

Features

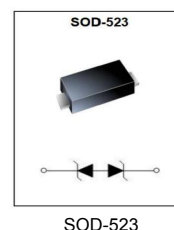
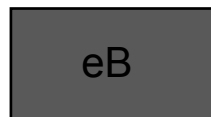
Bi-directional ESD protection of one line
Reverse stand-off voltage: 3.3V
Low reverse clamping voltage
Low leakage current
Fast response time
IEC 61000-4-2 (ESD) immunity test :
Air discharge: $\pm 30\text{kV}$
Contact discharge: $\pm 30\text{kV}$

Mechanical Data

SOD523 package
Molding compound flammability rating: UL 94V-0
Packaging: Tape and Reel
RoHS/WEEE Compliant

Applications

Computers and peripherals
High speed data lines
Audio and video equipment
Cellular handsets and accessories
Subscriber identity module (SIM) card protection
Portable electronics
FireWire
Other electronics equipments communication systems



Schematic & PIN Configuration

Absolute Maximum Rating

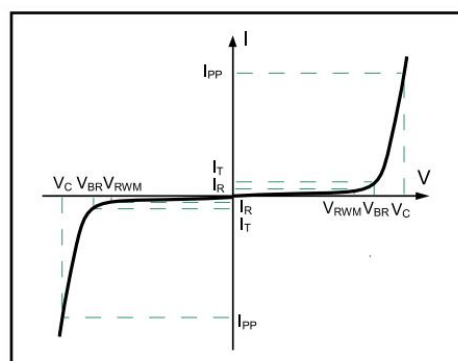
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	80	W
Peak Pulse Current (8/20 μs)	IPP	8	A
ESD per IEC 61000-4-2 (Air)	VESD	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	TJ	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics

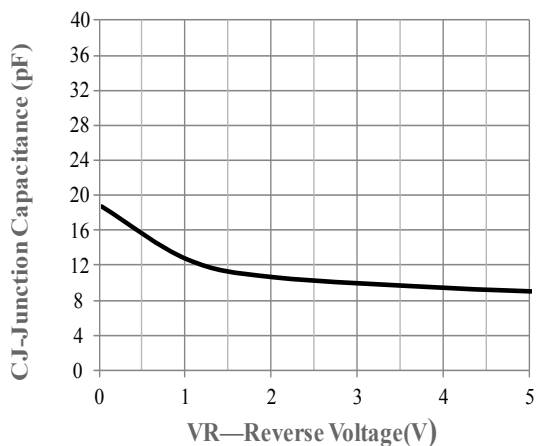
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				3.3	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	3.5		6	V
Reverse Leakage Current	I_R	$V_{RWM} = \pm 3.3\text{V}$			0.1	μA
Clamping Voltage	V_C	$I_{PP} = 8\text{A}$ (8 x 20 μs pulse)			10	V
Junction Capacitance	C_j	$V_R = 0\text{V}$, $f = 1\text{MHz}$			20	pF

Electronics Parameter

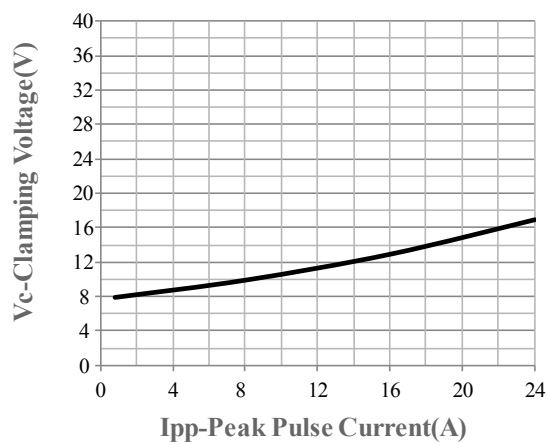
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_C
V_{BR}	Breakdown Voltage @ I_T
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Standoff Voltage



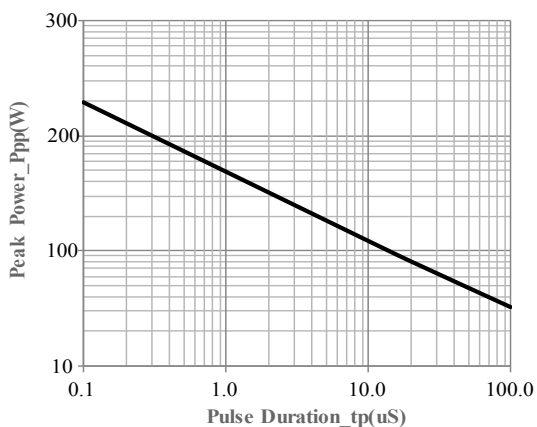
RATING AND CHARACTERISTIC CURVES



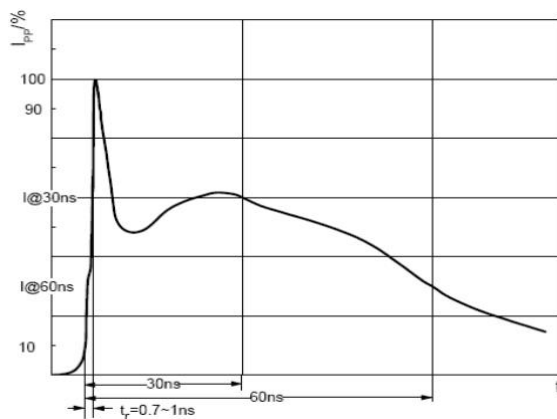
Junction Capacitance vs. Reverse Voltage



