

LOW CAPACITANCE TVS DIODE FOR HIGH SPEED DATA INTERFACES

APPLICATIONS

- ◆ High-Speed data lines
- ◆ Cellular handsets AND accessories
- ◆ Universal Serial Bus (USB) port protection
- ◆ Portable instrumentation
- ◆ LAN / WAN equipment
- ◆ Peripherals

IEC COMPATIBILITY

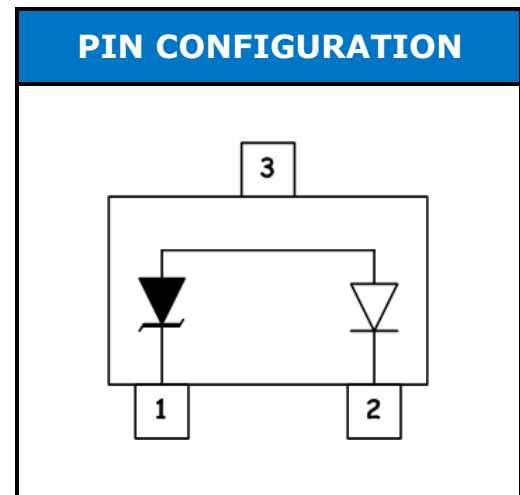
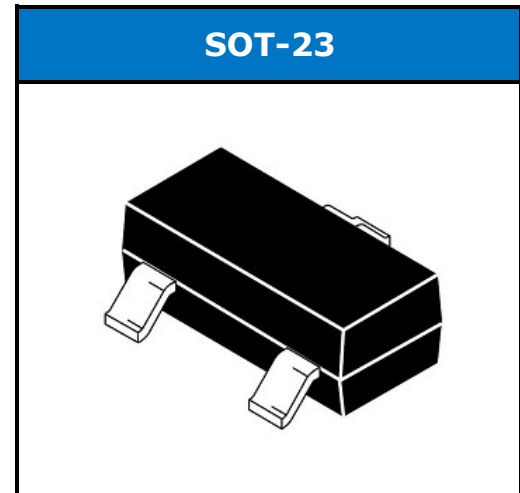
- ◆ IEC61000-4-2 (ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50 η s)
- ◆ IEC61000-4-5 (Lightning) 12A (8/20 μ s)

FEATURES

- ◆ 300 Watts Peak Pulse Power per Line ($t_p=8/20\mu\text{s}$)
- ◆ Protects one I/O line
- ◆ Low clamping voltage
- ◆ Working voltages: 3.3, 5, 8, 12, 15, 24, 36V
- ◆ Low leakage current

MECHANICAL CHARACTERISTICS

- ◆ JEDEC SOT-23 Package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Weight 8 Milligrams (Approximate)
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Reel Size : 7 inch
- ◆ Lead Finish : Lead Free



DEVICE CHARACTERISTICS

MAXIMUM RATINGS (@ 25°C Unless Otherwise Specified)			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp=8/20μs waveform)	P _{PP}	500	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

ELECTRICAL CHARACTERISTICS PER LINE (@ 25°C Unless Otherwise Specified)									
PART NUMBER	DEVICE MARKING	V _{RWM}	V _B	I _T	V _C	V _C		I _R	C _T
		(V) (max.)	(V) (min.)	(mA)	@1A (max.)	(max.)	(@A)	(μA) (max.)	(pF) (typ.)
TLSD03GU	TL3	3.0	4.0	1	7.0	10.9	43	125	5
TLSD05GU	TL5	5.0	6.0	1	9.8	13.5	42	20	5
TLSD08GU	TL8	8.0	8.5	1	13.4	16.9	34	10	5
TLSD12GU	TLA	12.0	13.3	1	19.0	25.9	21	1	5
TLSD15GU	TLB	15.0	16.7	1	24.0	30.0	17	1	5
TLSD24GU	TLD	24.0	26.7	1	43.0	49.0	12	1	5
TLSD36GU	TLH	36.0	40.0	1	51.0	76.8	9	1	5

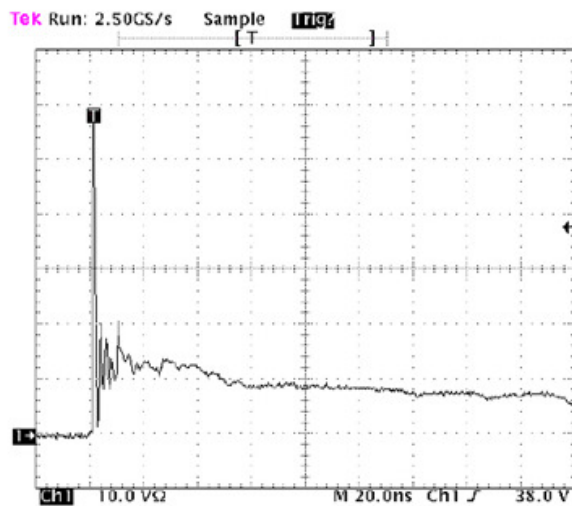


Figure 1. ESD Clamping Voltage Screenshot
Positive 8 kV contact per IEC 61000-4-2

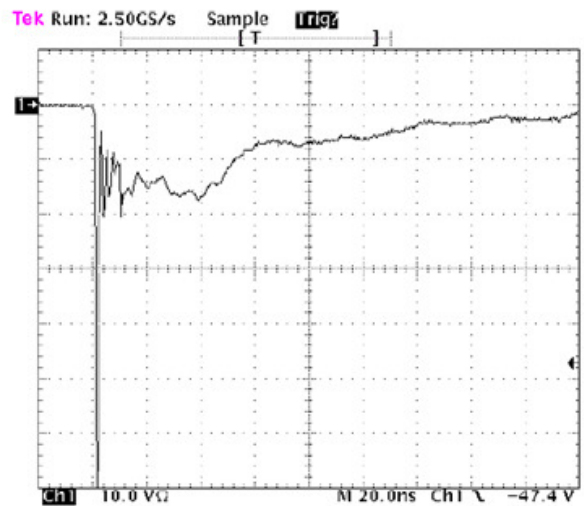
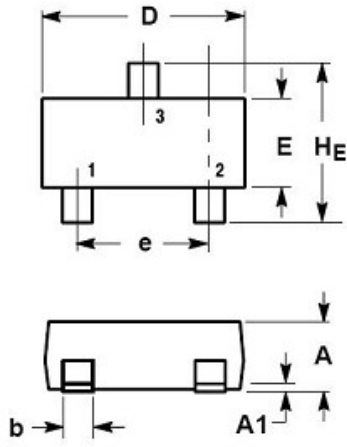


Figure 2. ESD Clamping Voltage Screenshot
Negative 8 kV contact per IEC 61000-4-2

SOT-23 PACKAGE OUTLINE & DIMENSIONS



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.89	1.00	1.11	0.035	0.040	0.044
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.37	0.44	0.50	0.015	0.018	0.020
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
e	1.78	1.90	2.04	0.070	0.075	0.081
L	0.35	0.54	0.69	0.014	0.021	0.029
HE	2.10	2.40	2.64	0.083	0.094	0.104

*** SOLDERING FOOTPRINT**

