

Features

80Watts peak pulse power($t_p=8/20\mu s$)
Bi-directional configurations
Solid-state silicon-avalanche technology
Low leakage current
Low clamping voltage
IEC 61000-4-2(ESD) $\pm 30kV$ contact $\pm 30kV$ air
IEC61000-4-4(EFT) 40A (5/50ns)
IEC 61000-4-5(Lightning) 8A (8/20 μs)

Mechanical Data

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

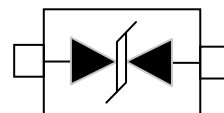
Applications

Microprocessor based equipment
Personal Digital Assestants(PDA's)
Notebooks, Desktops, and Servers
Pagers Peripherals

eB



SOD523



Schematic & PIN Configuration

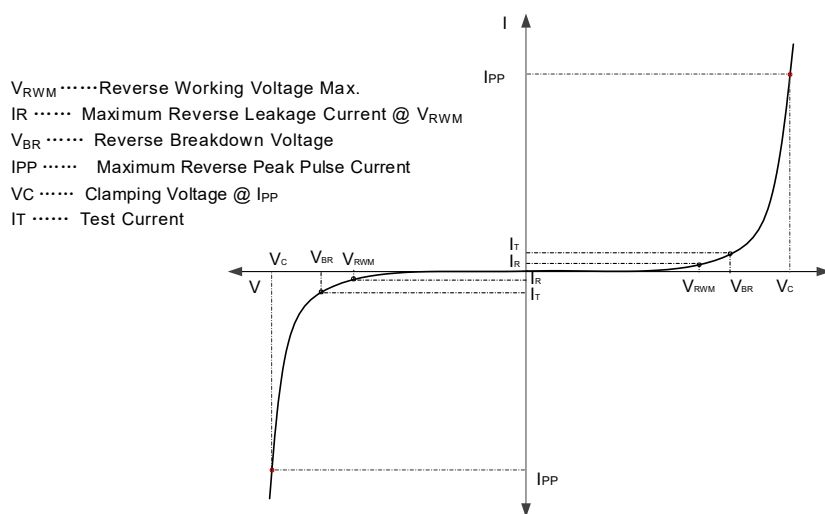
Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu s$)	P_{pp}	80	Watts
Peak Pulse Current ($t_p=8/20\mu s$) (Note1)	I_{pp}	8	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	30 30	kV
Lead Soldering Temperature	T_L	260(10seconds)	$^{\circ}C$
Junction Temperature	T_J	-55 to + 150	$^{\circ}C$
Storage Temperature	T_{stg}	-55 to + 150	$^{\circ}C$

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	3.6			
Reverse Leakage Current	I_R	$V_{RWM}=3.3V, T=25^{\circ}C$			0.5	μA
Clamping Voltage	V_C	$I_{PP}=8A, t_p=8/20\mu s$		8		V
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$		18		pF

Electronics Parameter



Note1: 8/20 μs pulse waveform.

