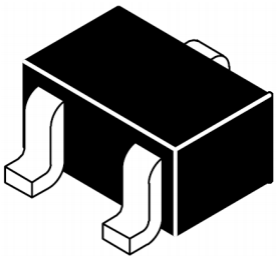
2-Line Bi-directional TVS Diode

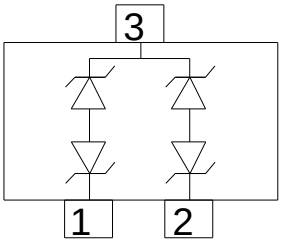
Features

- Ultra low leakage: nA level
- Operating voltage: 24V
- Low clamping voltage
- Complies with following standards:
  – IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±25kV
    Contact discharge: ±25kV
  – IEC61000-4-4 (EFT) 40A (5/50ns)
  – IEC61000-4-5 (Lightning) 3A (8/20 μs)
- RoHS Compliant

Dimensions SOT-323



Pin Configuration



Applications

- all key interfaces in automotive
- CAN-FD
- LIN
- FlexRay
- MOST
- SENT

Mechanical Characteristics

- Package: SOT-323
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel:3000pcs
- Reel Size:7 inch
- Device Marking: C03

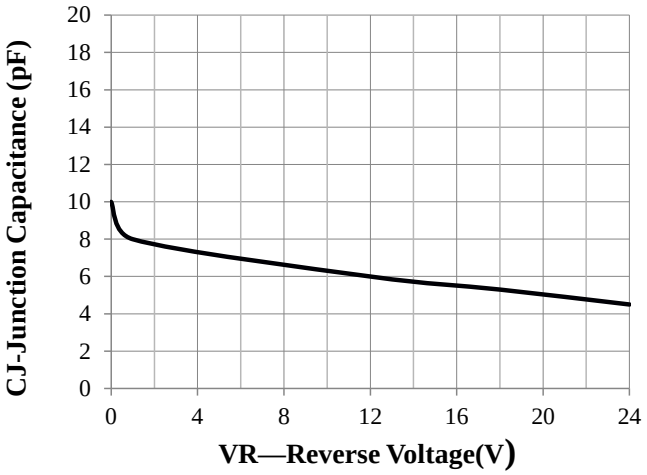
Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppp	200	W
ESD per IEC 61000−4−2 (Air)	V_{ESD}	±25	Kv
ESD per IEC 61000−4−2 (Contact)		±25	
Operating Temperature Range	T_J	-45 to +150	℃
Storage Temperature Range	T_{STJ}	-55 to +150	℃

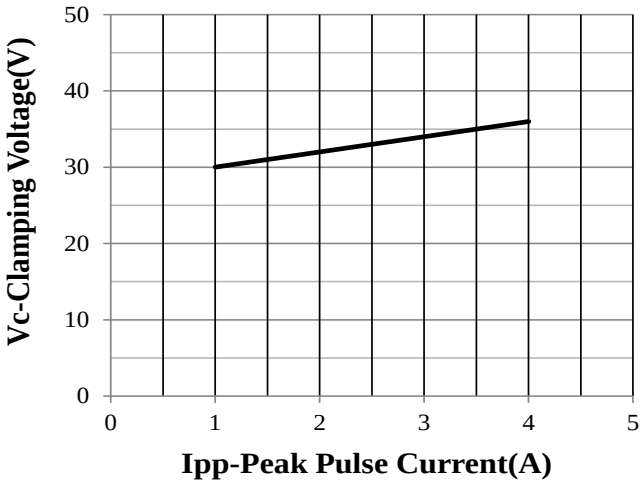
Electrical Characteristics(TA=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				24	V
Breakdown Voltage	V_{BR}	I_T = 1mA	26.7	28	33	V
Reverse Leakage Current	I_R	V_{RWM} = 24V			1	μA
Clamping Voltage	V_C	I_{PP} = 1A (8 x 20 μs pulse)		35	40	V
Clamping Voltage	V_C	I_{PP} = 3A (8 x 20 μs pulse)		38	60	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz		20		pF

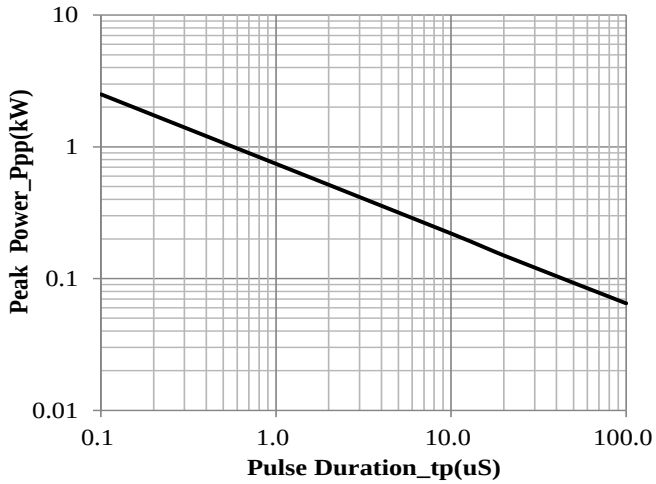
Typical Performance Characteristics (T A =25°C unless otherwise Specified)



