1-Line Bidirectional ESD Protection Diode

General description

The ESD9D5.0C 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

- Low Capacitance 15 pF(Typ)
- Reverse stand-off voltage: 5V Max
- Low leakage current: nA Level
- Low Clamping Voltage
- Response time is typically < 1 ns
- IEC61000−4−2 Level 4 ESD Protection

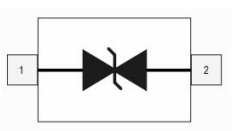
Application information

- Cell phones
- Audio equipment
- Portable devices
- Digital cameras
- Power supplies

Ordering information

Device	Package	Marking	Packaging
ESD9D5.0C	SOD923	C	8000/Tape & Reel

Schematic & Pin configuration

Simplified outline	Graphic symbol
	

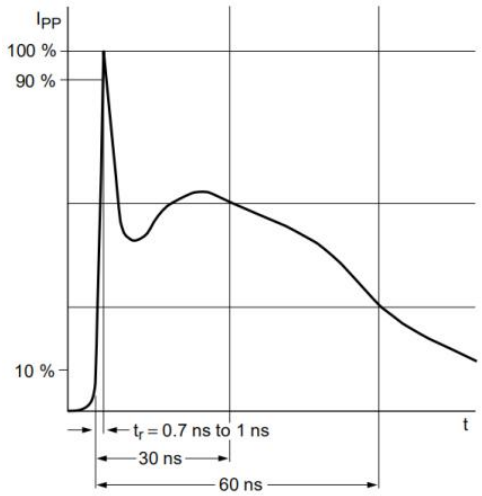
Maximum Ratings (T_{OP} = 25 °C, unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20 μ s)	P_{PPM}	80	W
Peak Pulse Current (tp = 8/20 μ s)	I_{PPM}	8	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

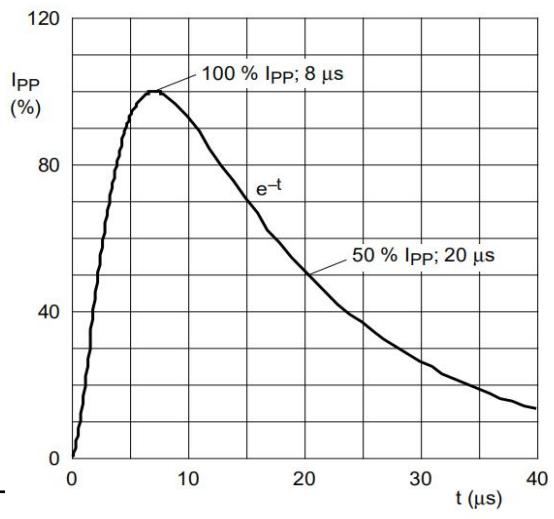
Electrical Characteristics (T_{OP} = 25 °C, unless otherwise specified)

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}=8A,Tp=8/20μs
Junction Capacitance	C_J	--	15	18	pF	V_R=0V, f=1MHz

Typical Electrical and Thermal Characteristics (Curves)



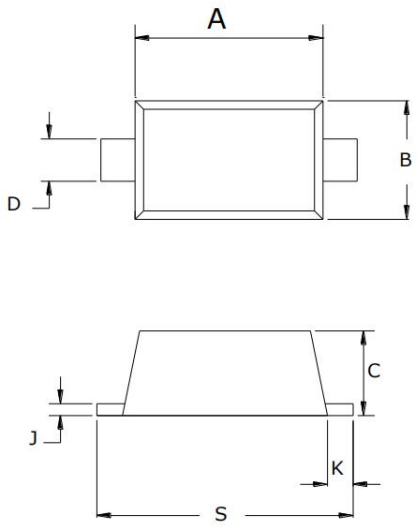
IEC61000−4−2 Waveform



IEC 61000-4-5 Waveform(8/20μs pulse)

Package Outline Dimensions

SOD923



SYMBOL	MILLIMETERS	
	MIN	MAX
A	0.74	0.86
B	0.54	0.66
C	0.35	0.45
D	0.14	0.26
K	0.04	0.16
S	0.95	1.10

Soldering Footprint (mm)