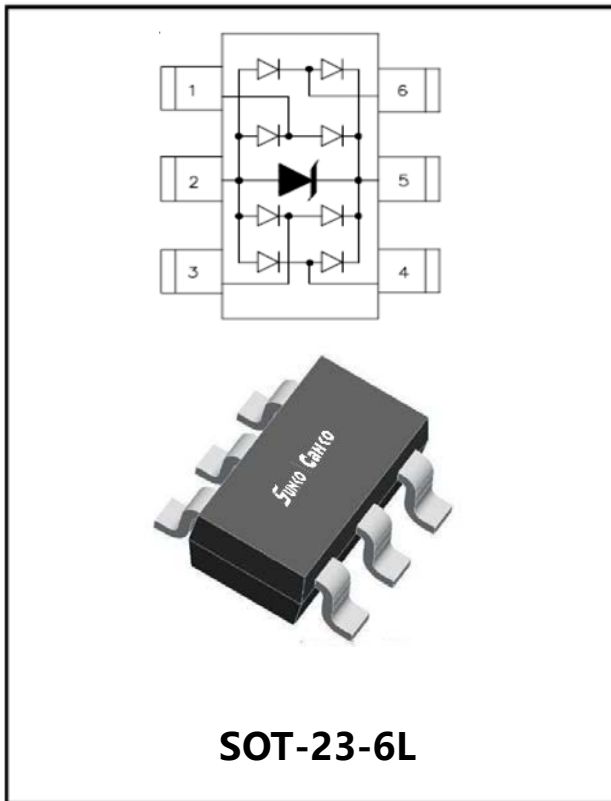


4-Line, Uni-directional, low Capacitance TVS Diode Array



Features

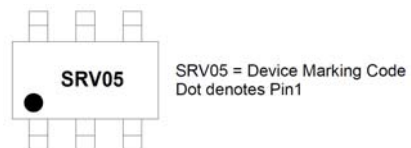
- Stand-off voltage: 5V Max
- Transient protection for each line according to
IEC61000-4-2(ESD): $\pm 30\text{kV}$ (contact)
IEC61000-4-5(surge): 25A (8/20 μs)
- Ultra-low capacitance: $C_J = 3.0\text{ pF}$ typ
- Low leakage current
- Low clamping voltage
- Compliant

Applications

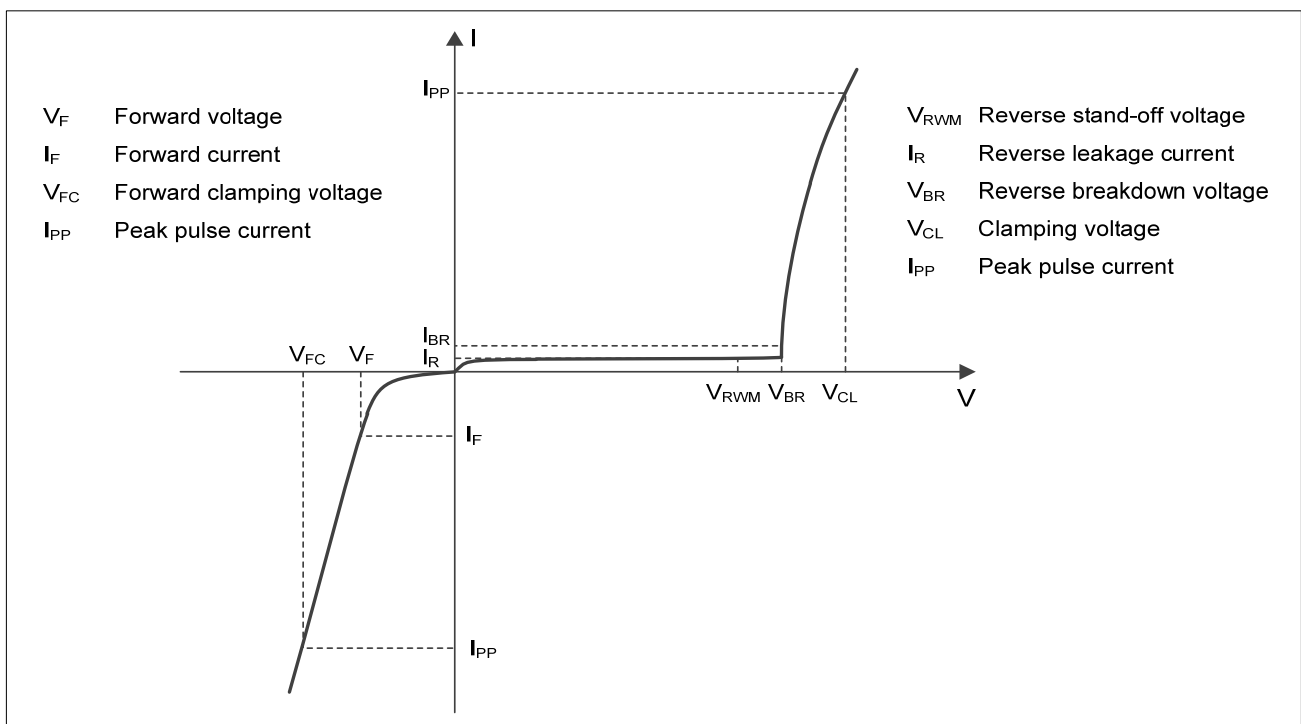
- USB 2.0 power and data line
- Monitors and flat panel displays
- Set-top box and digital TV
- Digital visual interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100/1000 Ethernet
- IEEE 1394 firewire ports