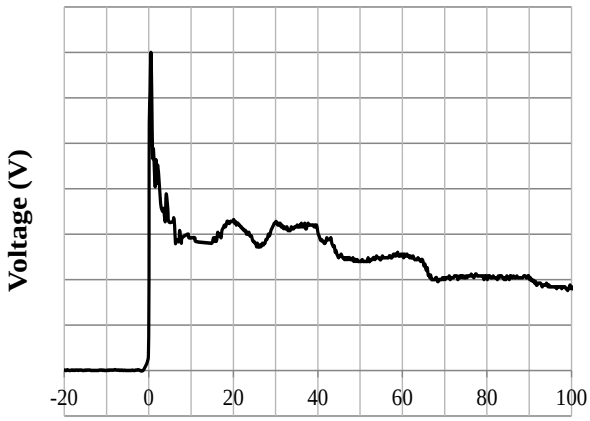
Junction Capacitance vs. Reverse Voltage



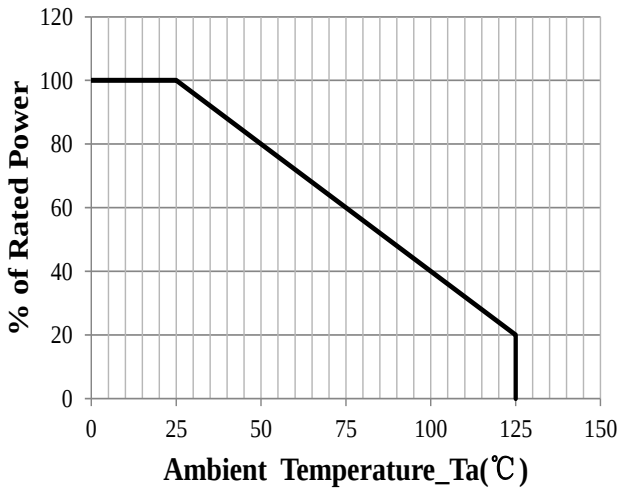
Clamping Voltage vs. Peak Pulse Current



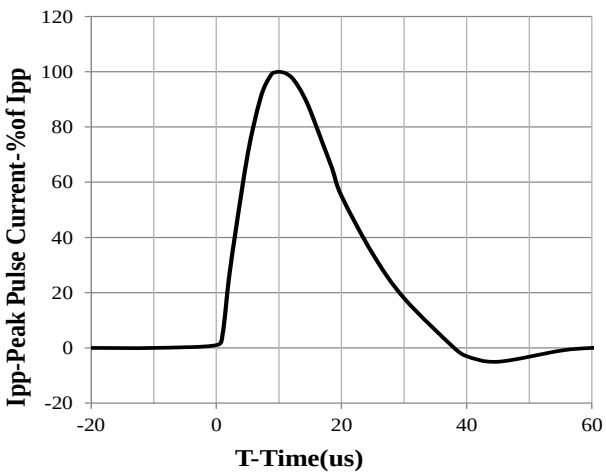
Peak Pulse Power vs. Pulse Time



IEC61000−4−2 Pulse Waveform

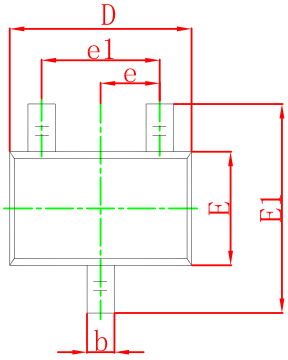


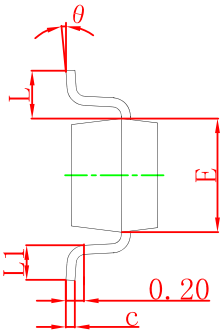
Power Derating Curve

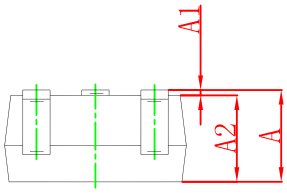


8 X 20us Pulse Waveform

SOT-323 Package Outline & Dimensions

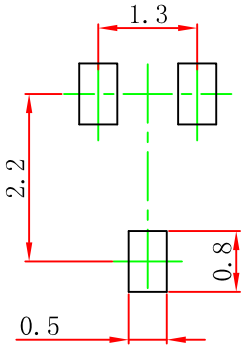






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

SOT-323 Suggested Pad Layout



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