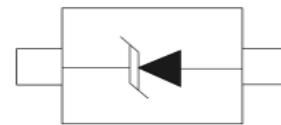


Features

- 2000 Watts peak pulse power per line ($t_p=8/20\mu s$)
- Solid-state silicon-avalanche technology
- Protects one uni-directional I/O line
- Low clamping voltage
- Working voltages : 5V
- Low leakage current
- High surge capability
- RoHS compliant



SOD-323



PIN Configuration

Applications

- Cell phone handsets and accessories
- Microprocessor based equipment
- Personal digital assistants (PDA's)
- Notebooks, desktops, and servers
- Portable instrumentation
- Power lines
- Peripherals

IEC COMPATIBILITY (EN61000-4)

- IEC61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning) 110A (8/20 μs)

Mechanical Characteristics

- SOD-323 package
- Molding compound flammability rating : UL 94V-0
- Weight 5 milligrams (approximate)
- Quantity per reel : 3,000pcs
- Lead finish : lead free
- Marking code : 5H

Absolute Maximum Rating ($T_A=25^{\circ}\text{C}$, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20 μs waveform	P_{PP}	2000	W
ESD per IEC 61000-4-2 (Air)	V_{ESD}	+/- 30	kV
ESD per IEC 61000-4-2 (Contact)		+/- 30	
Lead soldering temperature	T_L	260 (10 sec.)	$^{\circ}\text{C}$
Operating junction temperature range	T_J	-55 to +125	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^{\circ}\text{C}$

Electrical Parameters ($T=25^{\circ}\text{C}$)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	V_{RWM}				5	V
Reverse breakdown voltage	V_{BR}	$I_T = 1\text{mA}$	6	7	8	V
Reverse leakage current	I_R	$V_{RWM} = 5\text{V}$			1	μA
Clamping voltage	V_C	$I_{PP} = 50\text{A}$, $t_p = 8/20\mu\text{s}$		11	13	V
		$I_{PP} = 110\text{A}$, $t_p = 8/20\mu\text{s}$		14	17	V
Junction capacitance	C_J	$V_{RWM} = 0\text{V}$, $f = 1\text{MHz}$		850	1050	pF

RATINGS AND V-I CHARACTERISTICS CURVES ($T_A=25^{\circ}\text{C}$, unless otherwise noted)

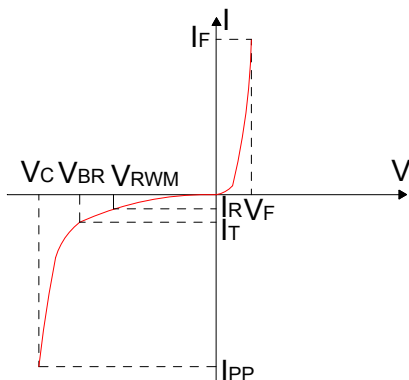
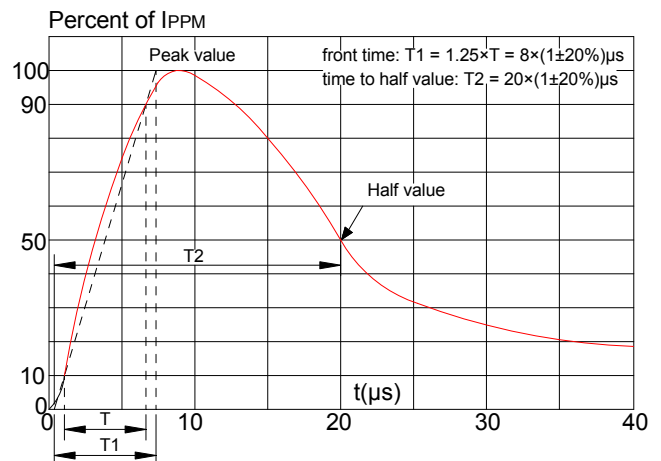
FIG.1: V- I curve characteristics (Uni-directional)

FIG.2: Pulse waveform (8/20 μs)


