



SEMICONDUCTOR

DATA SHEET

YSESDAxxCT Series

Bidirectional TVS Diode



APPLICATIONS

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

IEC COMPATIBILITY

- ◆ IEC61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50 η s)

FEATURES

- ◆ 100 Watts Peak Pulse Power per Line ($t_p=8/20\mu\text{s}$)
- ◆ Protects one bidirectional I/O line
- ◆ Low clamping voltage
- ◆ Working voltages : 3.3V, 5V and 8V
- ◆ Low leakage current

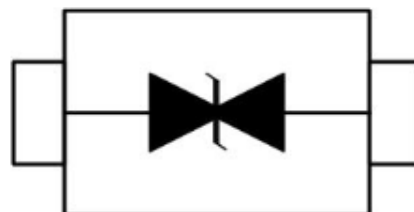
MECHANICAL CHARACTERISTICS

- ◆ SOD-523 Package
- ◆ Molding Compound Flammability Rating : UL 94V-O
- ◆ Weight 2.0 Milligrams (Approximate)
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Reel Size : 7 inch
- ◆ Lead Finish : Lead Free

SOD-523



PIN CONFIGURATION



DEVICE CHARACTERISTICS

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MAXIMUM RATINGS (@ 25°C Unless Otherwise Specified)			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp=8/20μs waveform)	P _{PP}	100	Watts
Lead Soldering Temperature	T _L	260 (10 sec.)	°C
Operating Temperature Range	T _J	-55 ~ 150	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°C
Maximun P _{PK} Dissipation@T _A =25°C (PW=8/20 μ s) (Note 1)	P _{PK}	100	W
DC Power Dissipation @TL=75°C (Note 2)	PD	700	mW
Derate above 75°C		8	mW/°C
Thermal Resistance,Junction-to-Lead	R _{θJL}	50	°C/W
DC Power Dissipation @TA=25°C (Note 2)	PD	500	mW
Derate above 25°C		4	mW/°C
Thermal Resistance, Junction-to-Ambient	R _{θJA}	250	°C/W

Note 1. Non-repetitive current pulse at TA=25°C, Power waveform = 8/20 μ s.

Note 2. Mounted with 1 inch Copper pad size, DC board FR-4.

ELECTRICAL CHARACTERISTICS PER LINE (@ 25°C Unless Otherwise Specified)									
PART NUMBER	DEVICE MARKING	V _{RWM} (V) (max.)	V _B (V) (min.)	I _T (mA)	V _C @1A (max.)	V _C (max.) (@A)		I _R (μA) (max.)	C _T (pF) (typ.)
YSESDA33CT	CT	3.3	4	1	7	12	8	1	10
YSESDA05CT	DT	5	6	1	9.8	20	5	1	10
YSESDA08CT	GT	8	8.5	1	17.5	25	3	1	7

DEVICE CHARACTERISTICS

YSESDAxxCT Series

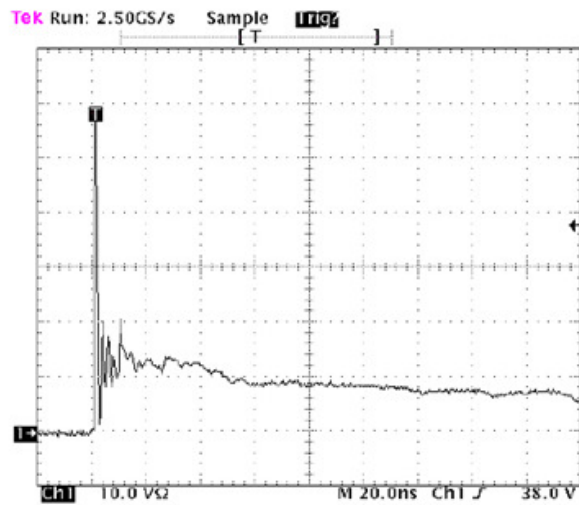


Figure 1. ESD Clamping Voltage Screenshot
Positive 8 kV contact per IEC 61000-4-2

