

ESD Protection Diode : TEUSD32120R8B

SOD323 package ultra-low capacitance type



■ Features

1. RoHS compliant and halogen-free
2. Working voltage: 12V
3. Ultra-low capacitance: 0.8pF
4. Low clamping voltage
5. Low leakage current
6. IEC 61000-4-2 (ESD) ±30KV (air), ±30KV (contact)



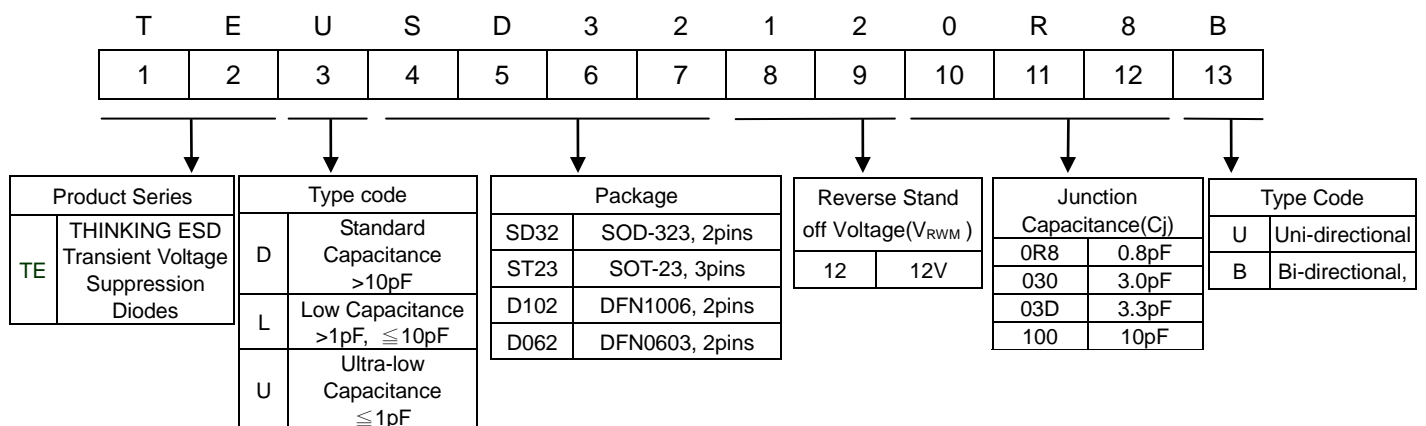
■ Recommended Applications

1. Notebooks, Desktops, Servers
2. USB interface
3. Personal Digital Assistant (PDA)
4. Networking and Telecom (Ethernet 10/100/1000 Base T)

■ Mechanical Data

1. Case: SOD-323, molded plastic meets UL flammability rating 94V-0
2. High temperature soldering guaranteed: 260°C/10 seconds
3. Meets MSL level 1, per J-STD-020

■ Part Number Code



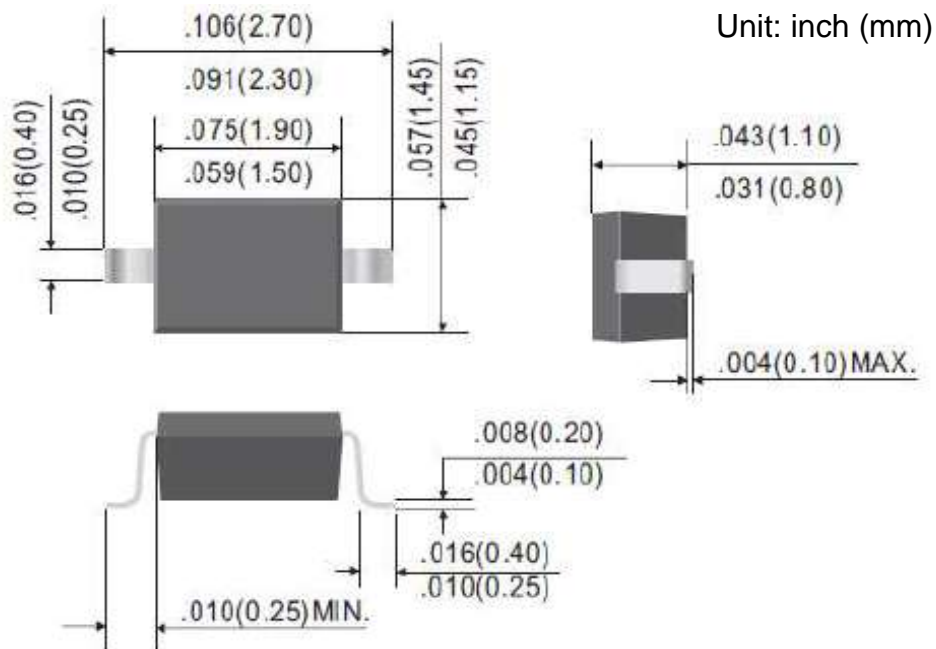
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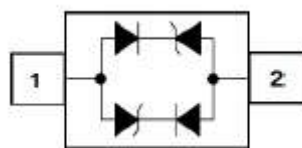


