

DESD3512SO-TP

2-Line Bi-directional ESD DIODE

WWW.TECHPUBLIC.COM

Features

- Low operating voltage: 35V&12V
- Ultra low capacitance: 32pF(Typ)
- Ultra low leakage: nA level
- Low clamping voltage
- -IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 30\text{kV}$
Contact discharge: $\pm 30\text{kV}$
- -IEC61000-4-4 (EFT) 40A (5/50ns)
- -IEC61000-4-5 (Lightning) 4A&11A (8/20 μs)
- 3-pin leadless package
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

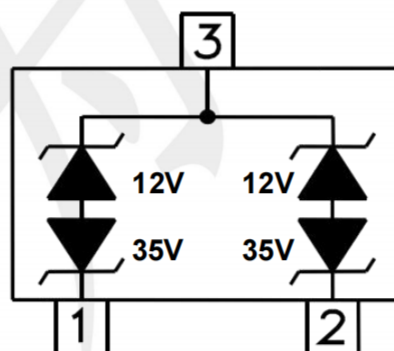
Mechanical Characteristics

- Package: SOT-23
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Terminal Connections: See Diagram Below
- -IEC 61000-4-2 (ESD) immunity test

Applications

- CAN Bus Protection
- Industrial Control Network
- Personal Digital Assistants
- Notebooks and Handhelds
- Automotive Appllcatrons

Dimensions and Pin Configuration



SOT-23

DESD3512SO-TP

2-Line Bi-directional ESD DIODE

WWW.TECHPUBLIC.COM

Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs) per Figure 3	Ppk	240&330	W
Peak Pulse Current (8/20μs) per Figure 3	Ipp	4 & 11	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 (TA=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM1	--	--	35	V	From Pin 1 or Pin 2 to Pin 3
Reverse Working Voltage	VRWM2	--	--	12	V	From Pin 3 to Pin 1 or Pin 2
Breakdown Voltage	VBR1	36	--	--	V	IT= 1mA, From Pin 1 or Pin 2 to Pin 3
Breakdown Voltage	VBR2	13.3	--	--	V	IT= 1mA, From Pin 3 to Pin 1 or Pin 2
Reverse Leakage Current	IRM1	--	--	0.5	uA	VRWM=35V, From Pin 1 or Pin 2 to Pin 3
Reverse Leakage Current	IRM2	--	--	0.5	uA	VRWM=35V, From Pin 3 to Pin 1 or Pin 2
Clamping Voltage, From Pin 1 or Pin 2 to Pin 3	VCL1	--	--	53	V	Ipp=1A(8x 20us pulse)
		--	--	60	V	Ipp=4A(8x 20us pulse)
Clamping Voltage, From Pin 3 to Pin 1 or Pin 2	VCL2	--	--	20	V	Ipp=1A(8x 20us pulse)
		--	--	30	V	Ipp=11A(8x 20us pulse)
Junction Capacitance	CJ	--	32	--	pF	VR =0V, f =1MHz

