MSKSEMI
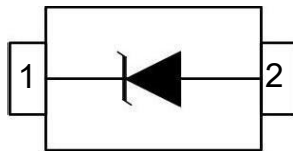## SEMICONDUCTOR

| ESD | TVS | TSS | MOV | GDT | PLED |

Product data sheet

PACKAGE OUTLINE

SOD-523

PIN CONFIGURATION

FEATURES

◇ IEC61000-4-2 Level 4 ESD Protection
◇ Protects one directional I/O line
◇ Low clamping voltage
◇ Working voltages : 24V
◇ Low leakage current

MACHANICAL DATA

◇ SOD-523 package
◇ Flammability Rating: UL 94V-0
◇ Packaging: Tape and Reel
◇ High temperature soldering guaranteed:
   260℃/10s
◇ Reel size: 7 inch

APPLICATIONS

◇ Microprocessor based equipment
◇ Personal Digital Assistants (PDA's)
◇ Notebooks, Desktops, and Servers
◇ Portable Instrumentation
◇ Peripherals
◇ Pagers

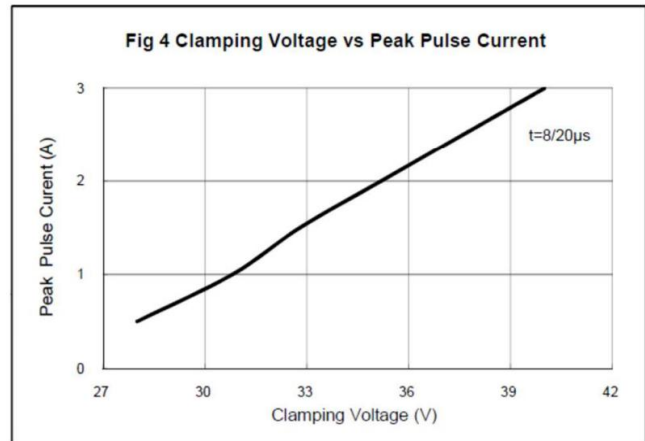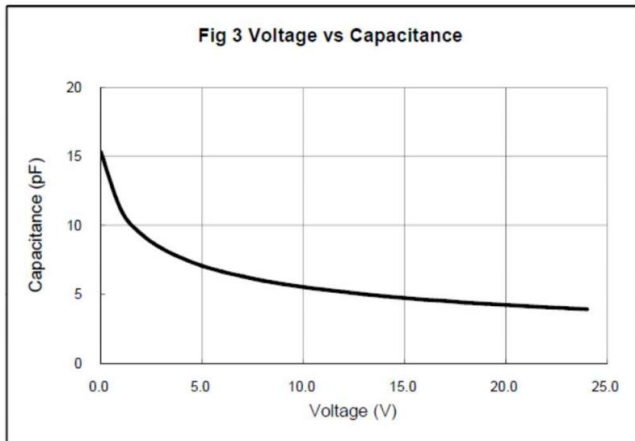### ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Unit
V_{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	±15 ±8	kV
P_D	Total Power Dissipation on FR-5 Board (Note 1) @ Ta=25℃	150	mW
T_{OPT}	Operating Temperature	-55~125	°C
T_{STG}	Storage Temperature	-55~150	°C

These ratings are limiting values above which the serviceability of the diode may be impaired.
Note 1: FR-5=1.0x0.75x0.62 in.

ELECTRICAL CHARACTERISTICS (Tamb=25°C)

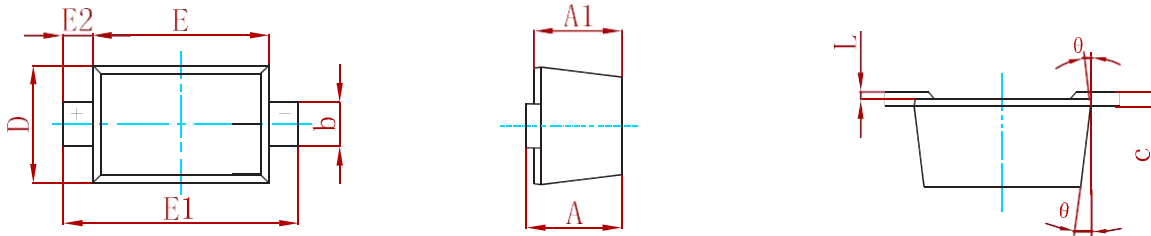| Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				24	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1mA$	26			V
I_R	Reverse Leakage Current	$V_{RWM} = 24V$			1	µA
V_C	Clamping Voltage	$I_{PP} = 1A$, $t_p = 8/20µs$			35	V
C_J	Junction Capacitance	$V_R = 0V$, $f = 1MHz$			50	pF

ELECTRICAL CHARACTERISTICS CURVE

Fig 1 8/20µs Waveform per IEC61000-4-5

Front time: $T_1 = 1.25 \times T = 8us$
Time to half-value: $T_2 = 20us$

Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

$t_r = 0.7 \sim 1ns$

Fig 3 Voltage vs Capacitance

Fig 4 Clamping Voltage vs Peak Pulse Current

$t = 8/20µs$
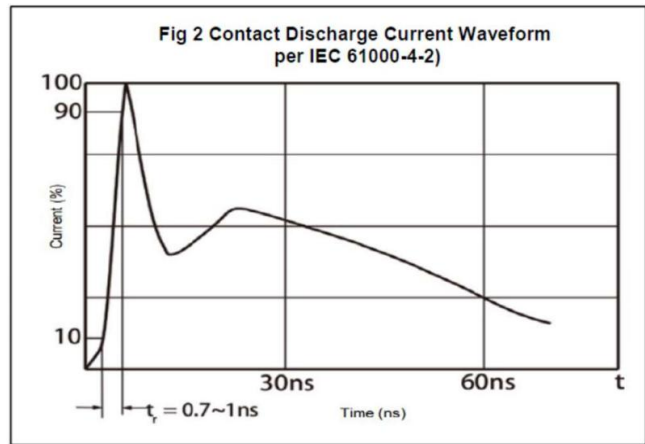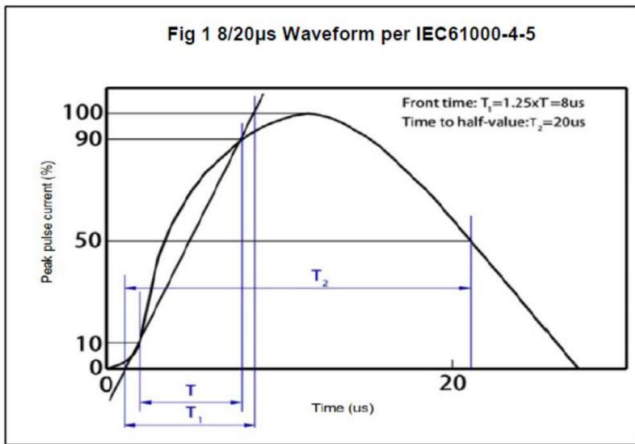
PACKAGE MECHANICAL DATA

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
0	7° REF		7° REF	

Suggested Pad Layout

0.6

0.7

1.42
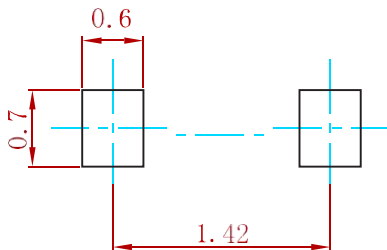
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

REEL SPECIFICATION

P/N	PKG	QTY
ESD5Z24-MS	SOD-523	3000

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