RATING AND CHARACTERISTIC CURVES

Figure 1: Peak Pulse Power vs. Pulse Time

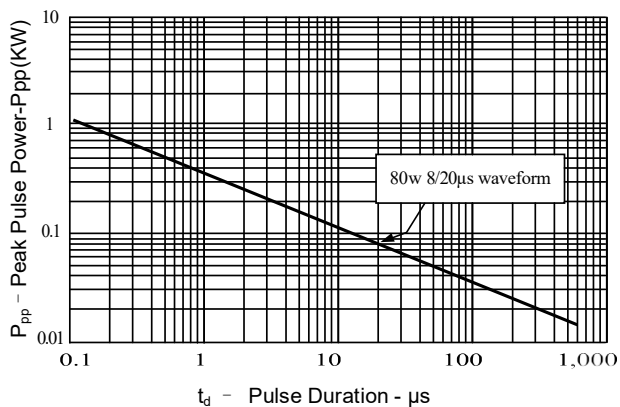


Figure 2: Power Derating Curve

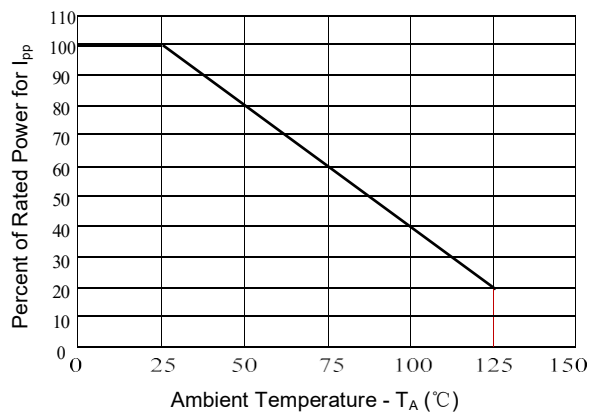


Figure3: Pulse Waveform

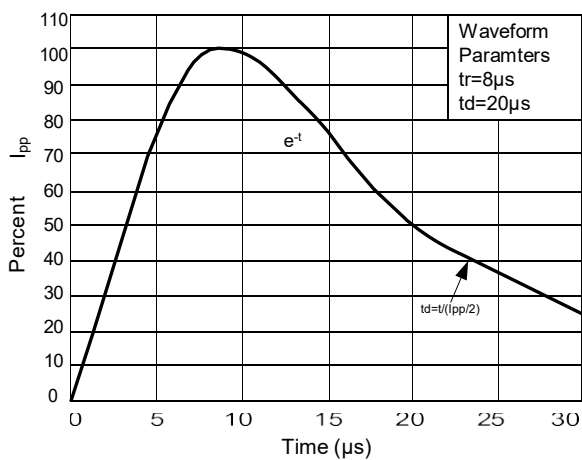
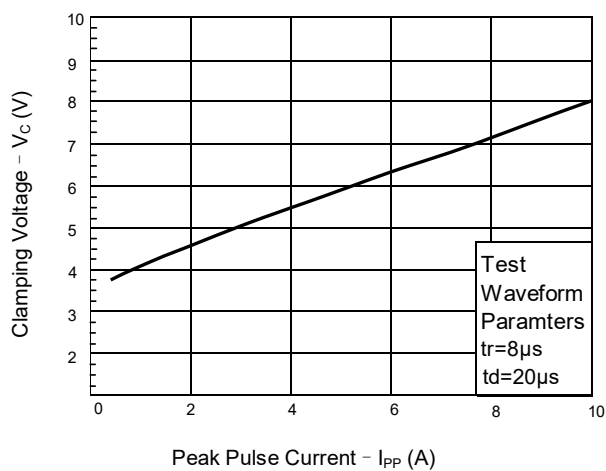
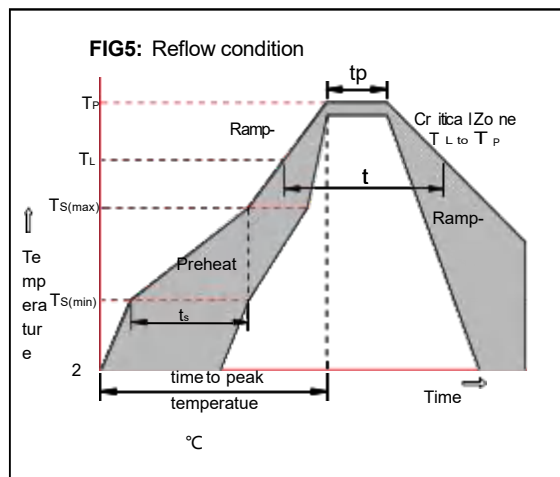


Figure 4: Clamping Voltage vs. Ipp



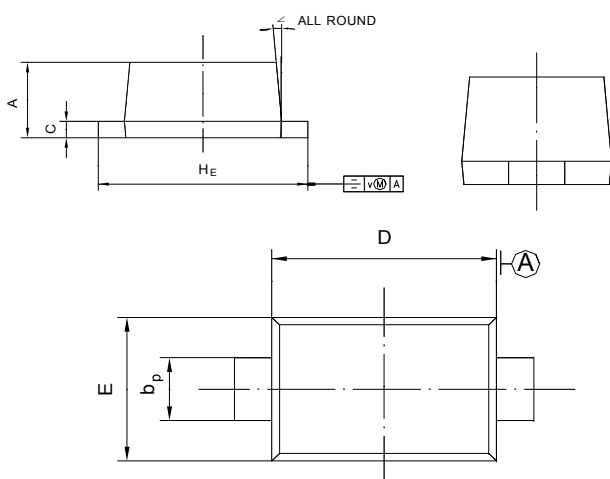
Soldering parameters

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

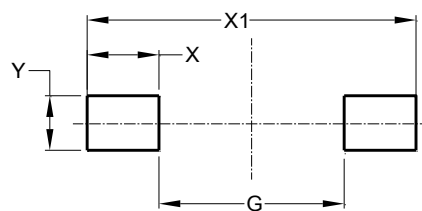


Package Dimensions & Suggested Pad Layout

SOD523



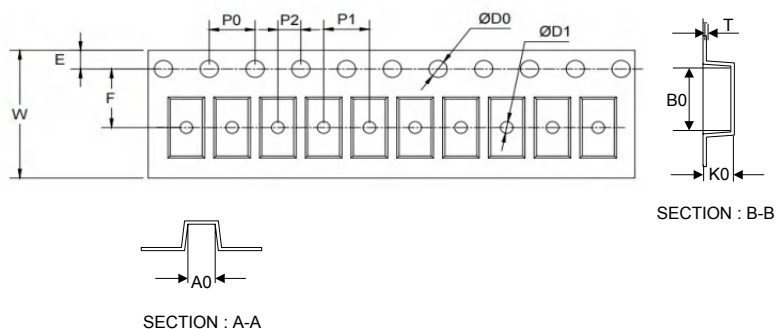
UNIT	A	b _P	C	D	E	H _E	V	∠
mm	0.70 0.50	0.40 0.20	0.14 0.05	1.30 1.10	0.90 0.75	1.70 1.50	0.1	5°



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
D3	55Min.
D4	R24.6±2.0
G	R82.0±2.0
I	13.0±2.0
W1	10.20±3.0
Quantity: 3000PCS	

7" Reel