Structures and Dimensions

SOD-323



Schematic & PIN Configuration



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■ Maximum Rating (Rating at 25°C ambient temperature unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power (tp= 8/20μs waveform)	P _{PPM}	350	W
Peak pulse current (tp= 8/20μs waveform)	I _{PP}	11	A
ESD per IEC61000-4-2 (Air) ESD per IEC61000-4-2 (Contact)	V _{ESD}	±30 ±30	KV
Operating junction temperature	T _J	-55~+125	°C
Storage temperature range	T _{STG}	-55~+150	°C

■ Electrical Characteristics (T_A=25°C unless otherwise noted)

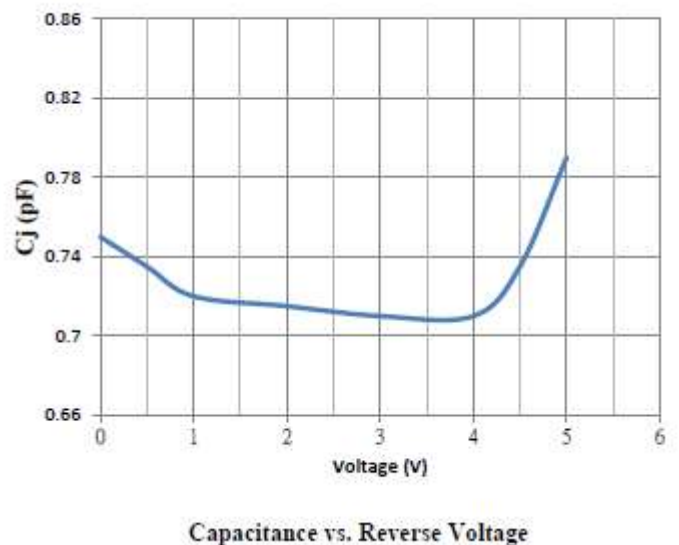
