

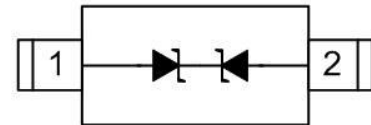
Features

200W (8/20 μ s) Peak Pulse Power
 Low Capacitance ESD Protection
 SOD - 523 Package
 RoHS Compliant
 Matte Tin Lead finish (Pb - Free)
 Protect One High Speed Data Line
 Meet IEC61000 - 4 - 2 Level 4: Contact Discharge > 30kV; Air Discharge > 30kV



Applications

Communication System
 Portable Instrumentation
 Audio and Video Equipment
 Computers and Peripherals
 USB 1.1, USB 1.0 Ports



Schematic & PIN Configuration

Absolute Maximum Rating

Symbol	Parameter	Value	Unit
PPK	Peak Pulse Power	200	W
IPP	Peak Pulse Current	5	A
VESD (Contact)	Contact ESD Voltage per IEC61000-4-2	30	kV
VESD (Air)	Air ESD Voltage per IEC61000-4-2	30	kV
TJ	Junction Temperature	-55 to +150	°C
TSTG	Storage Temperature	-55 to +150	°C

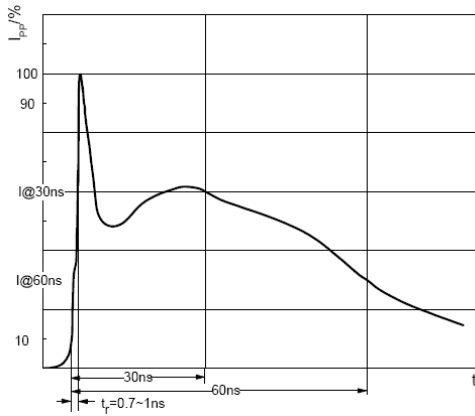
ESD Standards Compliance

IEC61000-4-2 Standard

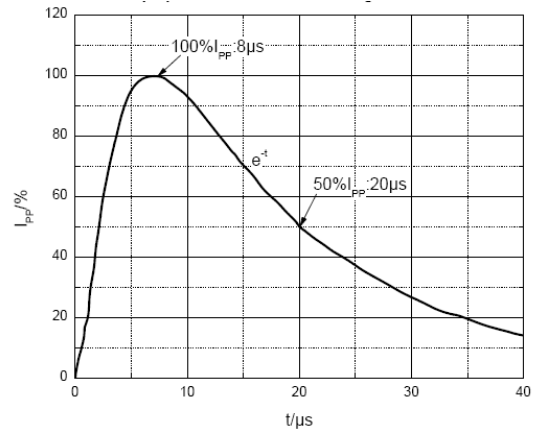
Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

JESD22-A114-B Standard

ESD Class	Human Body Discharge V
0	0~249
1A	250~499
1B	500~999
1C	1000~1999
2	2000~3999
3A	4000~7999
3B	8000~15999



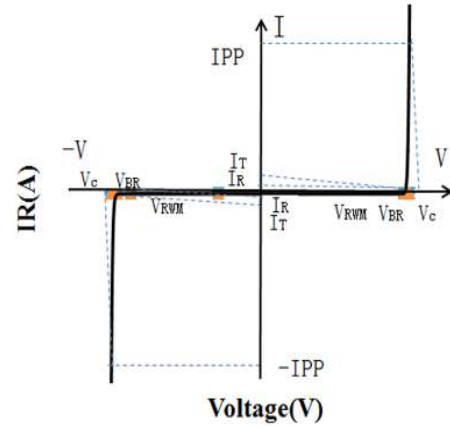
ESD pulse waveform according to IEC61000-4-2



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

Electrical Parameters (TA = 25°C unless otherwise noted)

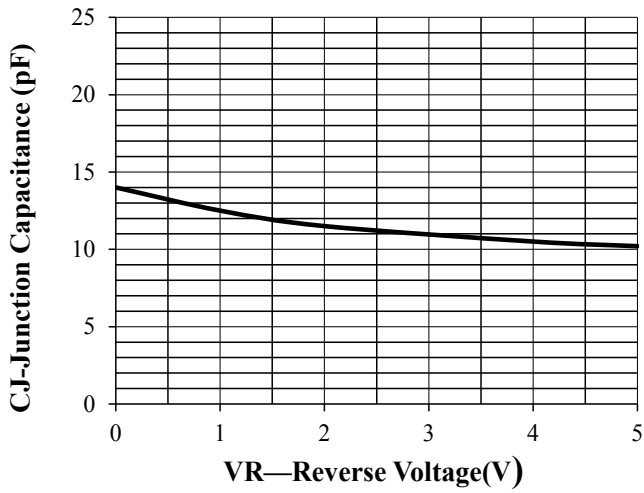
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_c	Clamping Voltage @ I_c



