

Transient Voltage Suppressors

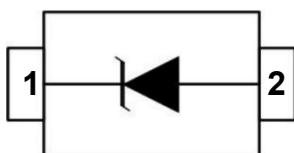
DESCRIPTION

The JESD5Z Series is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, it is suited for use in cellular phones, portable devices, digital cameras, power supplies and many other portable applications.

ORDERING INFORMATION

- ◇Device: JESD5ZXXX
- ◇Package: SOD-523
- ◇Material: Halogen free
- ◇Packing: Tape & Reel
- ◇Quantity per reel: 3,000pcs

PIN CONFIGURATION



FEATURES

- ◇IEC61000-4-2 Level 4 ESD Protection
- ◇Protects one directional I/O line
- ◇Low clamping voltage
- ◇Working voltages : 2.5V, 3.3V, 5V, 6V, 7V, 12V, 15V
- ◇Low leakage current

MACHANICAL DATA

- ◇SOD-523 package
- ◇Flammability Rating: UL 94V-0
- ◇Packaging: Tape and Reel
- ◇High temperature soldering guaranteed: 260°C/10s
- ◇Reel size: 7 inch

APPLICATIONS

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

PACKAGE OUTLINE



ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
V_{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	± 30 ± 22	kV
ESD	ESD Voltage per human body model ESD Voltage per machine model	16 400	kV V
P_D	Total Power Dissipation on FR-5 Board (Note 1) @ $T_a=25^{\circ}\text{C}$	150	mW
T_J, T_{STG}	Junction and Storage Temperature	-55/+150	$^{\circ}\text{C}$
T_L	Lead Solder Temperature – Maximum (10 Second Duration)	260	$^{\circ}\text{C}$

These ratings are limiting values above which the serviceability of the diode may be impaired

Note 1. FR-5=1.0x0.75x0.62 in.

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

PART NUMBER	V_{RWM}	I_R	V_B	I_T	V_C		V_C		PPK	C_J
	(V)	(μA)	(V)	(mA)	(V)		(V)		(W)	(pF)
	Max	Max	Min		Max	@A	Max	@A	Max	Max
JESD5Z2V5	2.5	6.0	4.0	1	9.0	5.0	11.5	9.0	104	145
JESD5Z3V3	3.3	0.90	5.0	1	10.0	5.0	14.0	7.5	105	105
JESD5Z5V0	5.0	0.08	6.2	1	11.6	5.0	15.0	7.0	105	80
JESD5Z6V0	6.0	0.05	6.8	1	13.5	5.0	17.5	6.0	105	70
JESD5Z7V0	7.0	0.03	7.5	1	14.0	5.0	18.0	6.0	108	65
JESD5Z12V	12.0	0.03	14.1	1	20.0	1.0	26.0	4.0	104	45
JESD5Z15V	15.0	0.50	16.0	1	23.0	1.0	30.0	4.0	120	28

