

Features

100Watts peak pulse power ($t_p = 8/20\mu s$)

SOD523 package

Bidirectional configurations

Solid-state silicon-avalanche technology

Low clamping voltage

Low leakage current

Low capacitance ($C_j = 0.35pF$ typ.)

Protection one data/power line to:

IEC 61000-4-2 $\pm 10kV$ contact $\pm 15kV$ air

IEC 61000-4-4 (EFT) 40A (5/50ns)

IEC 61000-4-5 (Lightning) 4.5A (8/20 μs)

Applications

Cell Phone Handsets and Accessories

Microprocessor based equipment

Personal Digital Assistants (PDA's)

Notebooks, Desktops, and Servers

Portable Instrumentation

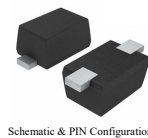
Mechanical Data

SOD523 package

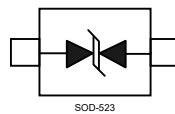
Molding compound flammability rating: UL 94V-0

Packaging: Tape and Reel

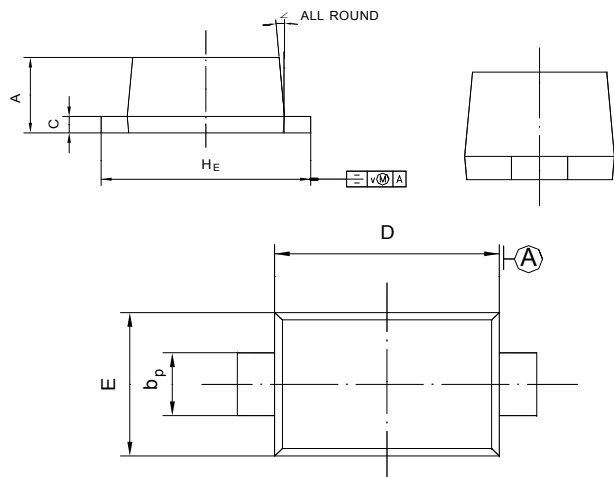
RoHS/WEEE Compliant



Schematic & PIN Configuration



SOD-523



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°

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	60	Watts
Peak Pulse Current ($t_p = 8/20\mu s$) (note1)	I_{pp}	4.5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	20 20	kV
Lead Soldering Temperature	T_L	260(10seconds)	°C
Junction Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{stg}	-55 to + 125	°C

BSD5C051U

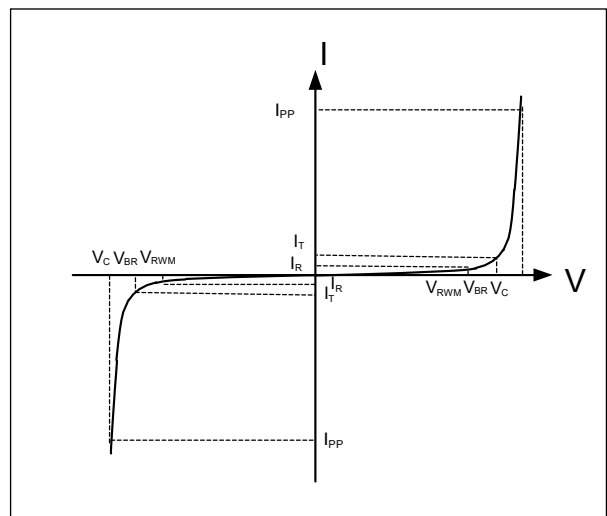
Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	5.0			V
Reverse Leakage Current	I_R	$V_{RWM}=5V, T=25^{\circ}C$		0.1	0.5	μA
Peak Pulse Current	I_{PP}	$t_p=8/20\mu s$			4.5	A
Clamping Voltage	V_C	$I_{PP}=4.5A, t_p=8/20\mu s$			20	V
Junction Capacitance	C_j	$V_R=0V, f=1MHz$		0.35		pF

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

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

Note: 8/20 μs pulse waveform.



RATING AND CHARACTERISTIC CURVES (BSD5C051U)

Figure 1: Peak Pulse Power vs. Pulse Time

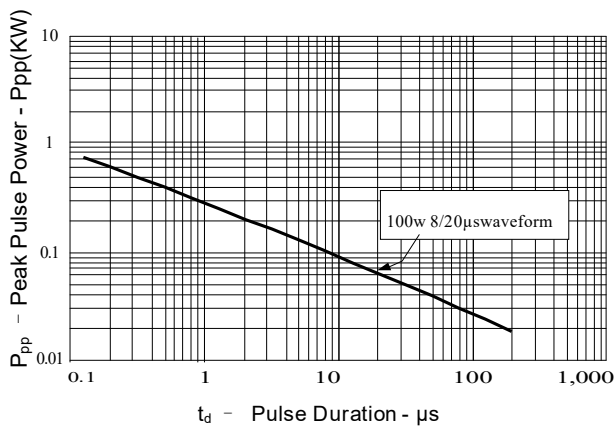


Figure 2: Power Derating Curve

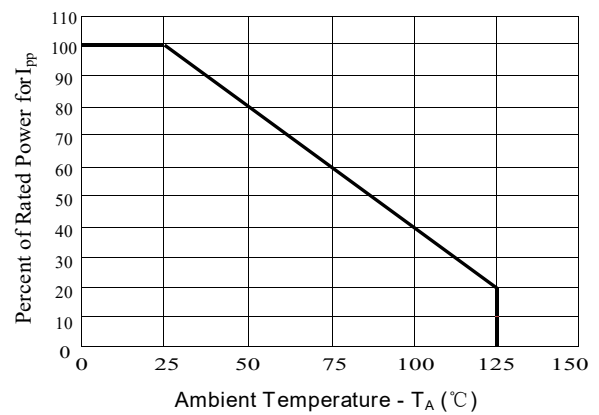


Figure3: Pulse Waveform

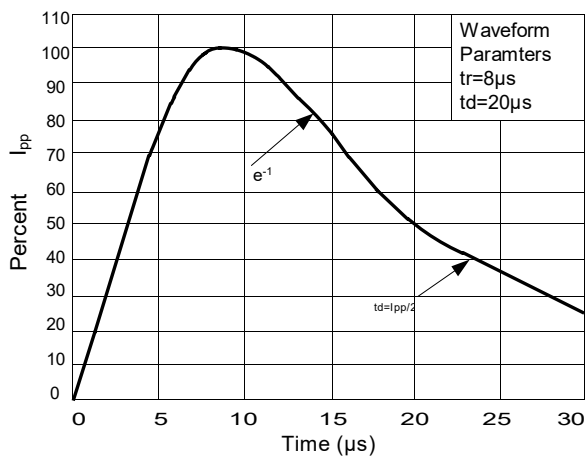


Figure 4: Clamping Voltage vs. I_{pp}

