1- Line Bidirectional ESD Protection Diode

General description

The PWESD-5VSDA is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time , make these parts ideal for ESD protection on designs where board space is at a premium

Features and benefits

- Reverse stand-off voltage: 5V Max
- Low leakage current: nA Level
- Low Clamping Voltage: V_C < 10 V @ I_{PP} = 30A
- Response time is typically < 1 ns
- ESD Protection: 30kV(air)/ 30kV(contact) (IEC61000-4-2)
- RoHS compliant

Application information

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers

Ordering information

Device	Package	Marking	Packaging
PWESD-5VSDA	SOD523	ɔc	3000/Tape & Reel

Schematic & Pin configuration

Simplified outline	Graphic symbol
	

Maximum Ratings

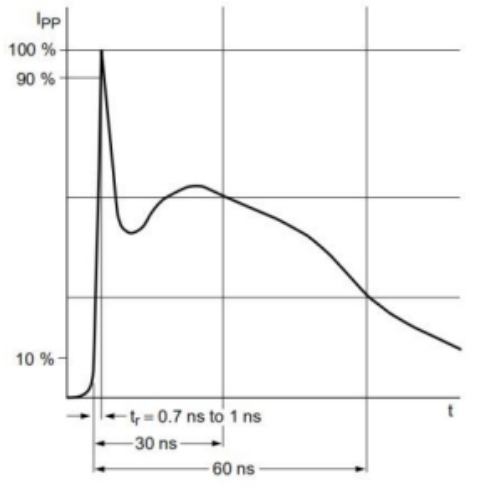
(T_{OP} = 25 ℃, unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20μs)	P_{PPM}	300	W
Peak Pulse Current (tp = 8/20μs)	I_{PPM}	30	A
Maximum lead temperature for soldering during 10s	T_L	260	°C
Storage Temperature Range	T_{stg}	-55 to +150	°C
Operating Temperature Range	T_{OP}	-40 to +125	°C
Maximum junction temperature	T_j	150	°C
ESD voltage IEC 61000-4-2 (air discharge)	V_{ESD}	30	kV
ESD voltage IEC 61000-4-2 (contact discharge)	V_{ESD}	30	kV

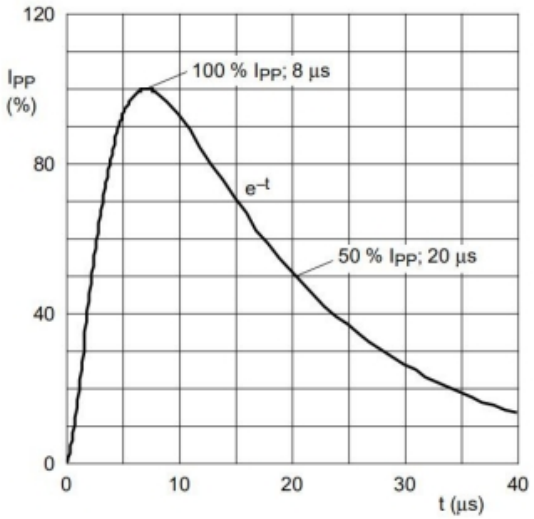
Electrical Characteristics

(T_{OP} = 25 ℃, unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V_{RWM}	--	--	5.0	V	
Breakdown Voltage	V_{BR}	5.6	--	--	V	I_T=1mA
Leakage Current ILeak	I_R	--	--	100	nA	V_{RWM}=5V
Clamping Voltage	V_C	--	--	10.0	V	I_{PP}=30A,T_p=8/20μs
Junction Capacitance	C_J	--	65	80	pF	V_R=0V, f=1MHz



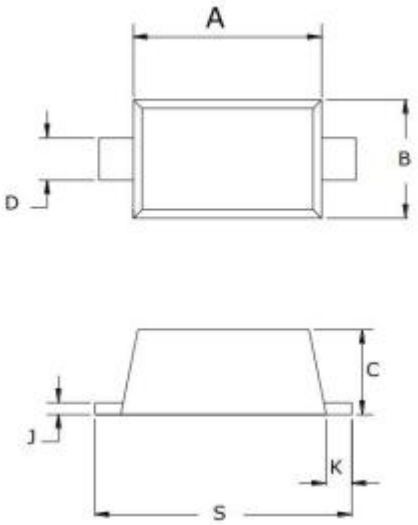
IEC61000-4-2 Wave...



IEC 61000-4-5 Waveform(8/20μs pulse)

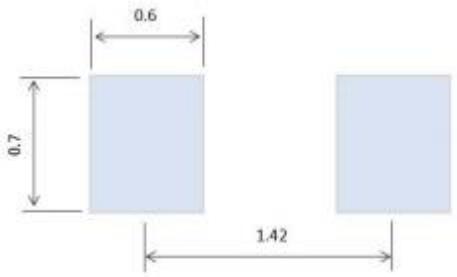
Package Outline Dimensions

SOD523



SYMBOL	Dimensions In Millimet	
	MIN	MAX
A	1.10	1.30
B	0.70	0.90
C	0.50	0.70
D	0.25	0.35
J	0.07	0.20
K	0.15	0.25
S	1.50	1.70

Soldering Footprint (mm)



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