ELECTRICAL CHARACTERISTICS CURVE

Fig 1 8/20 μ s Waveform per IEC61000-4-5

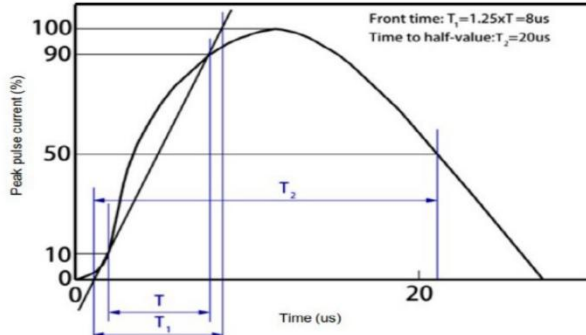


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

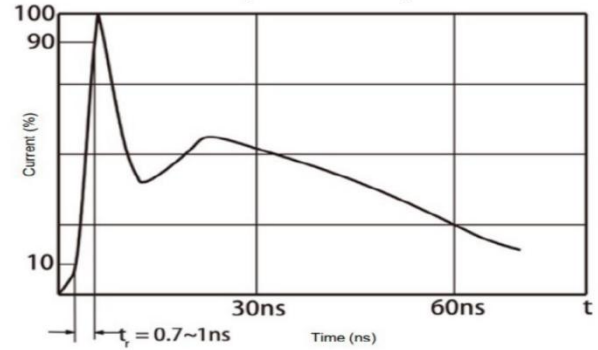


Fig 3 Voltage vs Capacitance

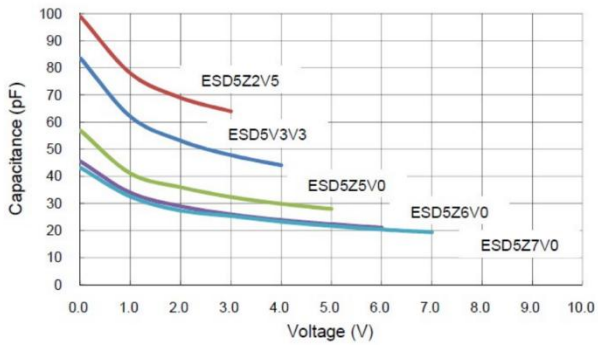


Fig 4 Voltage vs Capacitance

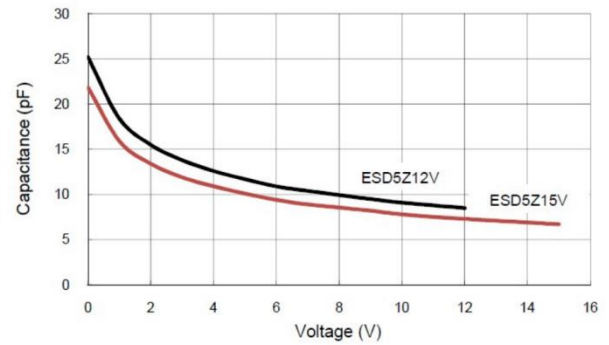


Fig 5 Clamping Voltage vs Peak Pulse Current

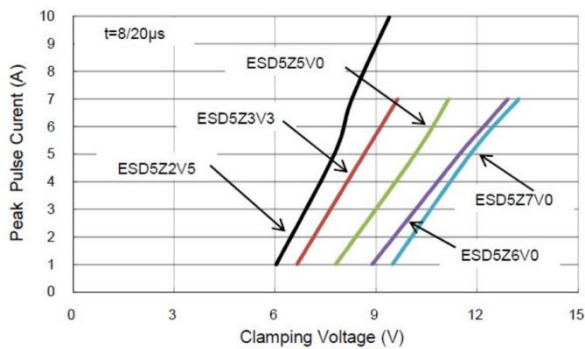
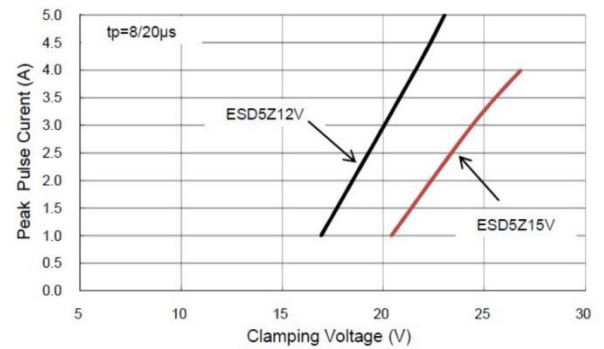
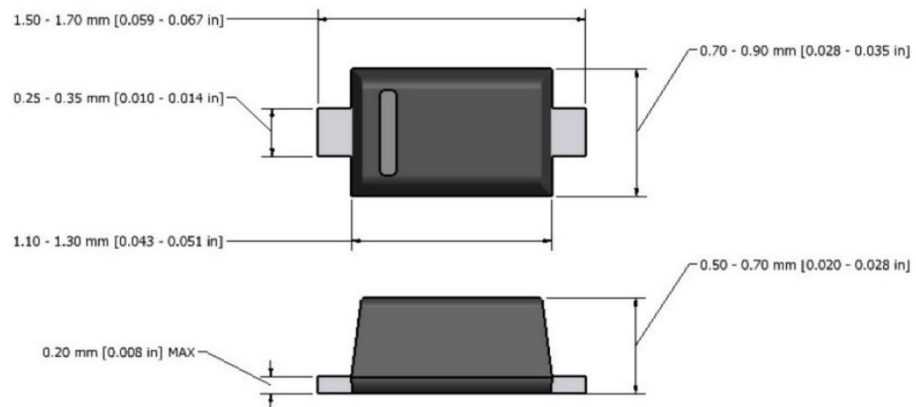


