



1-Line Bidirectional ESD protection Diode

SOD523

schematic & pin configuration

simplified outline

Graphic symbol



Marking: 5XB



General description

The ESD5D5.0cs 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: 8 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

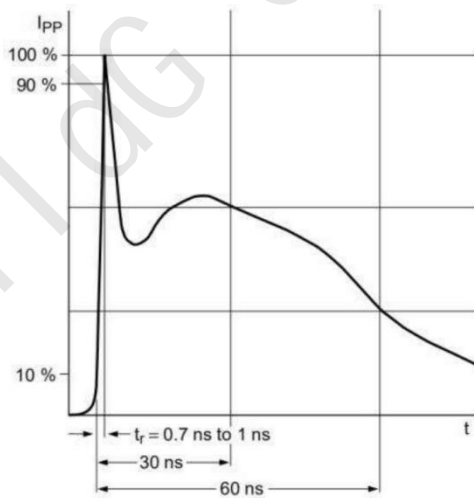
Maximum Ratings (Top = 25 °C, unless otherwise specified)

parameter	symbol	value	unit
peak pulse power (tp = 8/20 μS)	PPPM	50	W
peak pulse current (tp = 8/20 μS)	I _{PPM}	5	A
Maximum lead temperature for soldering during 10s	TL	260	°C
storage Temperature Range	T _{stg}	-55 to + 150	°C
operating Temperature Range	Top	-40 to + 125	°C
Maximum junction temperature	T _j	150	°C
ESD Voltage IEC 61000-4-2 (air discharge)	VESD	30	kV
ESD Voltage IEC 61000-4-2 (contact discharge)	VESD	30	kV

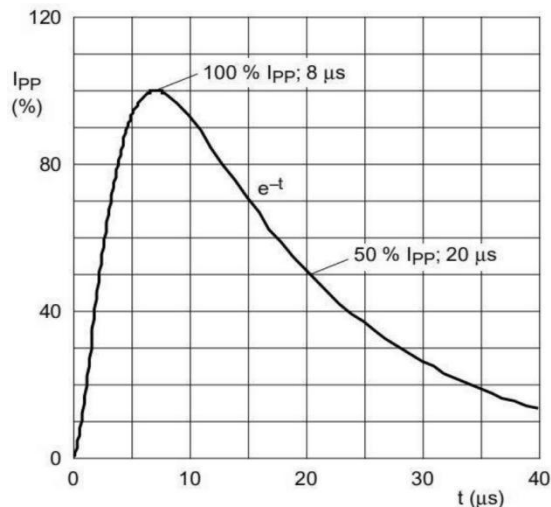
Electrical characteristics (Top = 25 °C, unless otherwise specified)

parameter	symbol	Min	TYP	Max	unit	condition
Reverse working voltage	VRWM	--	--	5.0	V	
Breakdown voltage	VBR	5.6	--	7.5	V	I _T = 1mA
Leakage current Leak	I _R	--	--	100	nA	VRWM=5V
clamping voltage	V _c	--	9	10	V	I _{PP} =5A, TP=8/20μS
Junction capacitance	C _J	--	8	10	PF	VR=0V, f= 1MHz

Typical Electrical and Thermal Characteristics (Curves)



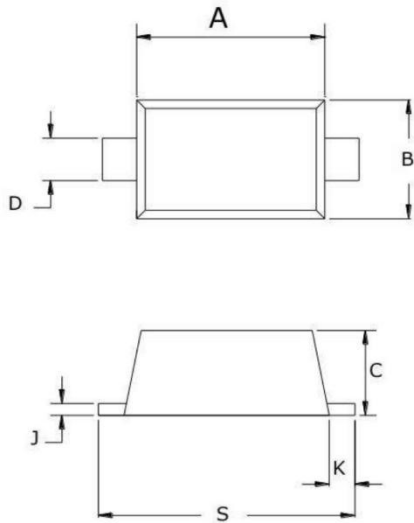
IEC61000-4-2 waveform



IEC 61000-4-5 waveform (8/20 spulse)

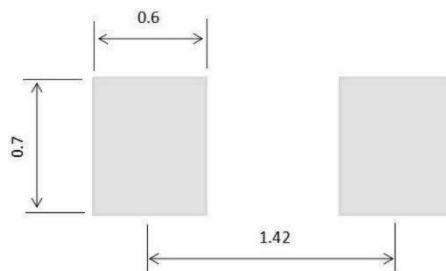
package outline Dimensions

SOD523



SYMBOL	Dimensionsn 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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