

Transient Voltage Suppressor

Features

- ◆500 Watts Peak Pulse Power per Line (tp = 8/20μs)
- ◆Protects one I/O or power line
- ◆Low Clamping Voltage
- ◆Working Voltage:18V
- ◆Low Leakage Current
- ◆Response Time is Typically < 1 ns

IEC COMPATIBILITY (EN61000-4)

- ◆IEC 61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- ◆IEC 61000-4-4 (EFT) 40A (5/50ns)
- ◆IEC 61000-4-5 (Lightning) 12A (8/20μs)

Mechanical Characteristics

- ◆JEDEC SOD-323 package
- ◆Molding compound flammability rating: UL 94V-0
- ◆Marking:Marking Code
- ◆RoHS Compliant

Applications

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

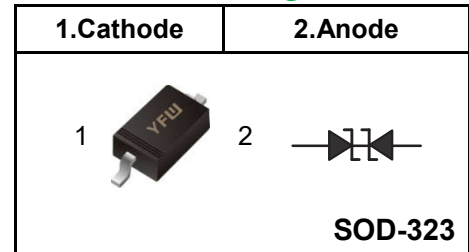
MECHANICAL DATA

- ◆Case:SOD-323
- ◆Terminals: Solderable per MIL-STD-750, Method 2026
- ◆Approx. Weight: 5.48mg / 0.00019oz

Electronics Parameter

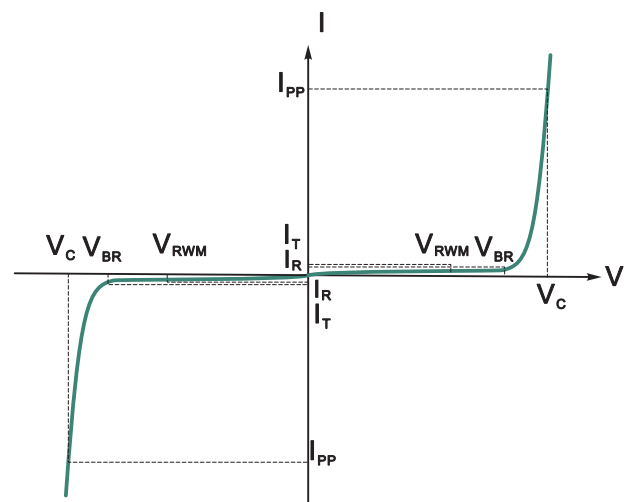
Parameter	Symbol
Maximum Reverse Peak Pulse Current	I_{PP}
Clamping Voltage @ I_{PP}	V_C
Peak Reverse Working Voltage	V_{RWM}
Reverse Leakage Current @ V_{RWM}	I_R
Breakdown Viltage @ I_T	V_{BR}
Test Current	I_T
Forward Current	I_F
Forward Voltage @ I_F	V_F

Pinning



Marking Code

ESD18C	k
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Absolute Maximum Rating

Rating	Symbol	Value	Unit
Peak Pulse Power(tp=8/20us)	P _{PP}	500	W
Peak Pulse Current(tp=8/20us)	I _{PP}	12	A
Operating Junction Temperature	T _J	-55 to +125	°C
Storage Temperature	T _{STG}	-55 to +150	°C

**Electrical Characteristics
(T_{amb}=25°C)**

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V _{RWM}				18.0	V
Reverse Breakdown Voltage	V _{BR}	I _T =1mA	13.3			V
Reverse Leakage Current	I _R	V _{RWM} =18V, T _a =25°C			1.0	uA
Clamping Voltage	V _C	I _{PP} =12A, tp=8/20us		33	35	V
Junction Capacitance	C _j	V _R =0V, f=1HMz		25		pF

