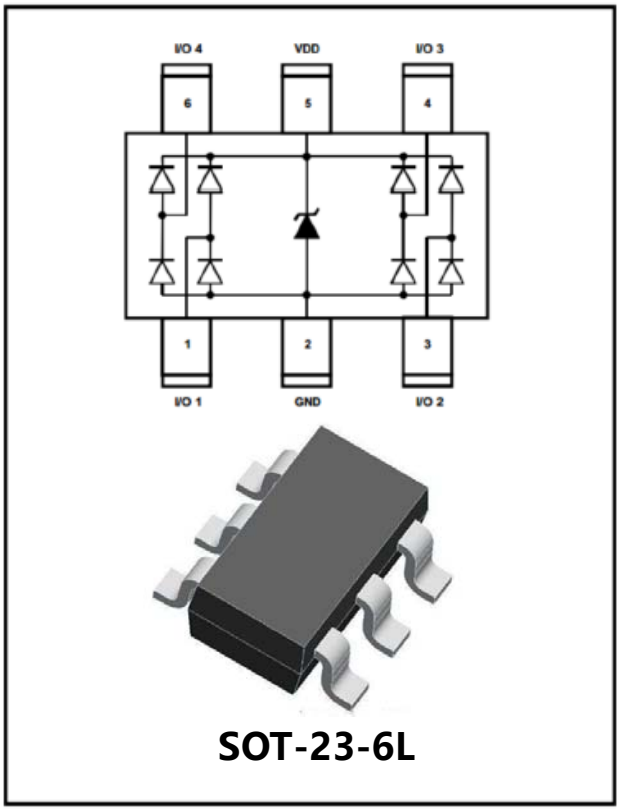
4-Line, Uni-directional, low Capacitance TVS Diode Array



Features

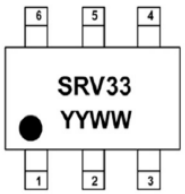
- Stand-off voltage: 3.3V Max
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±30kV (contact)
  IEC61000-4-5(surge): 22A (8/20μs)
- Ultra-low capacitance: C_J = 1.5 pF typ
- Low leakage current
- Low clamping voltage
- RoHS Compliant

Applications

- LVDS Interfaces
- MagJacks/Integrated Magnetics
- Notebook/Desktops/Service
- Central Office Equipment
- 10/100/1000 Ethernet