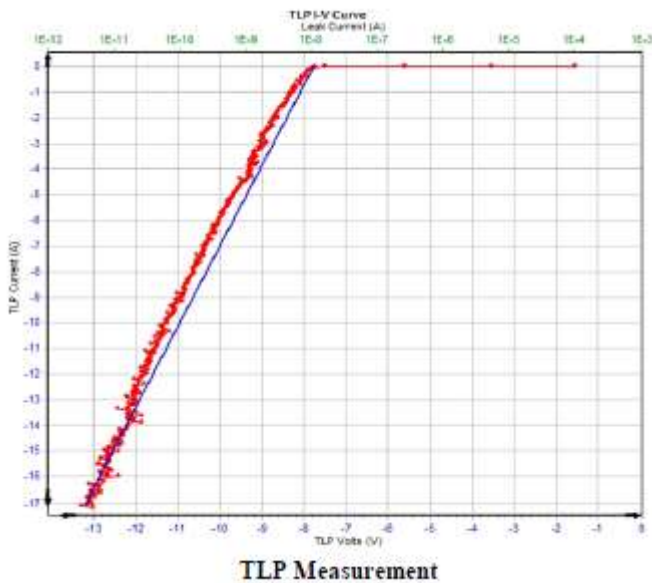
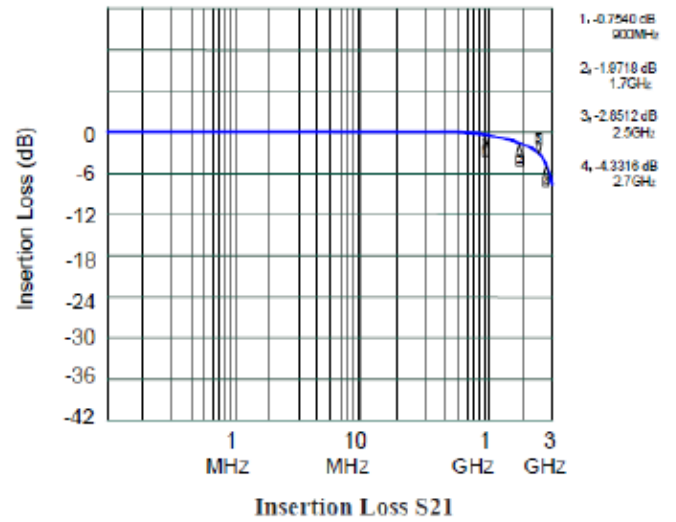
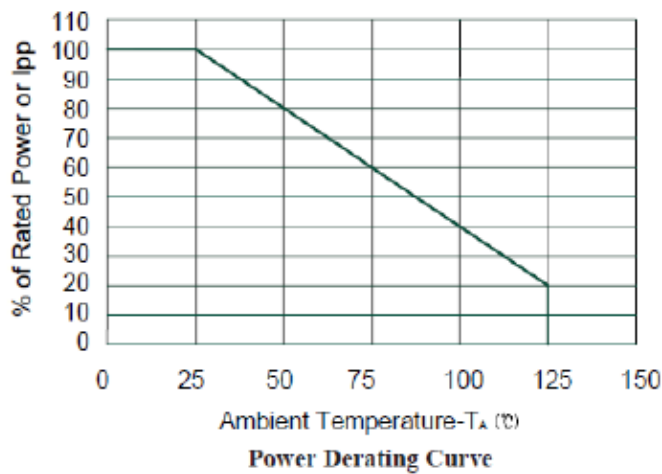
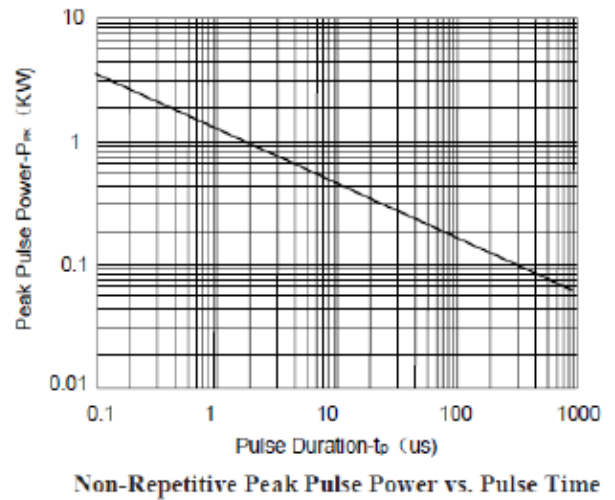
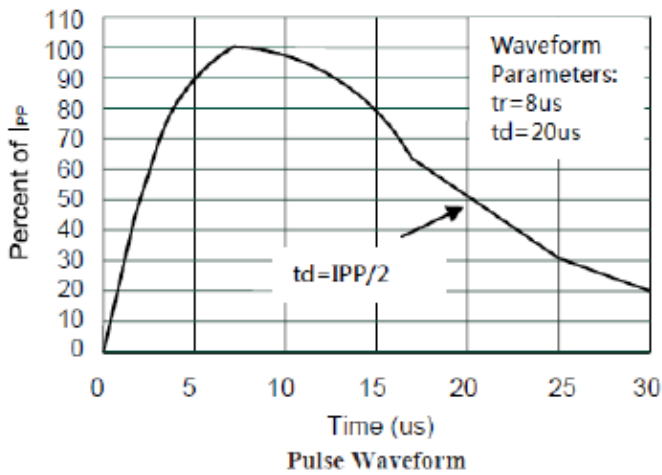
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse Stand-off Voltage	V _{RWM}				12	V
Breakdown Voltage	V _{BR}	I _T = 1mA	13.3			V
Reverse Leakage Current	I _R	V _{RWM} = 12V			1	μA
Clamping Voltage	V _C	I _{PP} = 1A, t _p = 8/20μs			17.8	V
Junction Capacitance	C _j	V _R = 0V, f = 1MHz		0.8	1.5	pF

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Rate and Characteristic Curve ($T_A=25^\circ\text{C}$ unless otherwise noted)