Fig.1 Non-Repetitive Peak Pulse Power vs. Pulse Time

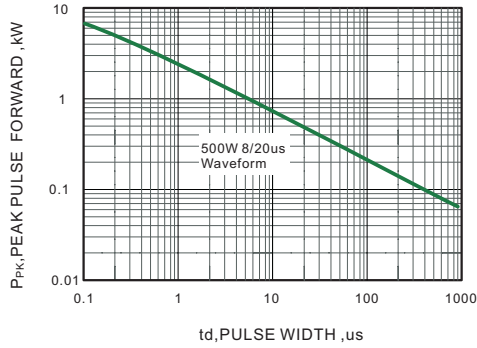


Fig.2 Forward Current Derating Curve

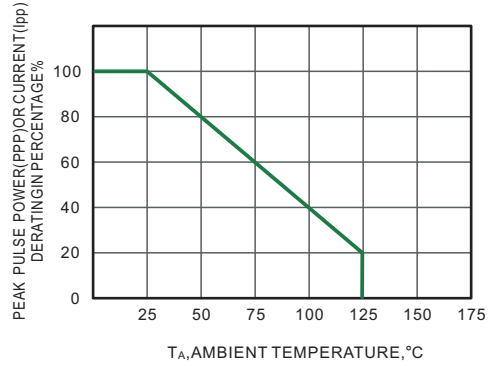


Fig.3 Waveform

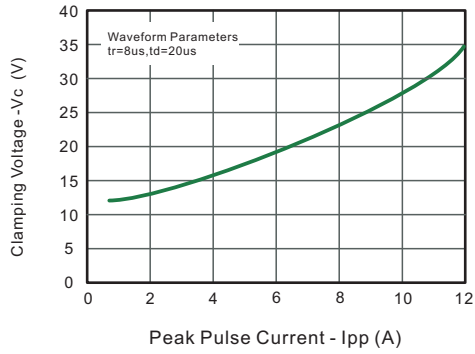


Fig.4 Power Derating Curve

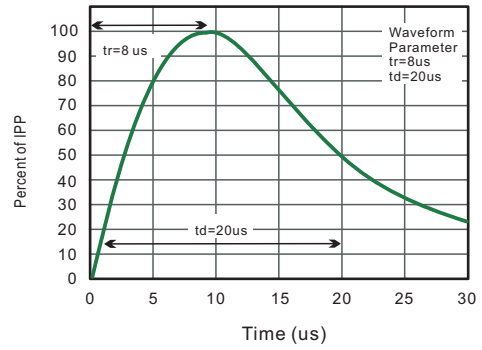
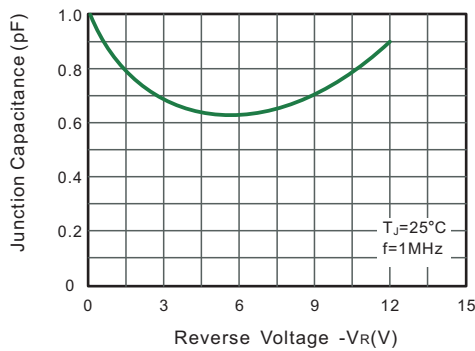


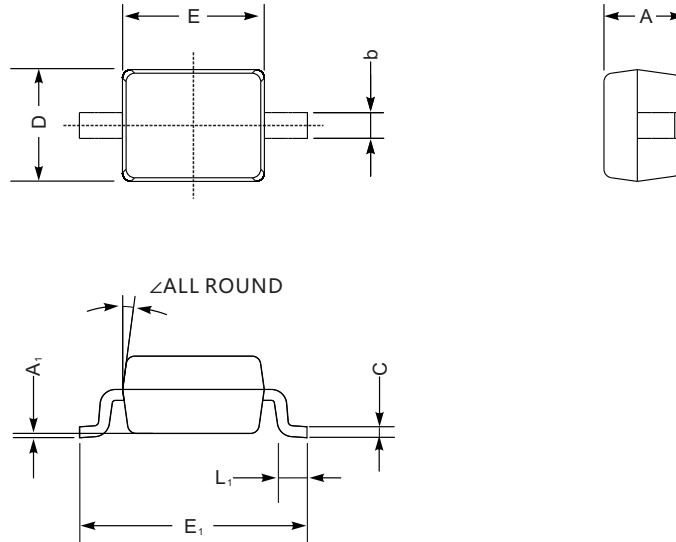
Fig.5 Typical Junction Capacitance



Package Outline

SOD-323

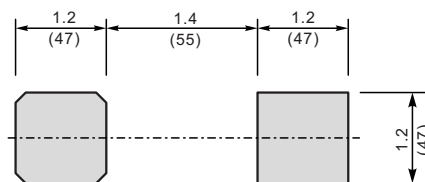
Plastic surface mounted package; 2 leads



mechanical data

UNIT		A	C	D	E	E ₁	b	L ₁	A ₁	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	—	

The recommended mounting pad size



Unit: $\frac{\text{mm}}{\text{mil}}$

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOD-323	Tape/Reel, 7" reel	3000	EIA-481-1