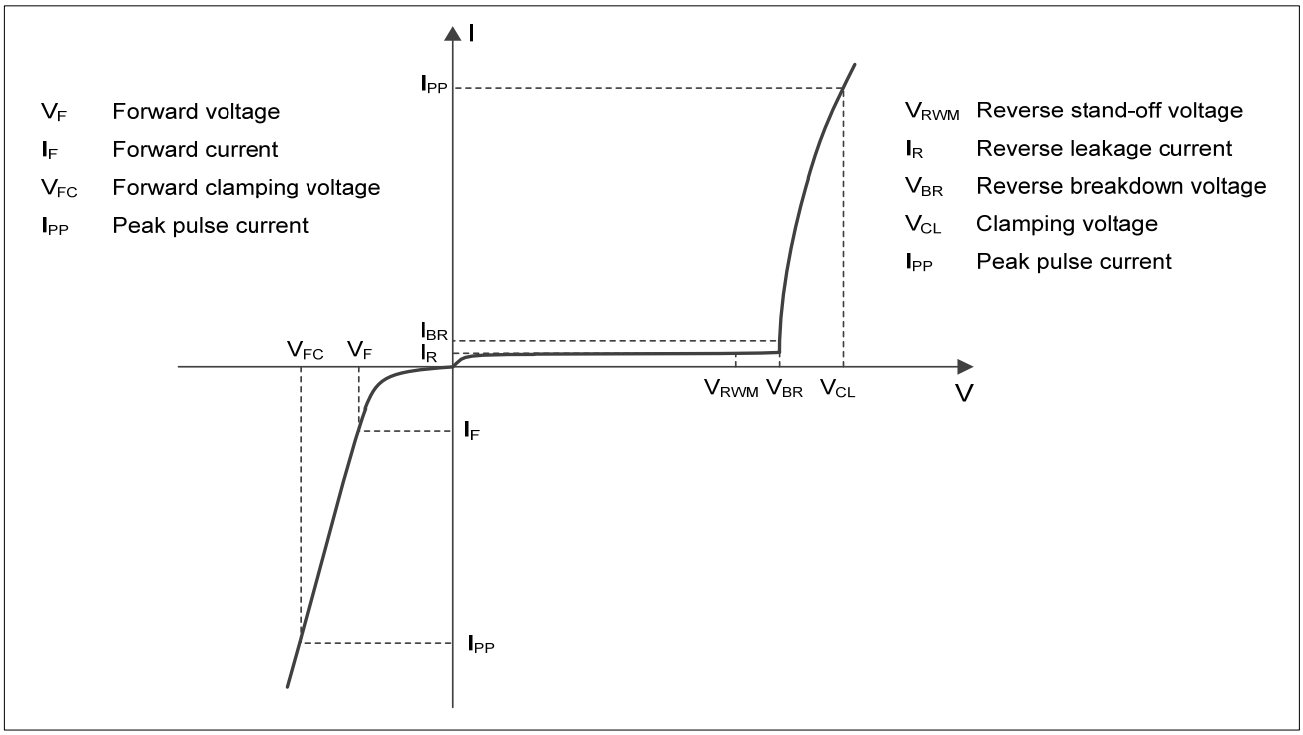
Mechanical Characteristics

- Package: SOT-23-6L
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- Moisture Sensitivity: Level 1 per J-STD-020
- Marking Information: See Below



SRV33 = Marking Code
YYWW = Date Code
Dot denotes Pin1

■Definitions of electrical characteristics



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

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power (t_p = 8/20μs)	P_{pk}	300	W
Peak pulse current (t_p = 8/20μs)	I_{PP}	22	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±30	KV
ESD according to IEC61000-4-2 contact discharge		±30	KV
Junction temperature	T_J	-55~125	°C
Storage temperature	T_{STG}	-55~150	°C

■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

I/O Pins

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V	Any I/O Pin to ground			3.3
Reverse leakage current	I_R	μA	V_{RWM} =5V, any I/O Pin to ground			0.5
Breakdown Voltage	V_{PT}	V	IT = 2μA, any I/O pin to ground	3.5		
Snap-Back Voltage	V_{SB}	V	IT = 50mA, any I/O pin to ground	2.8		
Clamping voltage [3]	V_{CL}	V	I_{PP} = 1A, t_p = 8/20μs, any I/O pin to ground			6
		V	I_{PP} = 22A, t_p = 8/20μs, any I/O pin to ground			14
Junction capacitance	C_J	pF	VR = 0V, f = 1MHz, between I/O pins		1.5	
Junction capacitance	C_J	pF	VR = 0V, f = 1MHz, any I/O pin to ground		3	5

Notes：

(1). Non-repetitive current pulse, according to IEC61000-4-5
(2). I/O pins are Pin 1, 3, 4 and 6

■Ordering Information (Example)

PREFERED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDSLC3304S2	Approximate 16	3000	30000	120000	Tape & reel

■Typical Performance Characteristics (Ta=25°C unless otherwise Specified)

