

Features

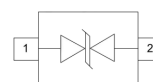
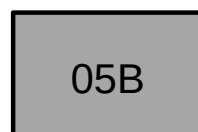
300W peak pulse power (8/20 μ s)
Protects one data or power line
Ultra low leakage: nA level
Operating voltage: 5V
Ultra low clamping voltage
Complies with following standards:
– IEC 61000-4-2 (ESD) immunity test
 Air discharge: ± 30 kV
 Contact discharge: ± 30 kV
– IEC61000-4-4 (Lightning) 20A (8/20ns)

Mechanical Data

Package: SOD-323
Lead Finish: Matte Tin
Case Material: "Green" Molding Compound
UL Flammability Classification Rating 94V-0
Moisture Sensitivity: Level 3 per J-STD-020
Terminal Connections: See Diagram Below

Applications

Cellular Handsets and Accessories
Personal Digital Assistants
Notebooks and Handhelds
Portable Instrumentation
Peripherals
Pagers Peripherals
Desktop and Servers



SOD-323

Absolute Maximum Rating

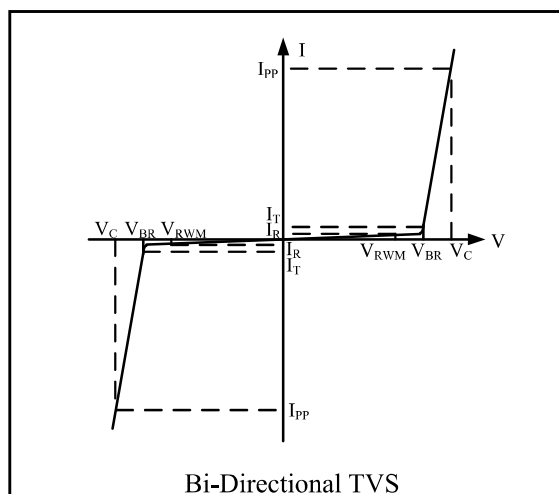
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μ s)	Ppk	300	W
Peak Pulse Current (8/20 μ s)	IPP	20	A
ESD per IEC 61000-4-2 (Air)	VESD	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

Electrical Characteristics

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	$I_T = 1mA(Pin1-Pin2)$	6.0	7.0	8.0	V
Reverse Leakage Current	I_R	$V_{RWM} = 5.0V(Pin2-Pin1)$			0.1	μA
Clamping Voltage	V_C	$I_{PP} = 10A (8 \times 20\mu s \text{ pulse})$ (Pin1-Pin2)		7.0		V
Clamping Voltage	V_C	$I_{PP} = 20A (8 \times 20\mu s \text{ pulse})$ (Pin1-Pin2)		9.0		V
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$ (Pin1-Pin2)		35		pF

Electrical Parameters (TA = 25°C unless otherwise noted)

Symbol	Parameter
V_{RWM}	Nominal Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Reverse Breakdown Voltage @ I_T
I_T	Test Current for Reverse Breakdown
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Maximum Peak Pulse Current
C_{ESD}	Parasitic Capacitance
V_R	Reverse Voltage
f	Small Signal Frequency