Characteristic Curves

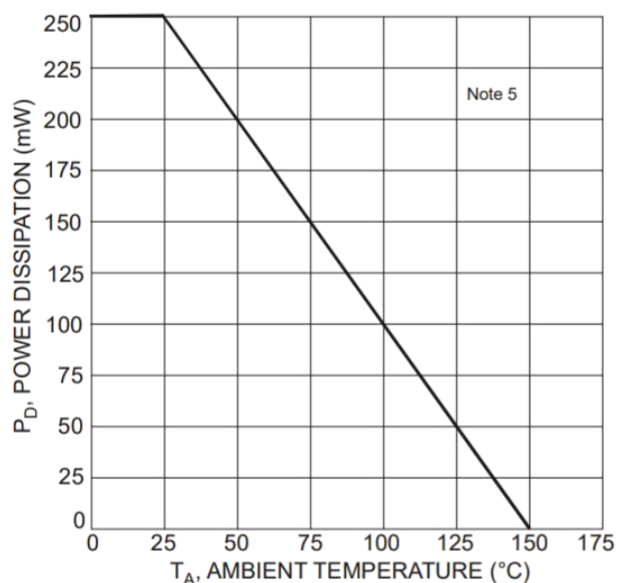


Figure 1 Power Derating Curve

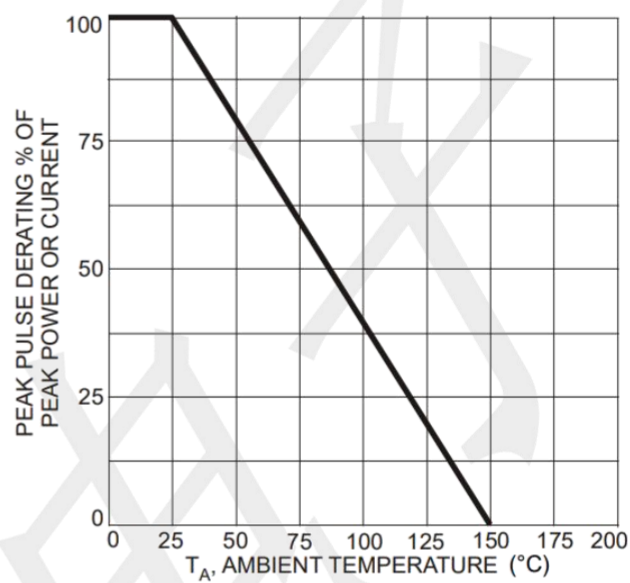


Figure 2 Pulse Derating Curve

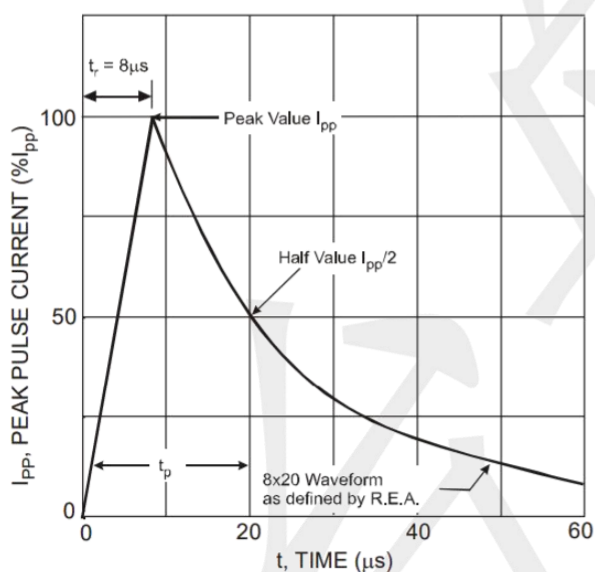


Figure 3 Pulse Waveform

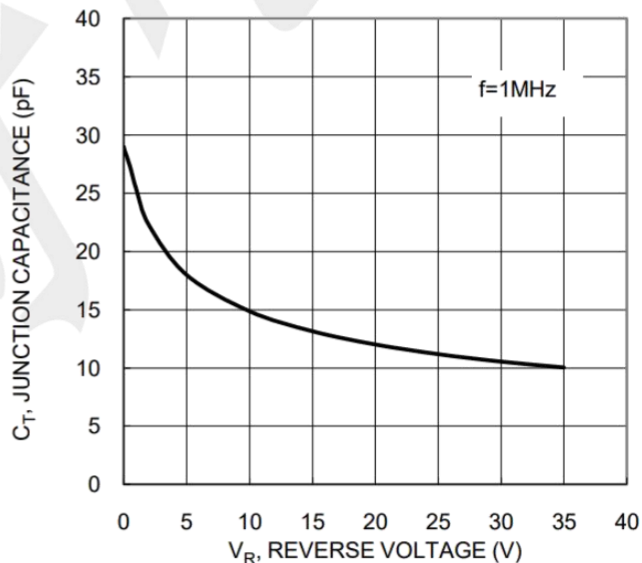
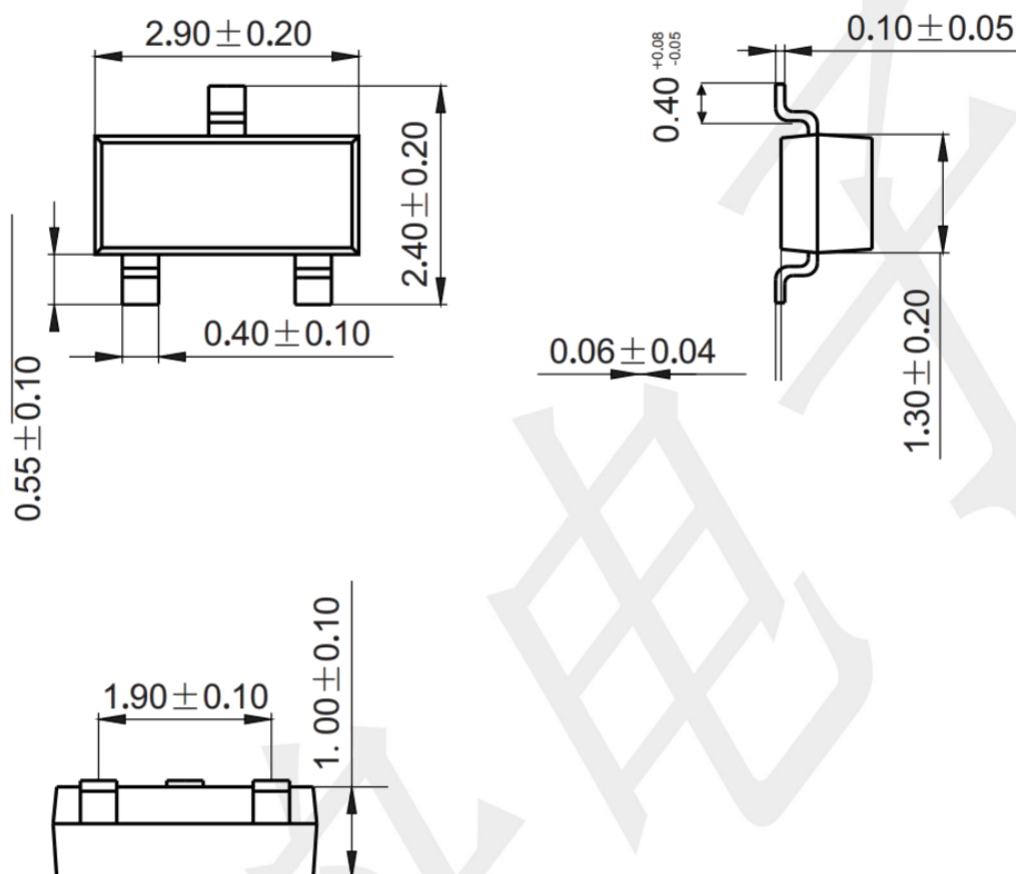


Figure 4: Typical Junction Capacitance

Package Outline Dimensions (unit: mm)

SOT-23



Mounting Pad Layout (unit: mm)