Fig.1 8/20μs waveform per IEC61000-4-5

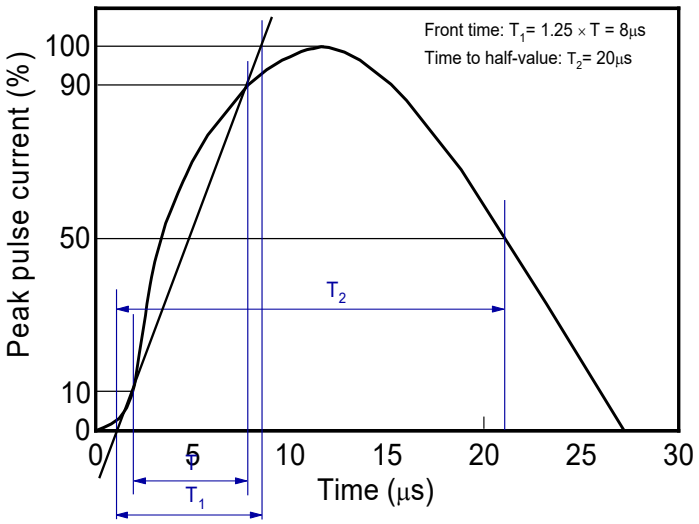


Fig.2 Contact discharge current waveform per IEC61000-4-2

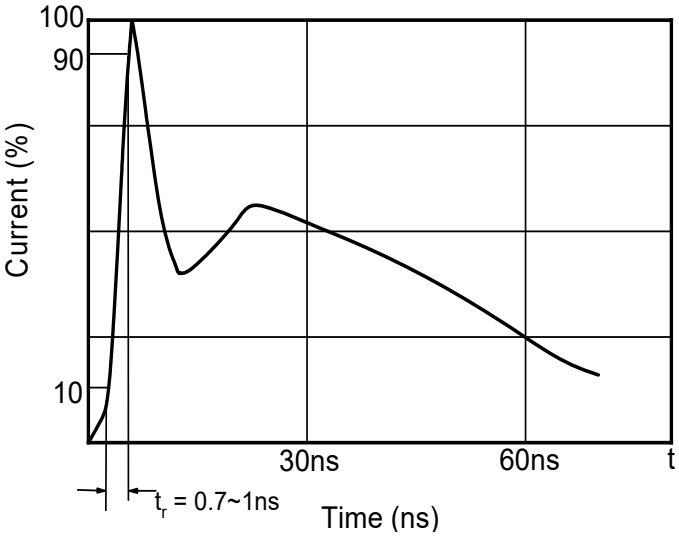


Fig.3 Clamping voltage vs. Peak pulse current

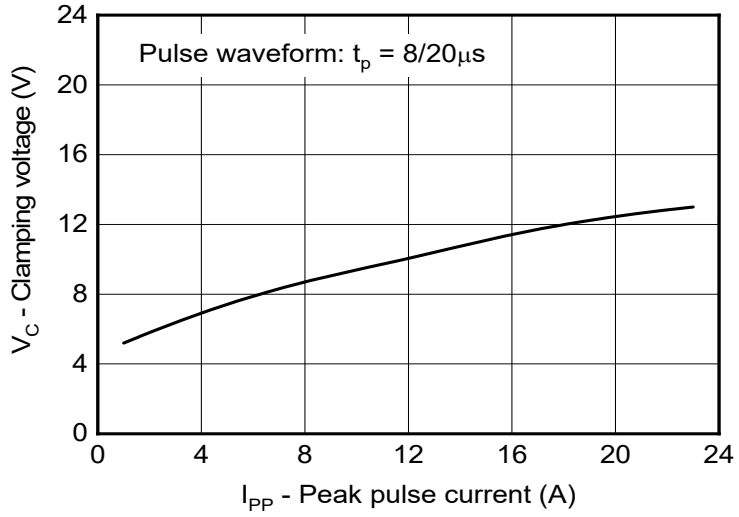


Fig.4 Capacitance vs. Reverse voltage

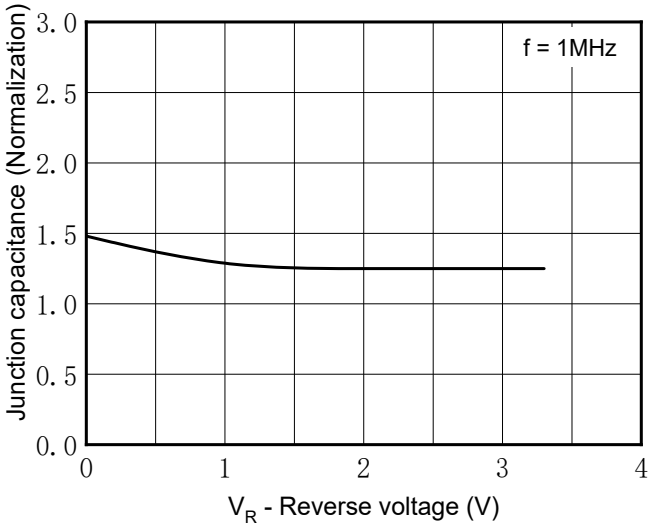


Fig.5 Non-repetitive peak pulse power vs. Pulse time

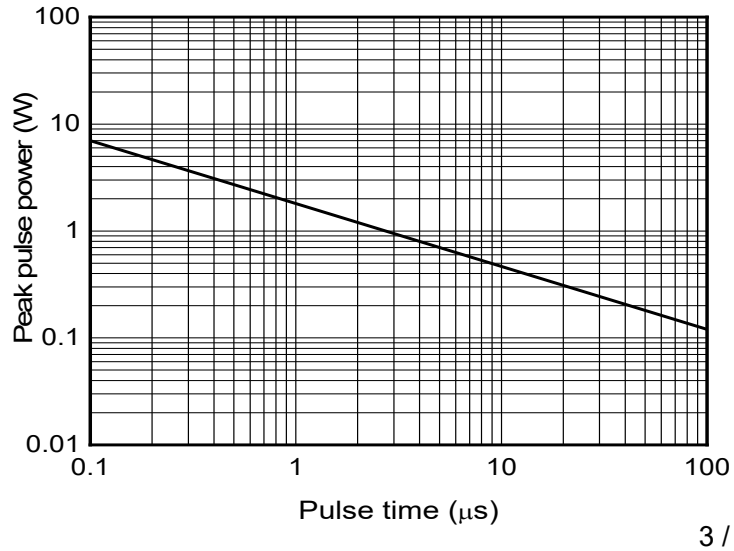


Fig.6 Power derating vs. Ambient temperature

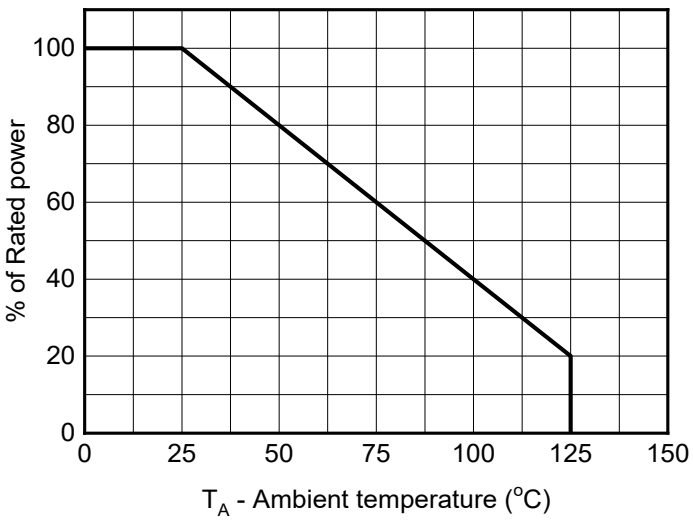