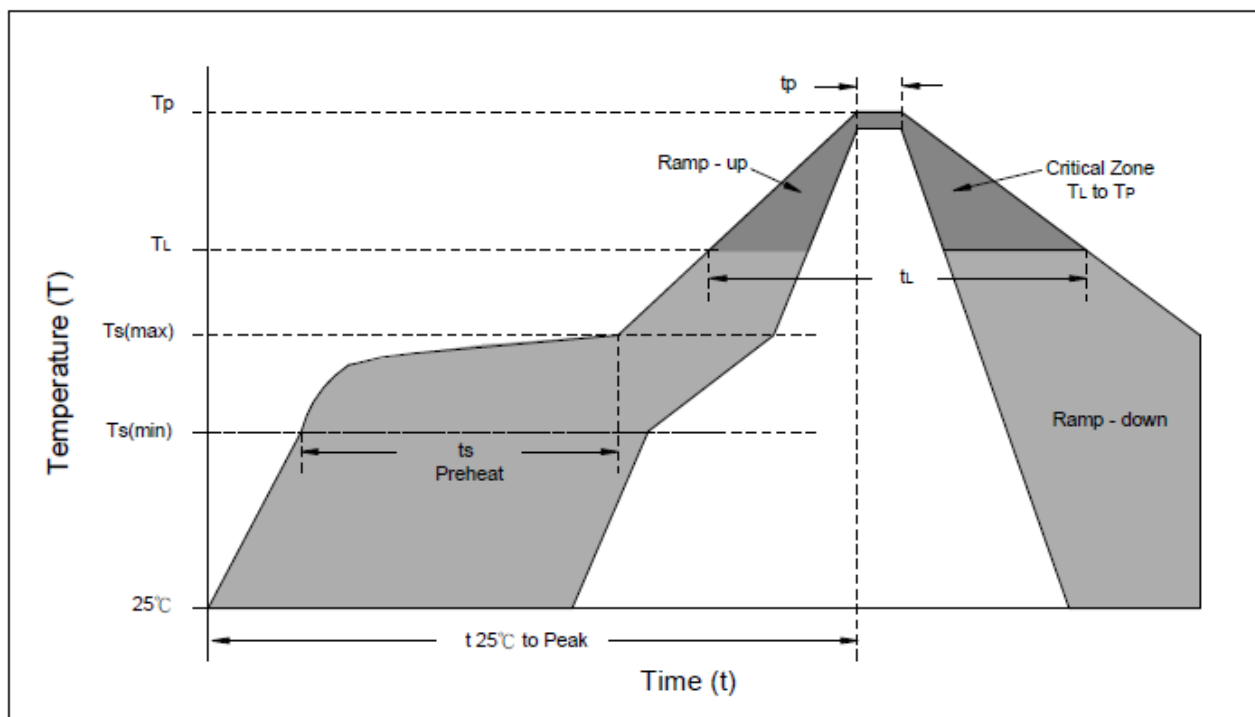


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■ Soldering Recommendation



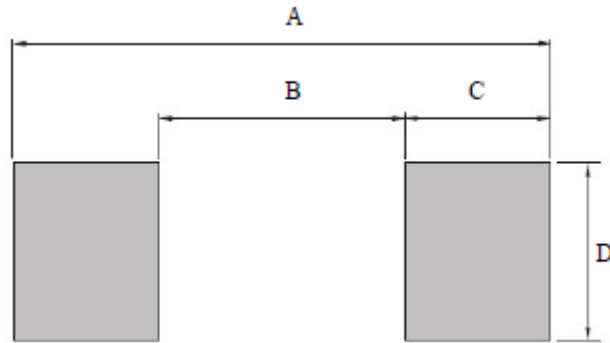
Reflow Condition	Lead-free assembly
Preheat -Temperature Min(Ts min) -Temperature Min(Ts max) -Time (min to max) (ts)	150°C 200°C 60 – 180 seconds
Average ramp up rate -Temperature Liquidus (TL) to peak	3°C/second max
Ts(max) to TL -Ramp-up Rate	3°C/second max.
Reflow -Temperature Liquidus (TL) -Time (tL)	217°C 60 – 150 seconds
Peak Temperature (TP)	260°C
Time within 5°C of actual peak Temperature(tp)	20 – 40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to peak Temperature(TP)	8 minutes max.
Do not exceed	260°C

