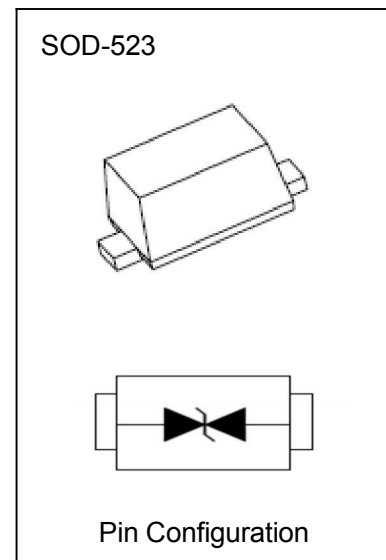


FEATURES

- ✧ Protects one bi-directional I/O line
- ✧ Low clamping voltage
- ✧ Low operating voltage: 3.3V
- ✧ Low leakage current
- ✧ Ultra low capacitance: 0.35pF(typ.)
- ✧ RoHS compliant

MAIN APPLICATIONS

- ✧ USB ports
- ✧ Display port
- ✧ Wireless communications
- ✧ Digital visual interface (DVI)
- ✧ Cellular handsets & accessories



PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) $\pm 20\text{kV}$ (air), $\pm 20\text{kV}$ (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ IEC61000-4-5 (Lightning) 4.5A (8/20 μs)

MECHANICAL CHARACTERISTICS

- ✧ SOD-523 package
- ✧ Molding compound flammability rating: UL 94V-0
- ✧ Weight 0.5 milligrams (approximate)
- ✧ Lead finish: lead free

ORDERING INFORMATION

PART No.	PACKAGE TYPE	QUANTITY(PCS) REEL	DESCRIPTION
JESDB03LCD5	SOD-523	3,000	7 inch reel pack

ABSOLUTE MAXIMUM RATINGS

 (T_A=25°C , R_H=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20μs waveform	P _{PP}	100	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V _{ESD}	+/- 20 +/- 20	kV
Lead soldering temperature	T _L	260 (10 sec.)	°C
Operating junction temperature range	T _J	-55 to +125	°C
Storage temperature range	T _{STG}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	V _{RWM}				3.3	V
Reverse breakdown voltage	V _{BR}	I _T =1mA	4.2			V
Reverse leakage current	I _R	V _{RWM} =3.3V			100	μA
Peak pulse current	I _{PP}	t _P =8/20μs			4.5	A
Clamping voltage	V _C	I _{PP} =1A, t _P =8/20μs			12	V
		I _{PP} =4.5A, t _P =8/20μs			25	V
Junction capacitance	C _J	V _{RWM} =0V, f=1MHz		0.35	0.4	pF

RATINGS AND V-I CHARACTERISTICS CURVES

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

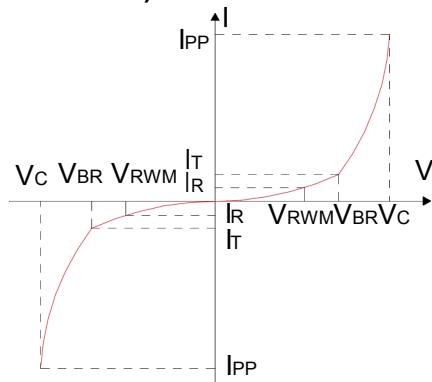


FIG.2: Pulse waveform (8/20 μ s)