RATING AND CHARACTERISTIC CURVES

Fig1. 8/20 μ s Pulse Waveform

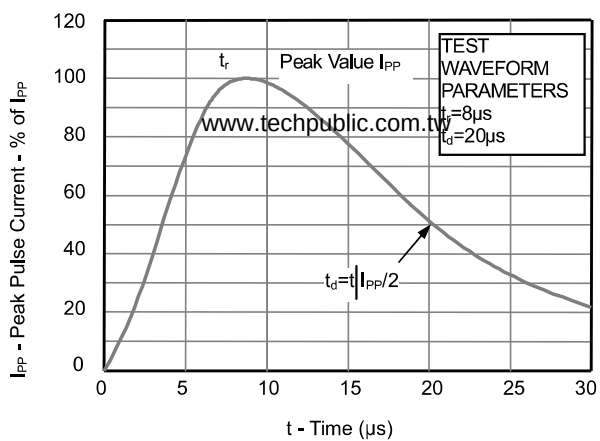


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

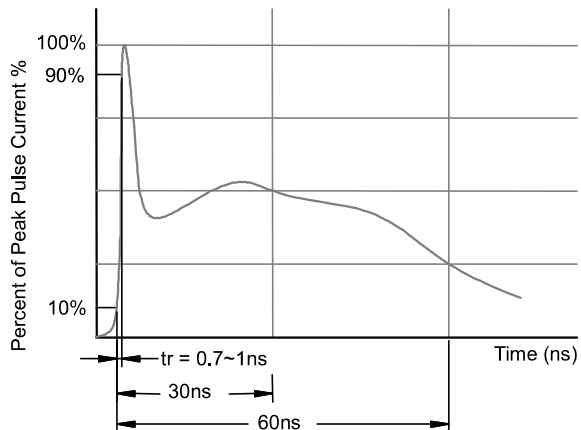
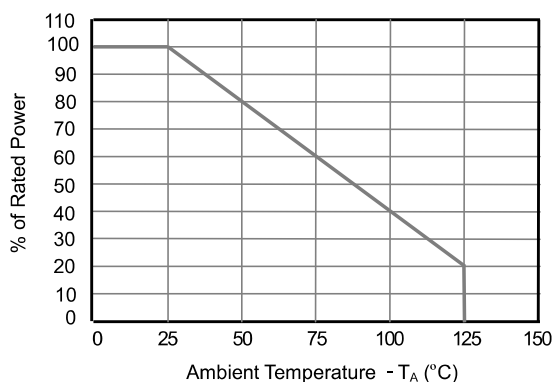
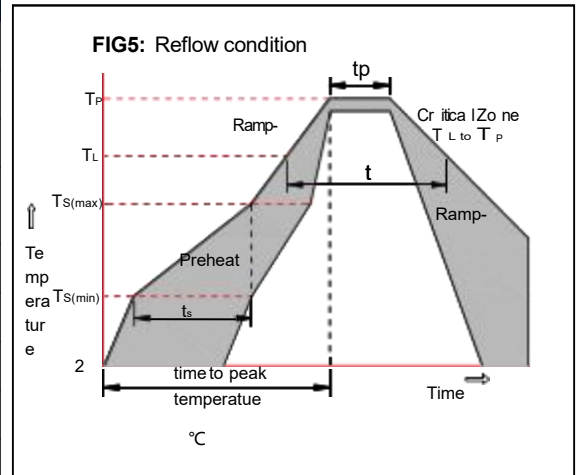


Fig3. Power Derating Curve



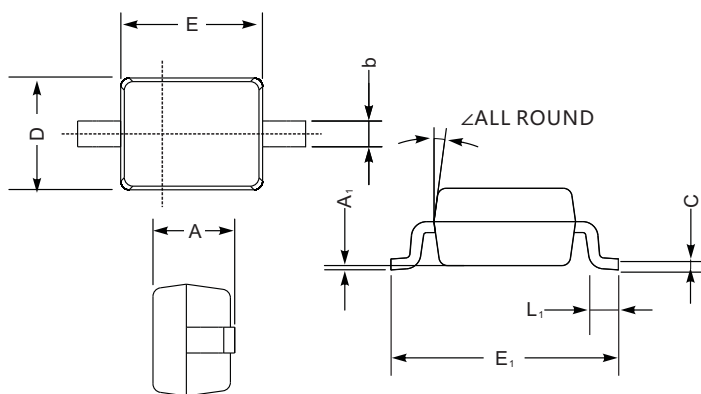
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us 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)(Liquid us)	+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)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C



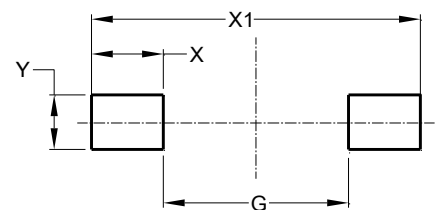
Package Dimensions & Suggested Pad Layout

SOD323



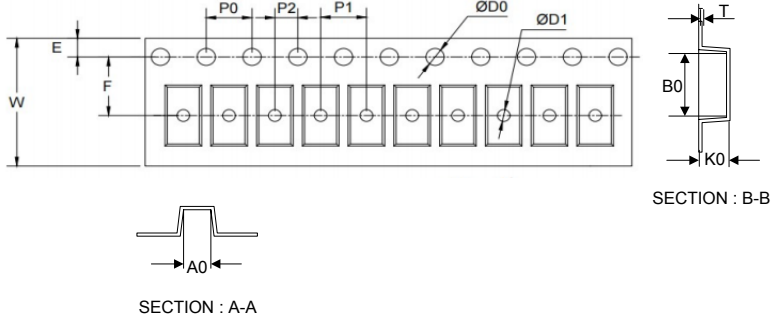
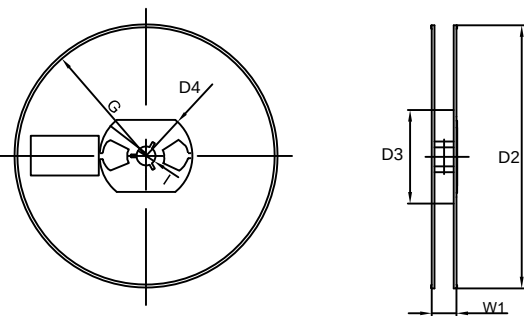
SOD-323 mechanical data

UNIT		A	C	D	E	E ₁	b	L ₁	A ₁	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	—	



Dimensions	Value (in mm)
G	1.40
X	1.20
X1	3.80
Y	1.00

Tape & reel specification

Tape		Symbol	Dimension (mm)
		P0	4.00±0.20
		P1	4.00±0.20
		P2	2.00±0.20
		D0	1.55±0.20
		D1	1.00±0.20
		E	1.55±0.25
		F	3.60±0.20
		W	8.00±0.20
		A0	2.00±0.20
		B0	3.25±0.20
		K0	1.35±0.20
		T	0.23±0.10
		D2	177.0±5.0
		D3	55Min.
		D4	R24.6±2.0
7" Reel		G	R82.0±2.0
		I	13.0±2.0
		W1	10.20±3.0
		Quantity: 3000PCS	