

RSD05C

■Description

The RSD05C is a bidirectional ESD diode designed to protect one I/O or power line from electrostatic discharge (ESD) and transient voltage surges. Utilizing advanced technology, it offers fast response times and low clamping voltage, making it suitable for safeguarding voltage-sensitive circuits in high-speed electronic devices.

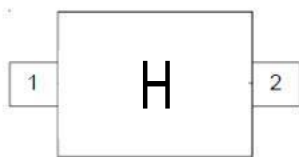
■Features

- 350W (8x20us) Peak Pulse Power
- Low Clamping Voltage
- SOD-323 Package
- RoHS Compliant
- Matte Tin Lead finish (Pb-Free)
- Protect One I/O or Power Line
- Meet IEC61000-4-2 Level 4:Contact Discharge > 30kV ; Air Discharge > 30kV

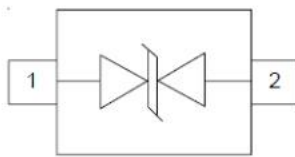
■Applications

- Smart Phones
- Laptop Computers
- Portable Electronics
- High-Speed Data Lines

■Marking Diagram



■Circuit Diagram



■Ordering Information

DEVICE	PACKAGE
RSD05C	3000/Tape & Reel

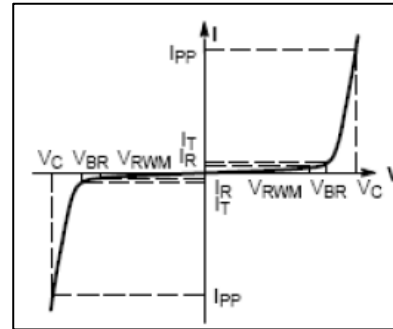
RSD05C

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

Symbol	Parameter	Value	Unit
TJ	Junction Temperature	-55 to +150	°C
TSTG	Storage Temperature	-55 to +150	°C
Ipp Max	Maximum Peak Pulse Current	20	A
PPK	Peak Pulse Power	350	W

Partial Electronic Parameters

Symbol	Parameter
V _C	Clamping Voltage @ I _{PP}
I _{PP}	Peak Pulse Current
V _{BR}	Breakdown Voltage @ I _T
I _T	Test Current
I _R	Reverse Leakage Current @ V _{RWM}
V _{RWM}	Reverse Standoff Voltage

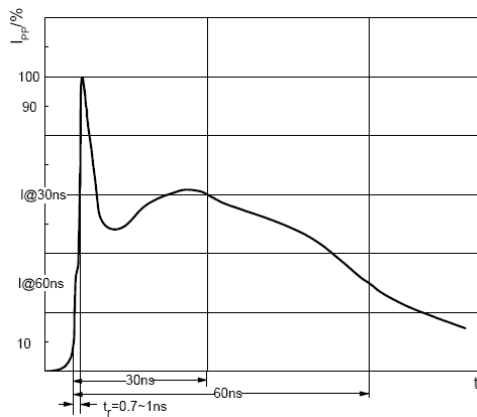


V-I characteristics for a Bi-directional TVS

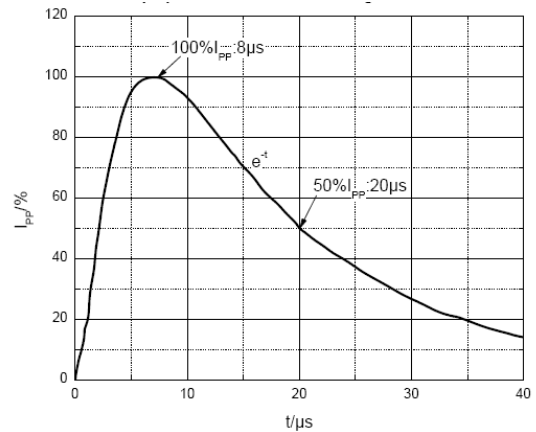
RSD05C

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

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
VRWM	Reverse Working Peak Voltage				5.0	V
VBR	Reverse Breakdown Voltage	IT = 1mA	5.5	7.2	8.5	V
IR	Reverse Leakage Current	VRWM = 5.0 V			0.2	μA
VC	Clamping Voltage	IPP = 1 A (8/20μs)			9	V
VC	Clamping Voltage	IPP = 2.0 A (8/20μs)			17	V
Ipp	Peak Pulse Current	tp = 8/20μs			20	A
CJ	Capacitance	VR = 0V, f = 1MHz			80	pF