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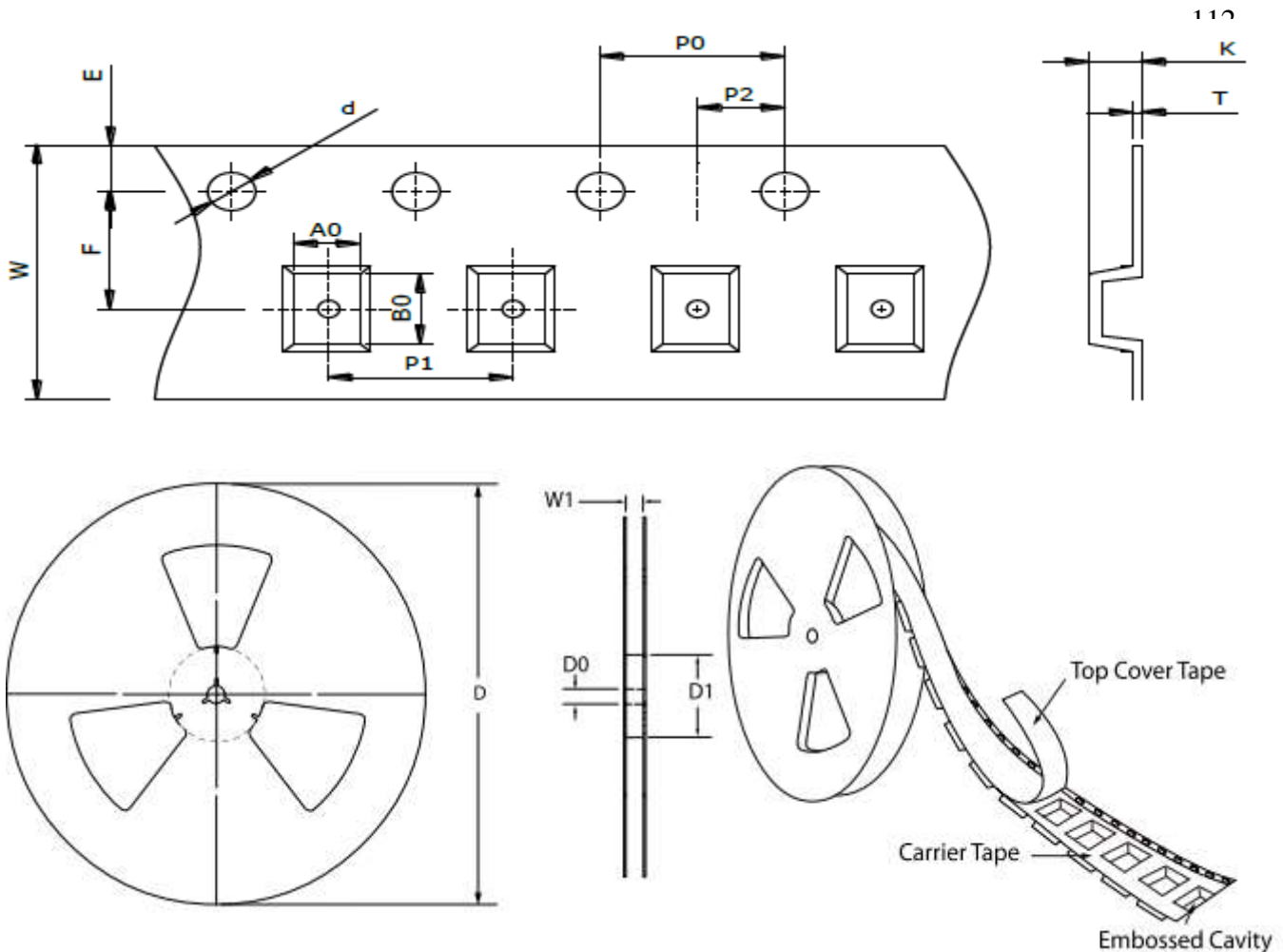
Recommended Soldering Pad Dimensions



Unit: mm

Package Type	A	B	C	D
SOD-323	2.85	1.45	0.70	0.70

Packaging



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Item	Symbol	SOD-323 (Unit: mm)
Carrier width	A0	1.50 ± 0.10
Carrier length	B0	3.30 ± 0.10
Carrier length	K0	0.95 ± 0.10
Sprocket hole	D0	1.50 ± 0.10
Reel outside diameter	E	1.75 ± 0.10
Feed hole width	F	3.50 ± 0.10
Reel inner diameter	P0	4.00 ± 0.10
Sprocket hole position	P1	4.00 ± 0.10
Punch hole position	P2	2.00 ± 0.10
Sprocket hole pitch	T	0.20 ± 0.05
Punch hole pitch	W	8.00 ± 0.20
Embossment center	d (7")	178.00 ± 2.00
Overall tape thickness	d1	MIN. 54.00
Tape width	d0	13.00 ± 0.20
Reel width	w1	MAX. 13.50

■ Quantity

Package Type	Reel Size (inch)	Reel (Kpcs)
SOD-323	7	3

■ Warehouse Storage Conditions of product

- Storage condition:
 - 1.Storage Temperature: -10°C~+40°C
 - 2.Relative Humidity: ≤75%RH
 - 3.Keep away from corrosive atmosphere and sunlight.
- Period of Storage: 1 year.