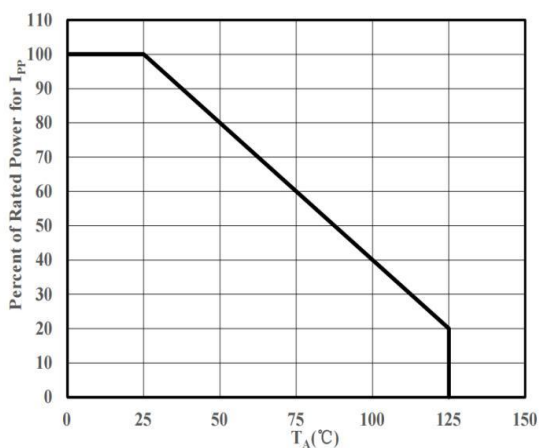
Clamping Voltage vs. Peak Pulse Current



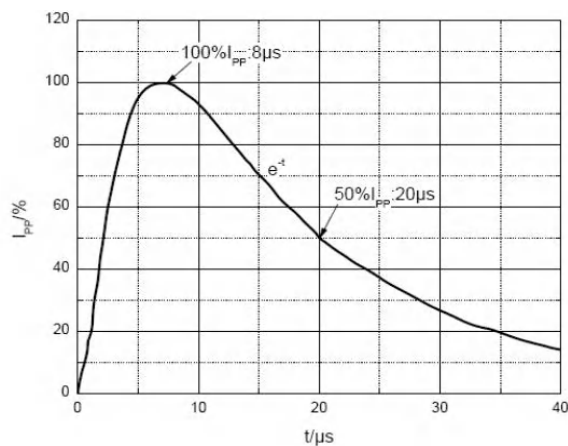
Peak Pulse Power vs. Pulse Time



ESD pulse waveform according to IEC61000-4-2



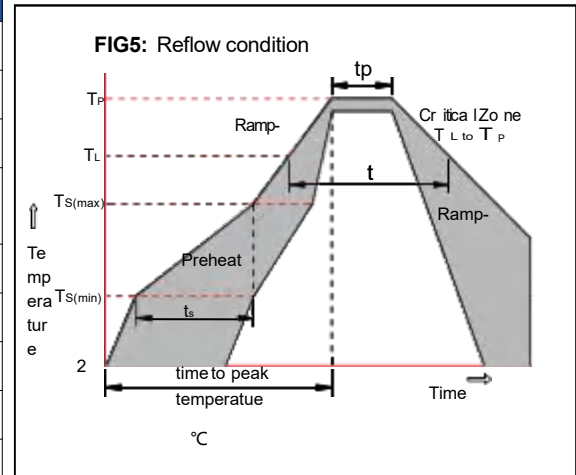
Power Derating Curve



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

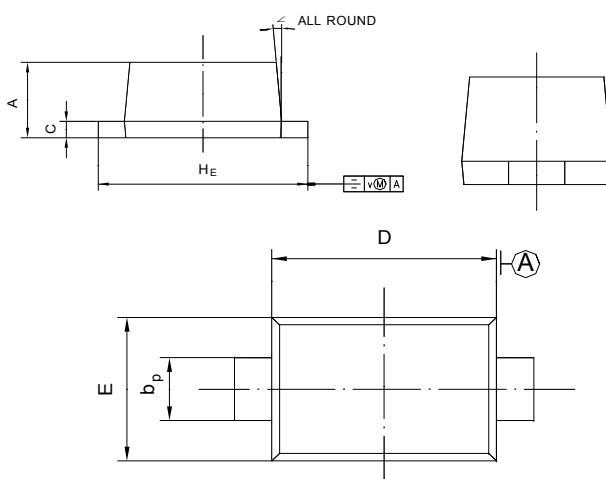
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C

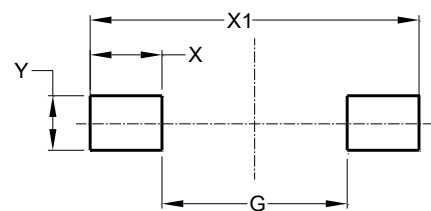


Package Dimensions & Suggested Pad Layout

SOD523



UNIT	A	b _p	C	D	E	H _E	V	∠
mm	0.70 0.50	0.40 0.20	0.14 0.05	1.30 1.10	0.90 0.75	1.70 1.50	0.1	5°



Dimensions	Value (in mm)
G	0.85
X	0.70
X1	2.25
Y	0.80

Tape & reel specification

Tape	Symbol	Dimension (mm)
	P0	4.00±0.20
	P1	2.00±0.20
	P2	2.00±0.20
	D0	1.55±0.20
	D1	0.50±0.20
	E	1.55±0.25
	F	3.60±0.20
	W	8.00±0.20
	A0	1.30±0.20
	B0	2.35±0.20
	K0	0.95±0.20
	T	0.20±0.20
	D2	177.0±5.0
7" Reel	D3	55Min.
	D4	R24.6±2.0
	G	R82.0±2.0
	I	13.0±2.0
	W1	10.20±3.0
	Quantity: 3000PCS	