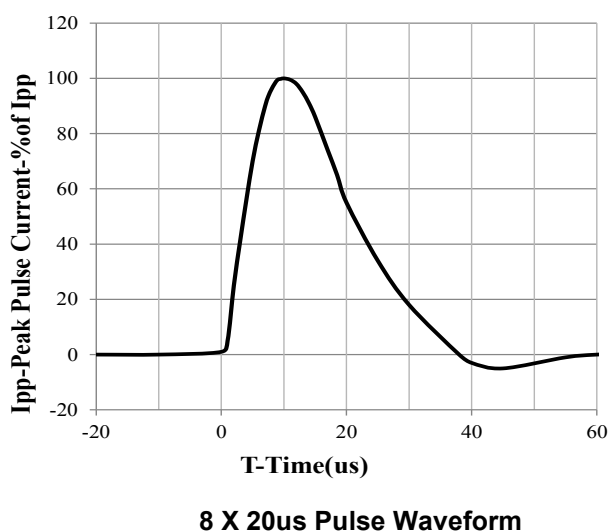
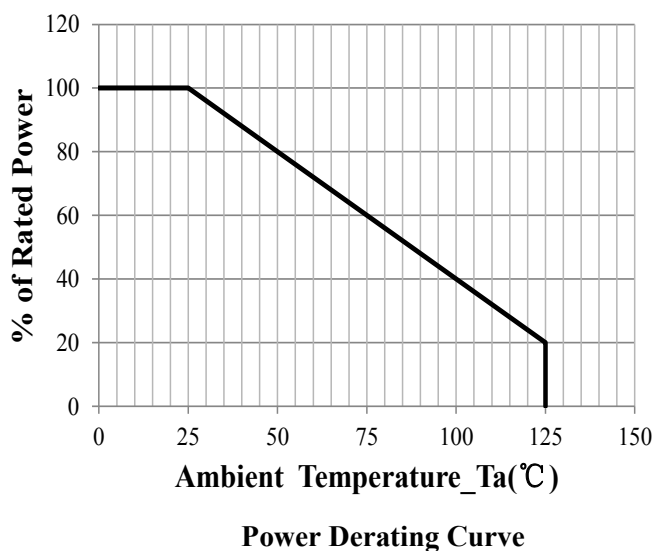
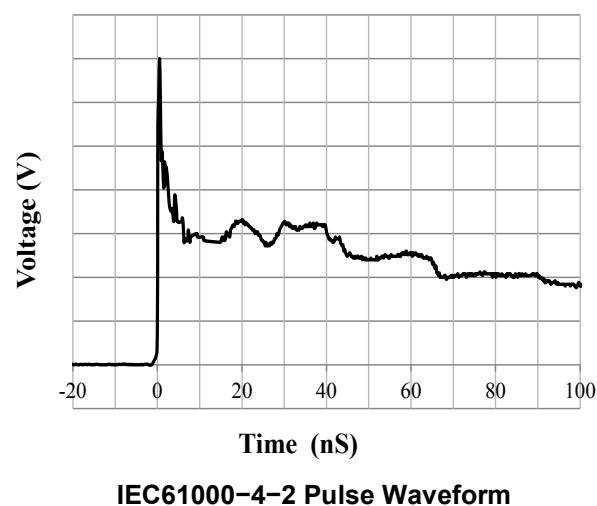
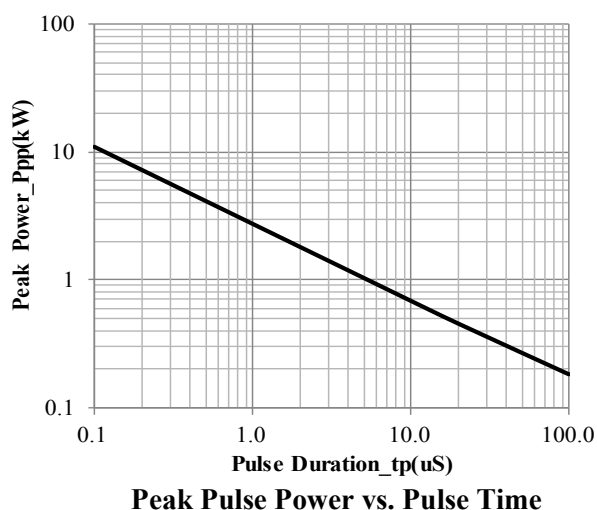
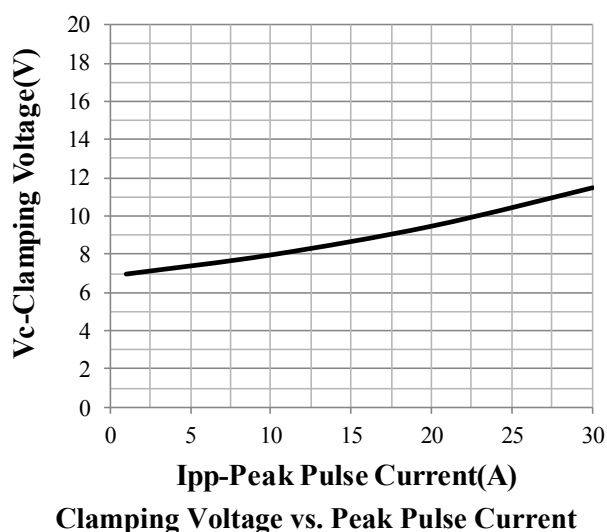
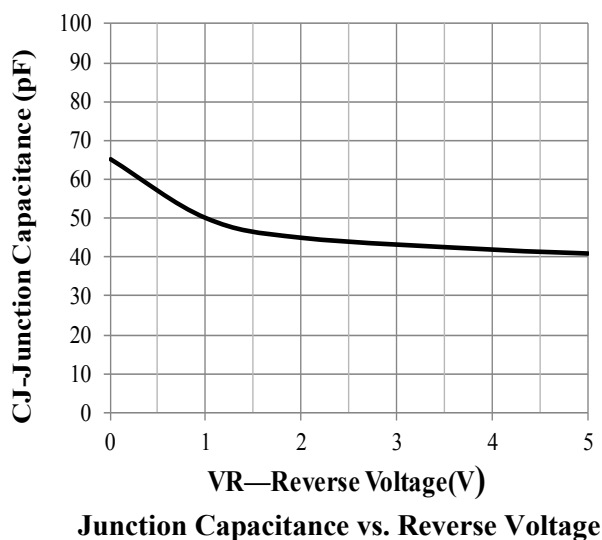
ESD pulse waveform according to IEC61000-4-2