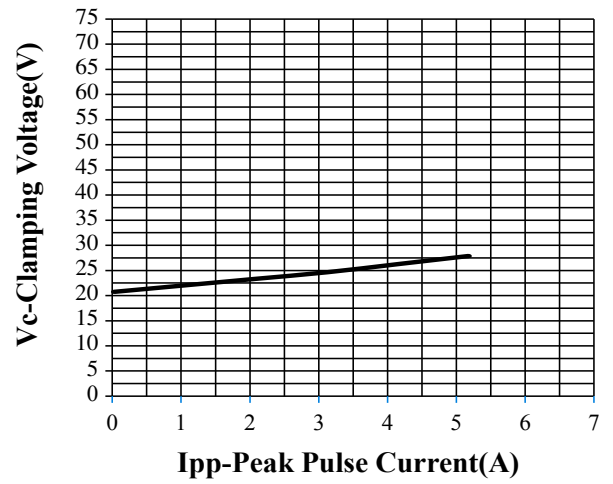
Electrical Characteristics (TA=25°C unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{RWM}	Reverse Working Peak Voltage				15	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1\text{mA}$	16.5	18	21	V
I_R	Reverse Leakage Current	$V_{RWM} = 12\text{V}$			0.2	μA
V_c	Clamping Voltage	$I_{PP} = 1\text{A} (8/20\mu\text{s})$			25	V
V_c	Clamping Voltage	$I_{PP} = 6\text{A} (8/20 \mu\text{s})$		27	40	V
C_J	Capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$		14	20	pF

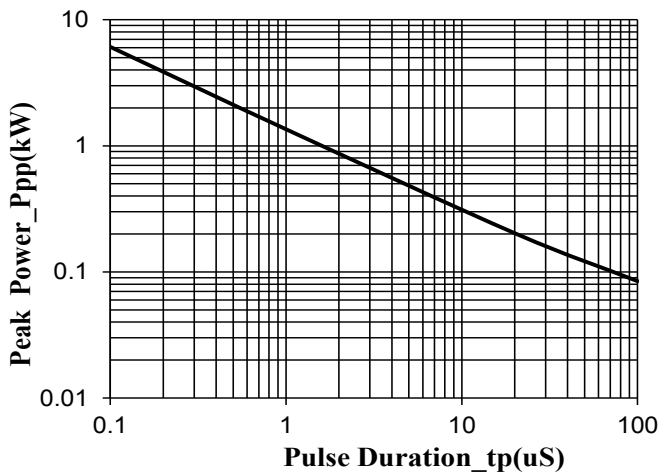
RATING AND CHARACTERISTIC CURVES



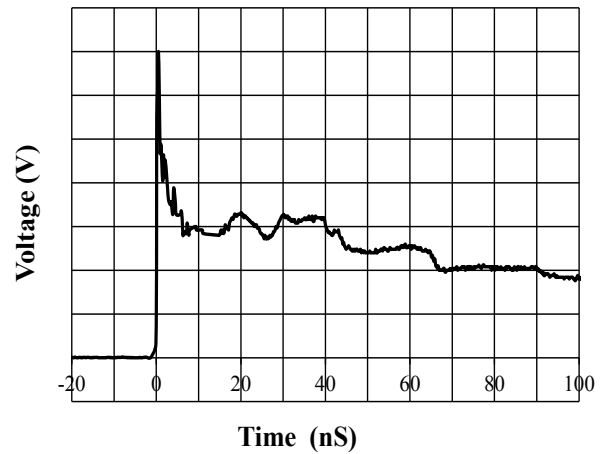
Junction Capacitance vs. Reverse Voltage



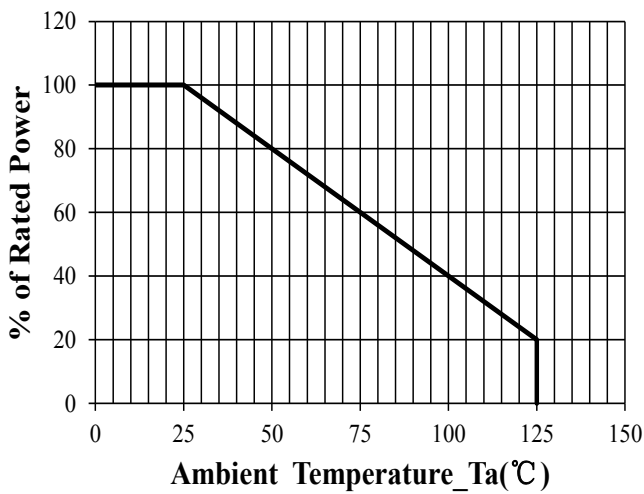
Clamping Voltage vs. Peak Pulse Current



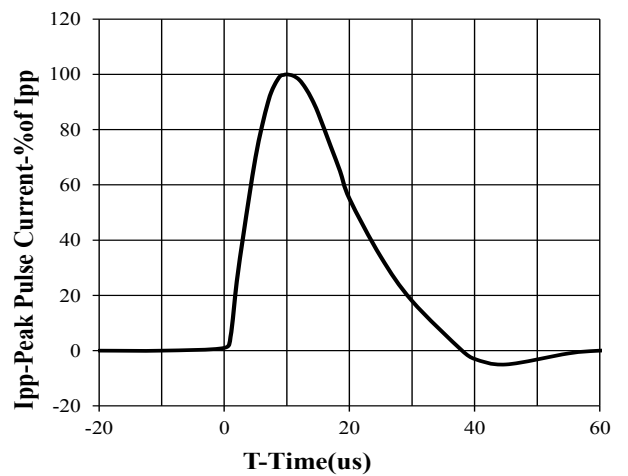
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