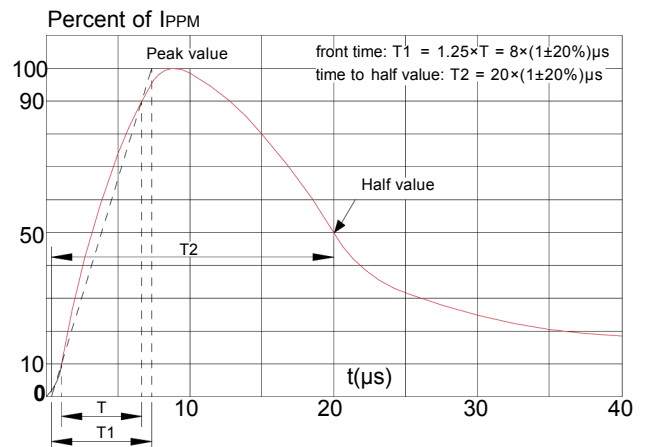


FIG.3: Pulse derating curve

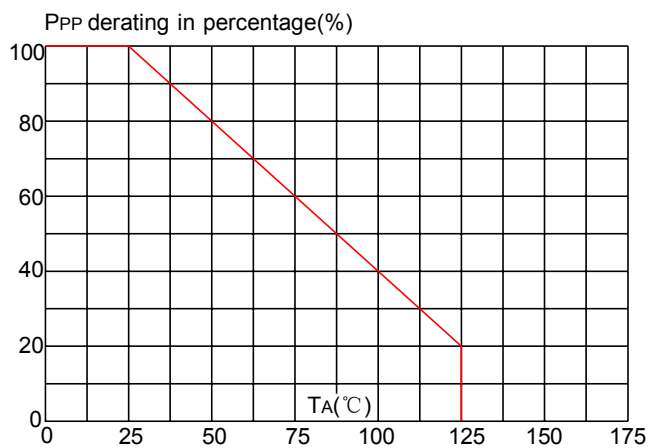
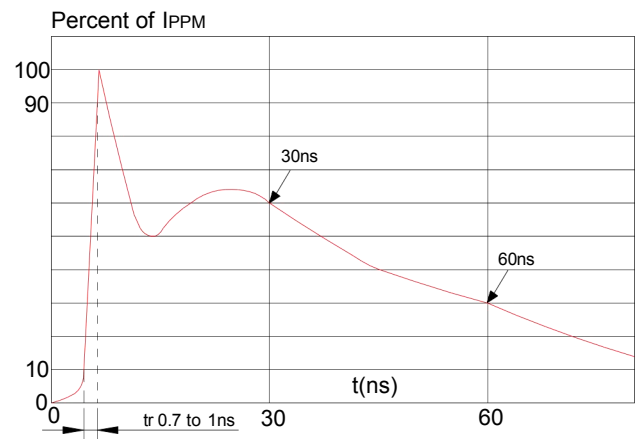
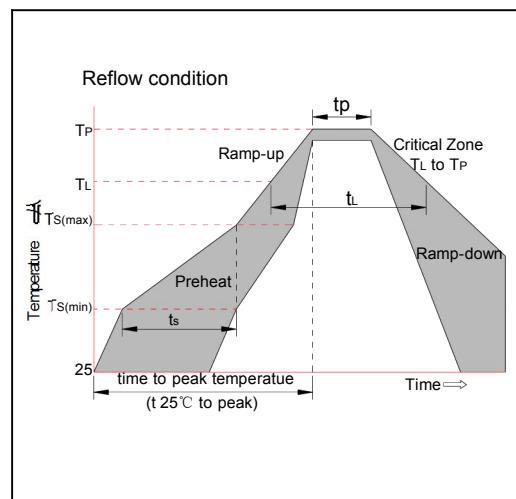


FIG.4: ESD clamping (20kV contact)

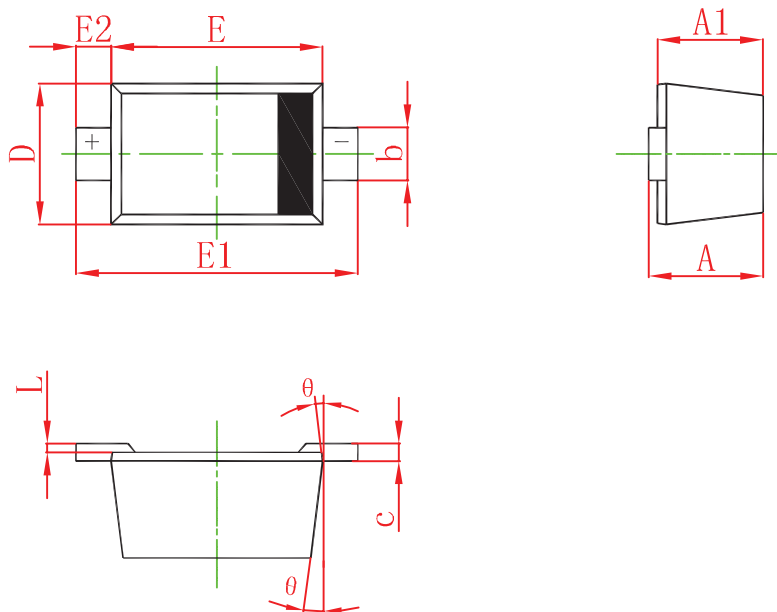


SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (t_s)	60-180 secs.
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquidus)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_P)		20-40secs.
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C

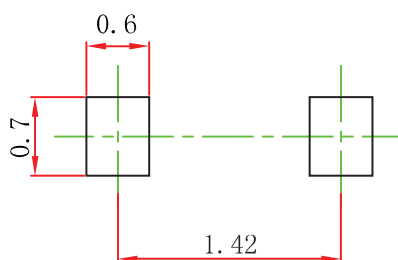


SOD-523 Package Outline Dimensions



symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.400	0.700	0.015	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
θ	7° REF		7° REF	

SOD-523 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.