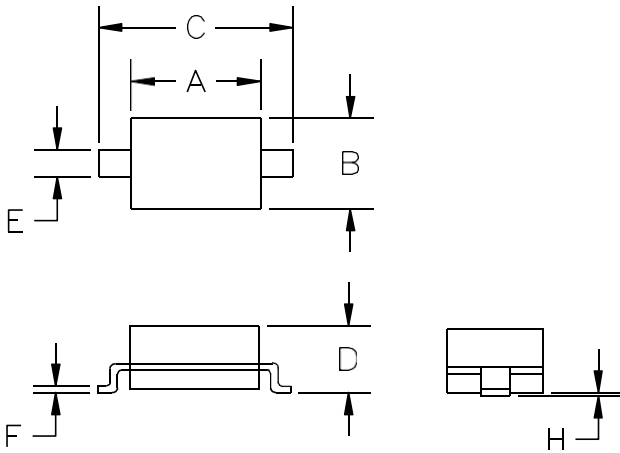
**Power Derating Curve**



**Note: Data is taken with a 10x attenuator**

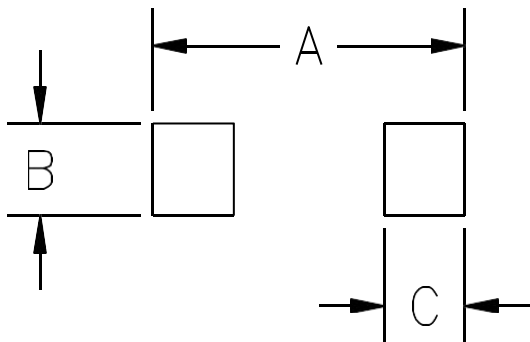
**ESD Clamping Voltage  
8 kV Contact per IEC61000-4-2**

**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