8/20μs pulse waveform according to IEC 61000-4-5

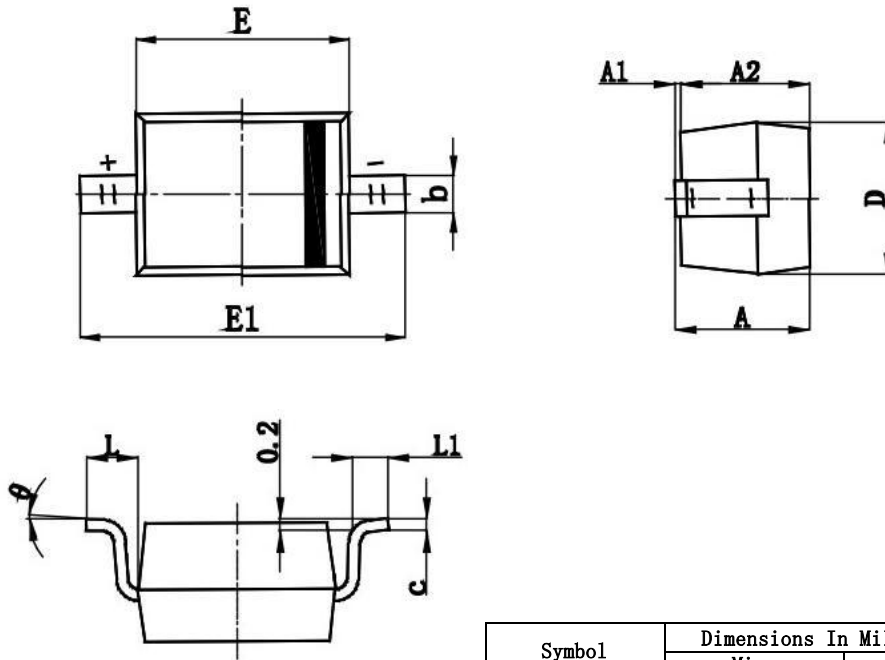
RSD05C

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



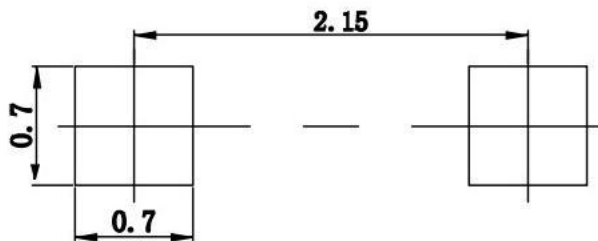
RSD05C

SOD-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A		1.000		0.039
A1	0.000	0.100	0.000	0.004
A2	0.800	0.900	0.031	0.035
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.550	2.750	0.100	0.108
L	0.475 REF.		0.019 REF.	
L1	0.250	0.400	0.010	0.016
θ	0°	8°	0°	8°

SOD-323 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.