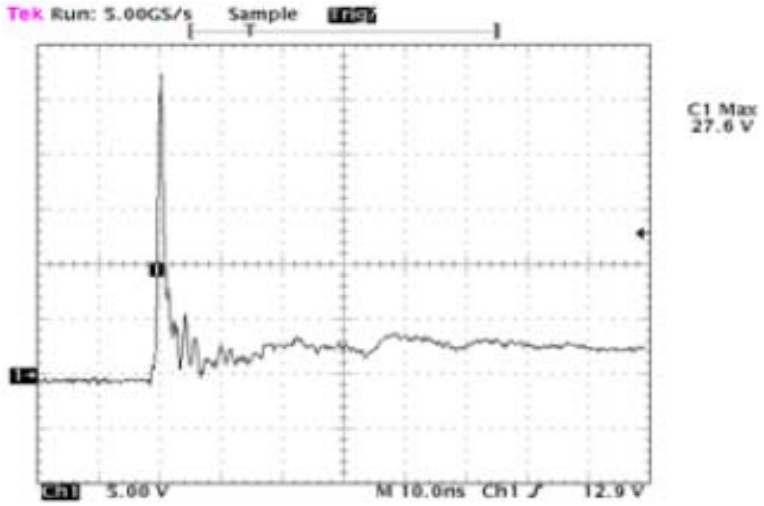
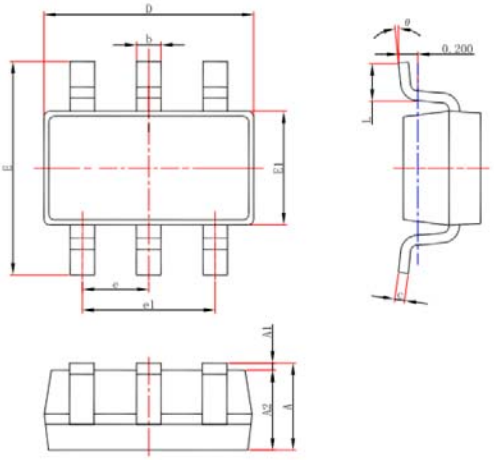


Fig.7 ESD clamping - I/O to GND
(+8kV contact discharge per IEC61000-4-2

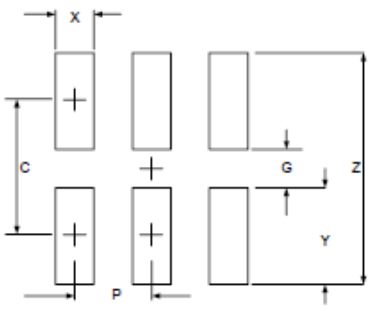


■SOT-23 6L Package Outline Drawing



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

■ Recommended PCB Layout



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
C	2.50	0.098
G	1.40	0.055
P	0.95	0.037
X	0.60	0.024
Y	1.10	0.043
Z	3.60	0.141

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