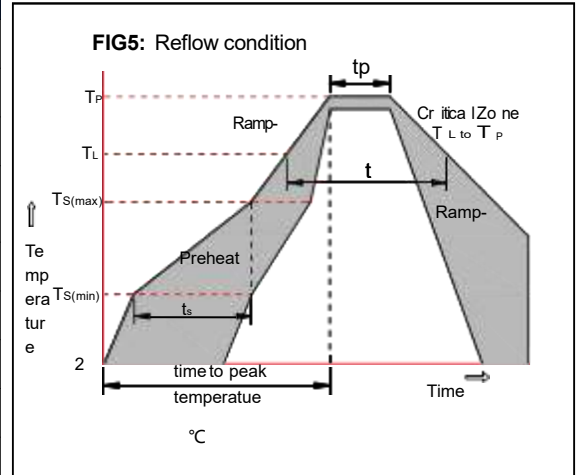
Power Derating Curve



8 X 20us Pulse Waveform

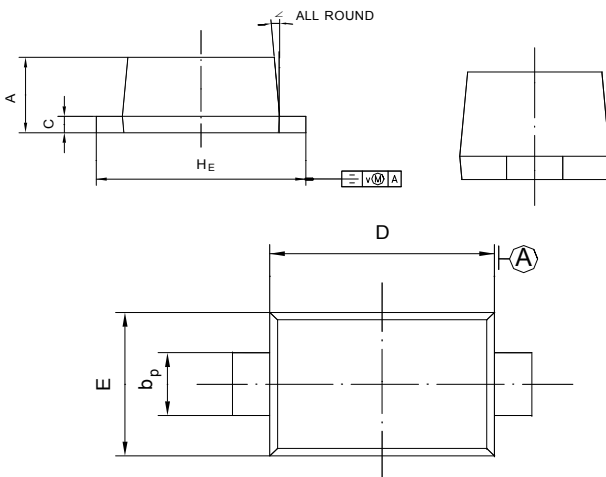
Soldering parameters

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

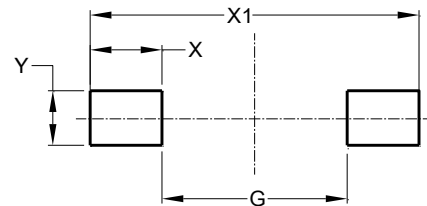


Package Dimensions & Suggested Pad Layout

SOD523

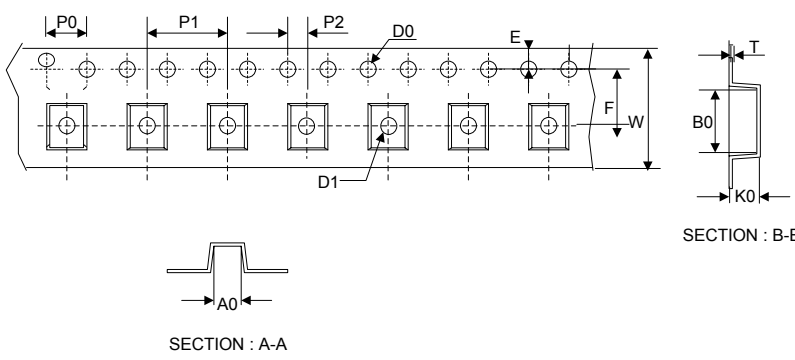
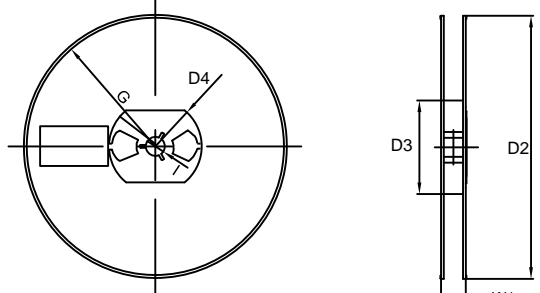


UNIT	A	b _p	C	D	E	H _E	V	∠
mm	0.70 0.50	0.40 0.20	0.14 0.05	1.30 1.10	0.90 0.75	1.70 1.50	0.1	5°



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	
	<p>7" Reel</p> 	D2	177.0±5.0
		D3	55Min.
		D4	R24.6±2.0
		G	R82.0±2.0
		I	13.0±2.0
		W1	10.20±3.0
		Quantity: 3000PCS	