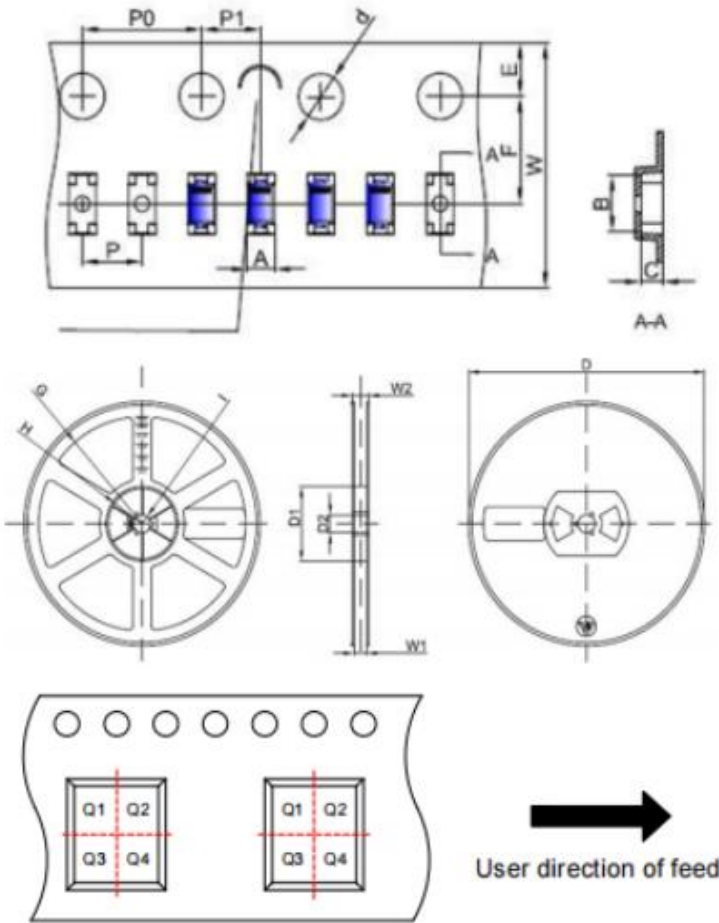
Fig 6 Clamping Voltage vs Peak Pulse Current



SOD-523 PACKAGE OUTLINE DIMENSIONS



Note: Dimensions are exclusive of Burrs, Mold Flash & Tie Bar extrusions.

TAPE AND REEL SPECIFICATION-SOD-523


Pin 1 quadrant: Q1&Q2

Packaging Description:

SOD-523 parts are shipped in tape. The carrier tape is made from a dissipative(carbon filled) polycarbonate resin. The cover tape is a multilayer film(heat activated adhesive in nature)primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 5,000 or 8,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and made of polystyrene plastic(anti-static coated).

Symbol	Millimeters	Inches
	Typ.	Typ.
A	0.95	0.037
B	1.92	0.076
C	0.73	0.029
d	Φ1.50	Φ0.059
E	1.75	0.069
F	3.50	0.138
P0	4.00	0.157
P	2.00	0.079
P1	2.00	0.079
W	8.00	0.315
D	Φ178	Φ7.008
D1	54.40	2.142
D2	13.00	0.512
G	R78.00	R3.071
H	R25.60	R1.008
I	R6.50	R0.256
W1	9.50	0.374
W2	12.30	0.484