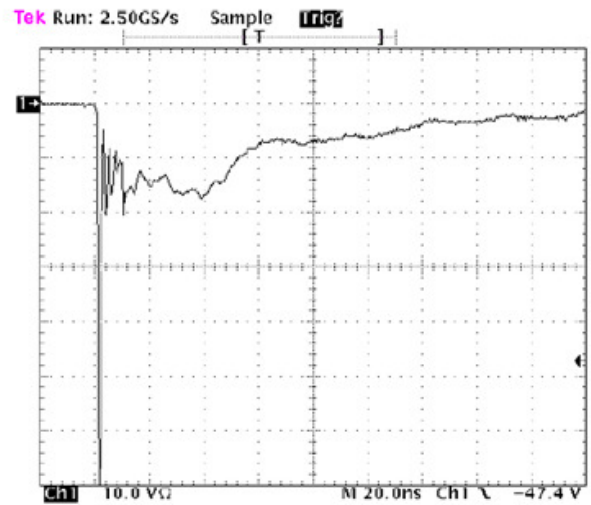


Figure 2. ESD Clamping Voltage Screenshot
Negative 8 kV contact per IEC 61000-4-2

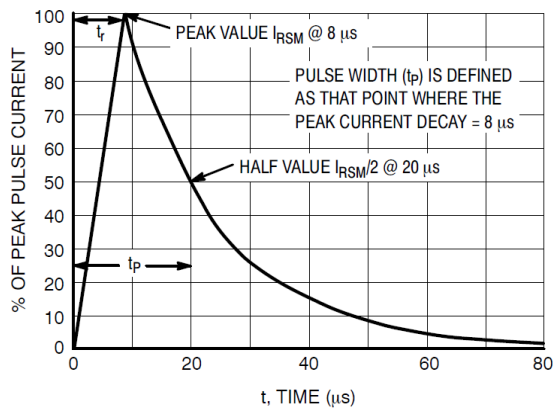


Figure 3. 8/20 μ s Pulse Waveform

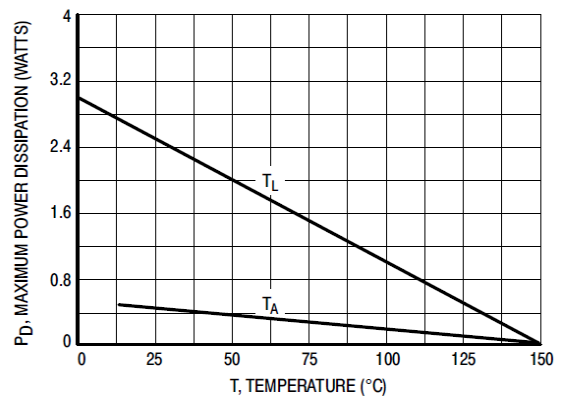
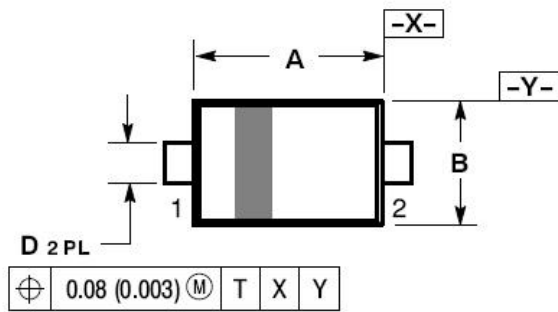
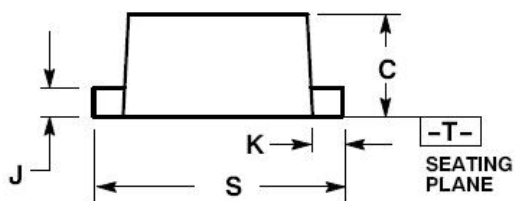


Figure 4. Steady State Power Derate Rating

PACKAGE OUTLINE & DIMENSIONS

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DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.10	1.20	1.30	0.043	0.047	0.051
B	0.70	0.80	0.90	0.028	0.032	0.035
C	0.50	0.60	0.70	0.020	0.024	0.028
D	0.25	0.30	0.35	0.010	0.012	0.014
J	0.07	0.14	0.20	0.0028	0.0055	0.0079
K	0.15	0.20	0.25	0.006	0.008	0.010
S	1.50	1.60	1.70	0.059	0.063	0.067

* SOLDERING FOOTPRINT

