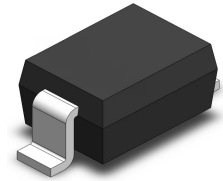


FEATURES:

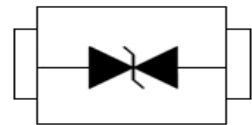
- ✧ Protects one bi-directional I/O line
- ✧ Low clamping voltage
- ✧ Low operating voltage: 15V
- ✧ ROHS compliant

MAIN APPLICATIONS

- ✧ Cell Phone Handsets and Accessories
- ✧ Personal Digital Assistants (PDA's)
- ✧ Notebooks, Desktops, and Servers
- ✧ Portable Instrumentation
- ✧ Pagers
- ✧ Microprocessor based equipment



SOD-323



PIN Configuration

PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) $\pm 25\text{kV}$ (air), $\pm 25\text{kV}$ (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)

MECHANICAL CHARACTERISTICS

- ✧ Package SOD-323
- ✧ Molding Compound Flammability Rating : UL 94V-O
- ✧ Quantity Per Reel : 3,000pcs
- ✧ Lead Finish : Lead Free
- ✧ Marking : 15B

ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	T_{stg}	-55 to +150	$^\circ\text{C}$
Operating junction temperature range	T_j	-55 to +125	$^\circ\text{C}$
Lead Soldering Temperature	T_L	260 (10 sec.)	$^\circ\text{C}$
Peak pulse power dissipation on 8/20 μs waveform	P_{PP}	350	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	+/- 25 +/- 25	kV

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Working Voltage	V_R				15	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	16.7			V
Reverse Leakage Current	I_R	$V_R = 15\text{V}$			1.0	μA
Peak Pulse Current	I_{PP}	$t_p = 8/20\mu\text{s}$			10	A
Clamping Voltage	V_C	$I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$			23	V
		$I_{PP} = 10\text{A}, t_p = 8/20\mu\text{s}$			35	V
Junction Capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz}$		35	40	pF

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

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

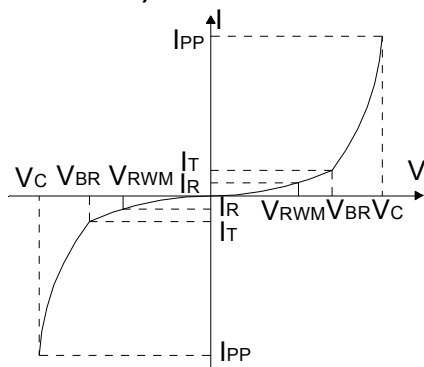


FIG.2: Pulse waveform (8/20 μs)