FIG.3: Pulse derating curve

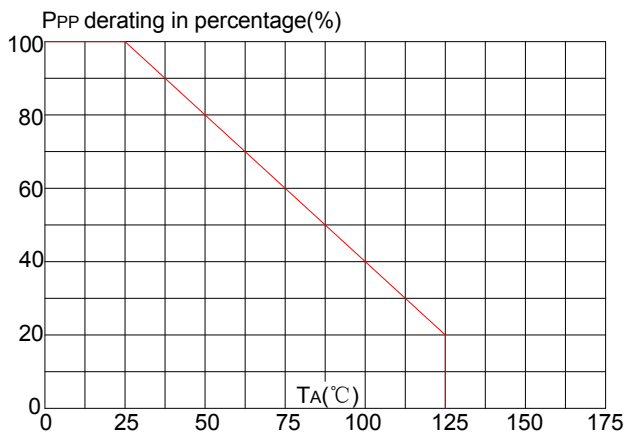
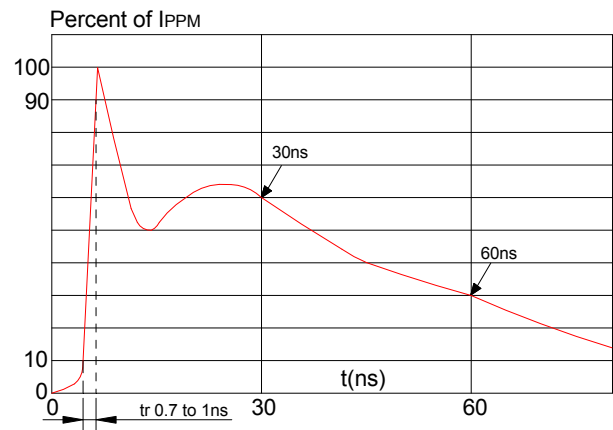
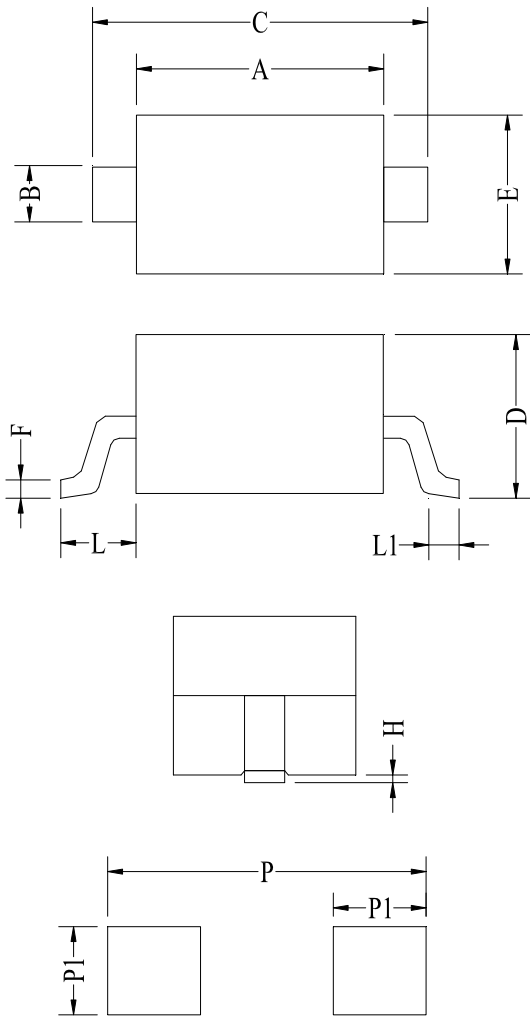


FIG.4: ESD clamping (30kV contact)

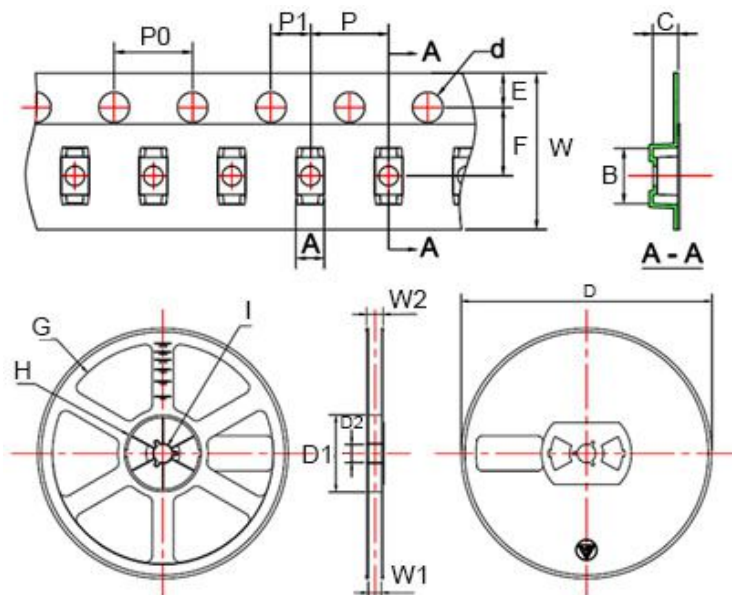


PACKAGE MECHANICAL DATA

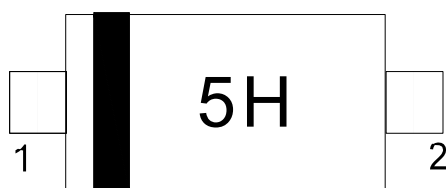


Land Pattern

Symbol	Millimeter		Inches	
	Min	Max	Min	Max
A	1.60	1.80	0.063	0.071
B	0.25	0.35	0.010	0.014
C	2.50	2.70	0.098	0.106
D	0.00	1.00	0.000	0.039
E	1.20	1.40	0.047	0.055
F	0.08	0.15	0.003	0.006
L	0.475REF		0.019REF	
L1	0.25	0.40	0.010	0.016
H	0.00	0.10	0.000	0.004
P	3.00		0.118	
P1	0.80		0.031	

TAPE AND REEL INFORMATION


Symbol	Millimeters	Inches
A	1.46±0.05	0.057±0.002
B	2.90±0.05	0.114±0.002
C	1.25±0.05	0.049±0.002
d	∅1.50±0.1	∅0.059±0.004
E	1.75±0.1	0.069±0.004
F	3.50±0.1	0.138±0.004
P0	4.0±0.1	0.157±0.004
P	4.0±0.1	0.157±0.004
P1	2.0±0.1	0.079±0.004
W	8.00+0.3/-0.1	0.315+0.012/-0.004
D	∅178.0±2	∅7.008±0.079
D1	54.40±1	2.142±0.039
D2	13.0±1	0.512±0.039
G	R78.0±1	R3.071±0.039
H	R25.60±1	R1.008±0.039
I	R6.50±1	R0.256±0.039
W1	9.50±1	0.374±0.039
W2	12.30±1	0.484±0.039

Marking

Order Information

PN#	Package	Reel Size	Quantity Per Reel
MSD3A051S	SOD-323	7 Inch	3,000 pcs