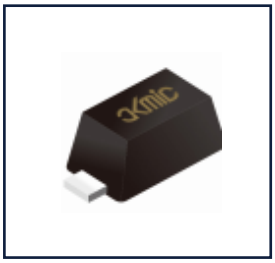
General description

Unidirectional ElectroStatic Discharge (ESD) protection diode in a SOD523 plastic package designed to protect one transmission or data line from the damage caused by ESD and other transients.

Features and benefits

- Unidirectional ESD protection of one line
- Reverse stand-off voltage: 12V Max
- Low leakage current: nA Level
- Response time is typically < 1 ns
- Low clamping voltage: VC < 24 V @ IPP = 8 A
- ESD Protection: 15kV(air)/ 8kV(contact) (IEC61000-4-2)
- Surge Protection: 8 A (IEC 61000-4-5 8/20 μs)



SOD523

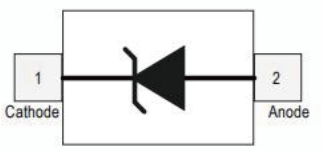
Application information

- Cellular phones
- Portable devices
- Digital cameras
- Power supplies

Ordering information

Device	Package	Reel Size	Qty(PCS)
PESD12VS1UB	SOD523	7 Inch	3000

Ordering information

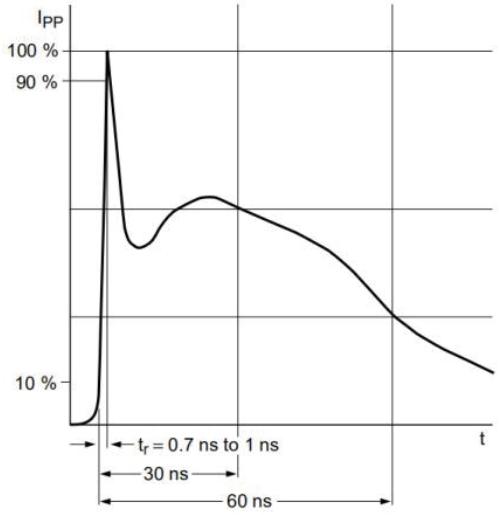
Marking	Graphic symbol
ZM	

Electrical Characteristics (T_A = 25 °C, unless otherwise specified)

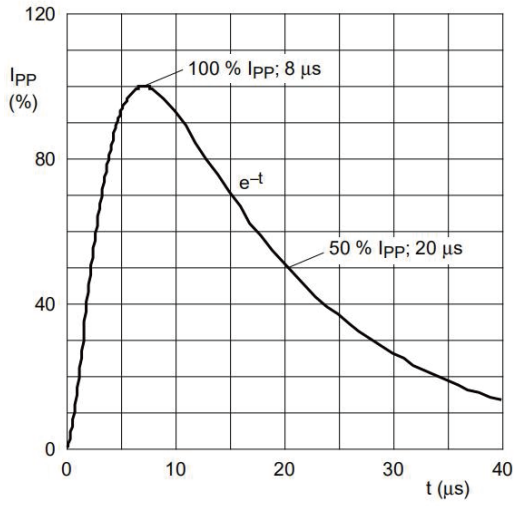
Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V_{RWM}	--	--	12.0	V	
Breakdown Voltage	V_{BR}	13.5	--	--	V	I_T=1mA
Leakage Current ILeak	I_R	--	--	100	nA	V_{RWM}=5V
Clamping Voltage	V_C	--	--	24.0	V	I_{PP}=8.0A,Tp=8/20μs
Junction Capacitance	C_J	--	--	34	pF	V_R=0V, f=1MHz

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20μs)	P_{PPM}	200	W
Peak Pulse Current(tp = 8/20μs)	I_{PPM}	8.0	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}	15	kV
ESD voltage IEC 61000-4-2 (contact discharge)	V_{ESD}	8	kV



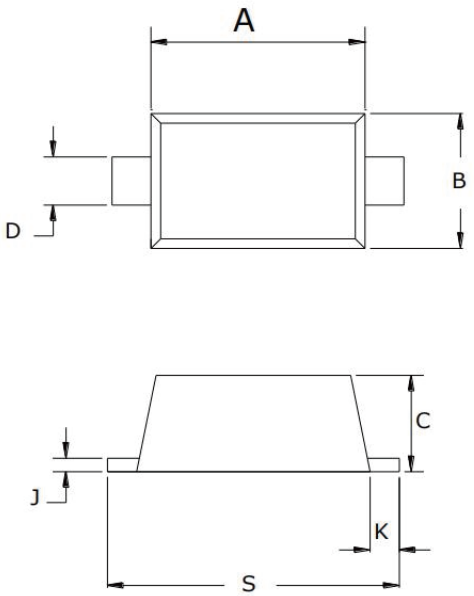
IEC61000−4−2 Waveform



IEC 61000-4-5 Waveform(8/20μs pulse)

Package Outline Dimensions

SOD523



SYMBOL	MILLIMETERS	
	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)