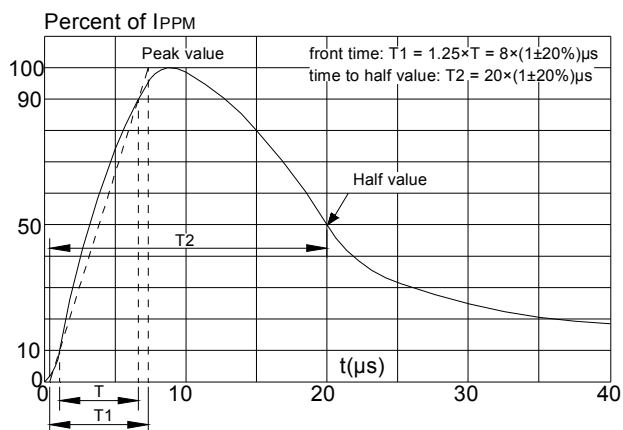


FIG.3: Pulse derating curve

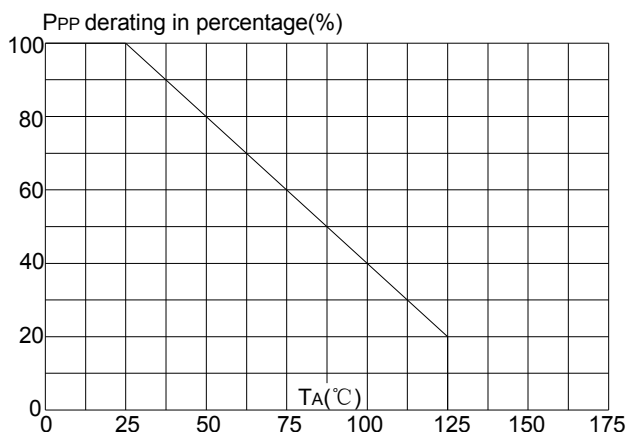
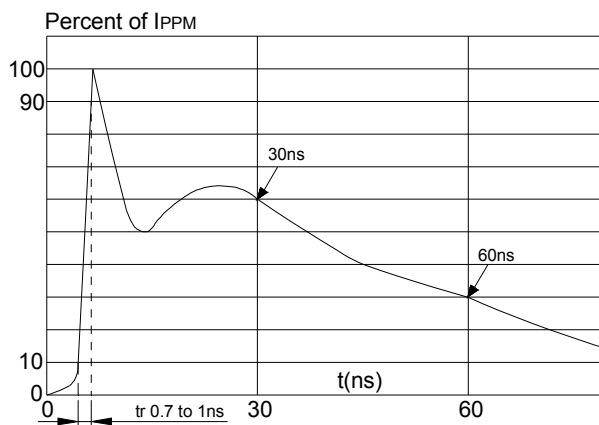
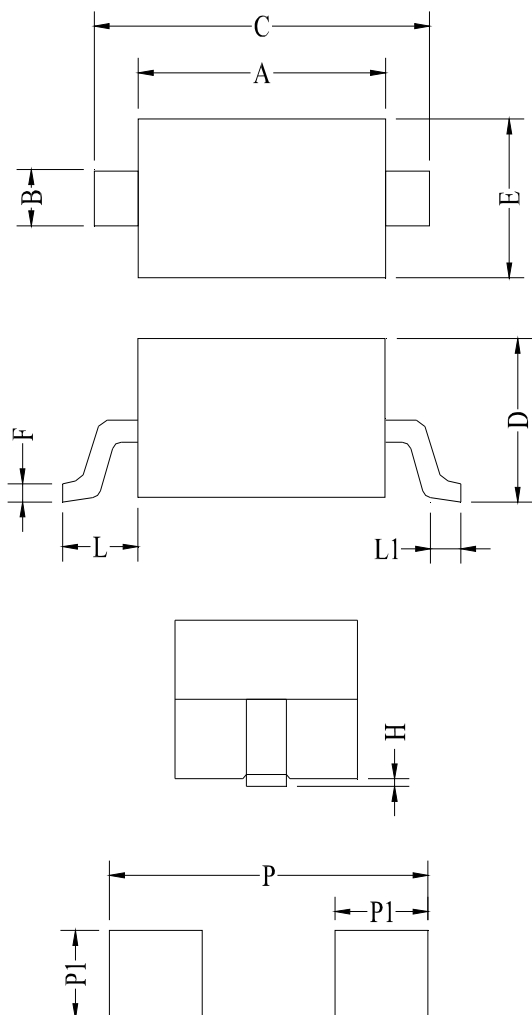


FIG.4: ESD clamping



PACKAGE MECHANICAL DATA

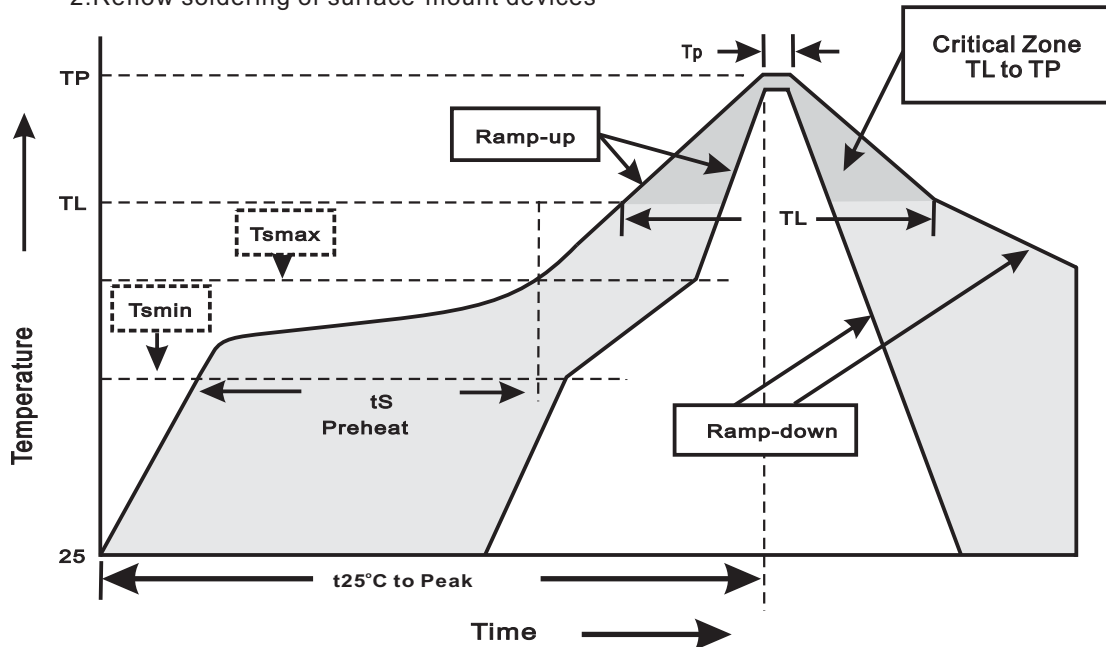


Land Pattern

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	

Suggested thermal profiles for soldering processes

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T_L to T_P)	$<3^{\circ}\text{C}/\text{sec}$
Preheat -Temperature Min(T_{min}) -Temperature Max(T_{max}) -Time(min to max)(t_s)	150°C 200°C $60\sim 120\text{sec}$
T_{max} to T_L -Ramp-upRate	$<3^{\circ}\text{C}/\text{sec}$
Time maintained above: -Temperature(T_L) -Time(t_L)	217°C $60\sim 260\text{sec}$
Peak Temperature(T_P)	$255^{\circ}\text{C}-0/+5^{\circ}\text{C}$
Time within 5°C of actual Peak Temperature(t_P)	$10\sim 30\text{sec}$
Ramp-down Rate	$<6^{\circ}\text{C}/\text{sec}$
Time 25°C to Peak Temperature	$<6\text{minutes}$