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



■Definitions of electrical characteristics



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

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	500	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	25	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 (Ta=25°C 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			5.0
Reverse leakage current	I_R	μA	$V_{RWM} = 5V$, any I/O Pin to ground			1
Reverse breakdown voltage	V_{BR}	V	$I_{BR} = 1mA$, any I/O pin to ground	6.0		
Forward voltage	V_F	V	$I_F = 15mA$, ground to Pin 1,3,4,5,6	0.6	0.9	1.2
Clamping voltage ³⁾	V_{CL}	V	$I_{PP} = 1A$, $t_p = 8/20\mu s$, any I/O pin to ground		8	12
		V	$I_{PP} = 5A$, $t_p = 8/20\mu s$, any I/O pin to ground		9.5	13
		V	$I_{PP} = 25A$, $t_p = 8/20\mu s$, any I/O pin to ground		18	20
Junction capacitance	C_J	pF	$V_R = 0V$, $f = 1MHz$, Any I/O pin to ground		3.0	5.0

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)

PREFERRED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ASRV05-4	Approximate 15.85	3000	30000	120000	Tape & reel

■ Typical Performance Characteristics ($T_a=25^\circ\text{C}$ unless otherwise Specified)

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

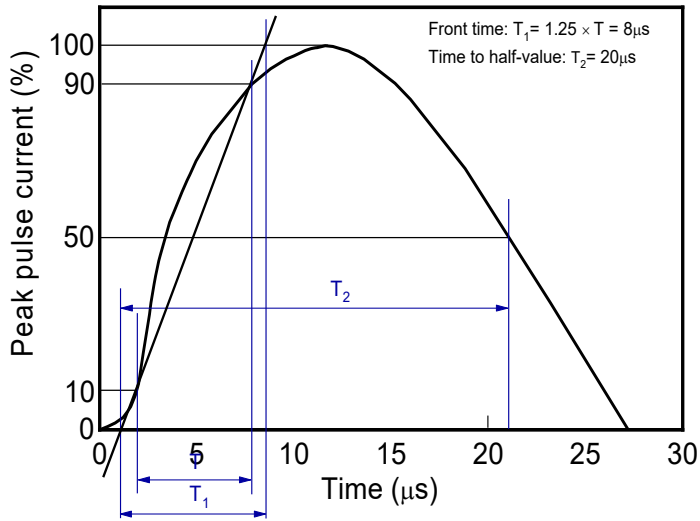


Fig.2 Contact discharge current waveform per IEC61000-4-2

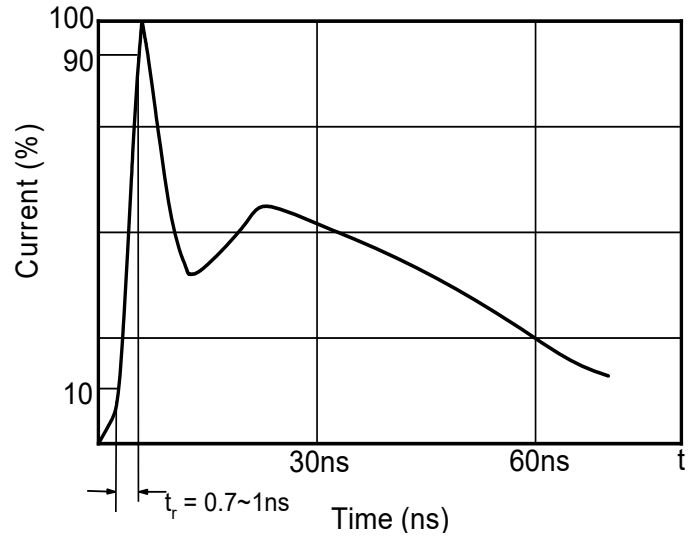


Fig.3 Clamping voltage vs. Peak pulse current

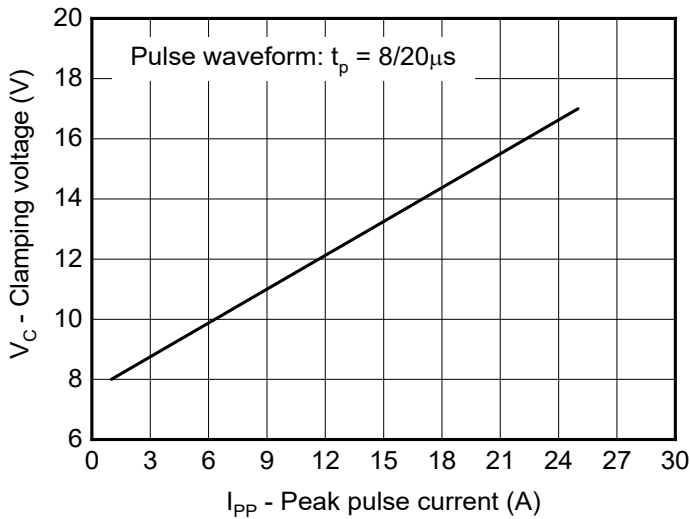


Fig.4 Capacitance vs. Reverse voltage

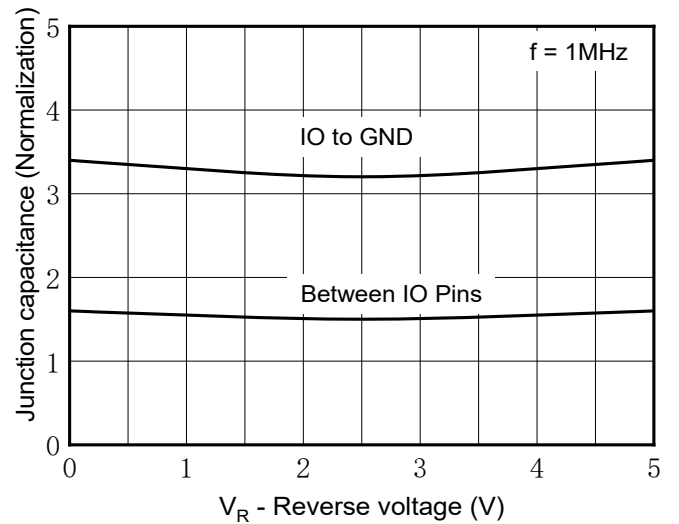


Fig.5 Non-repetitive peak pulse power vs. Pulse time

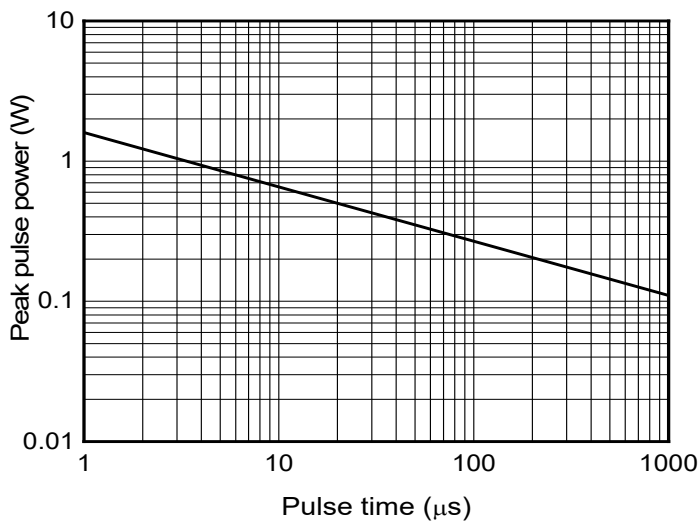


Fig.6 Power derating vs. Ambient temperature

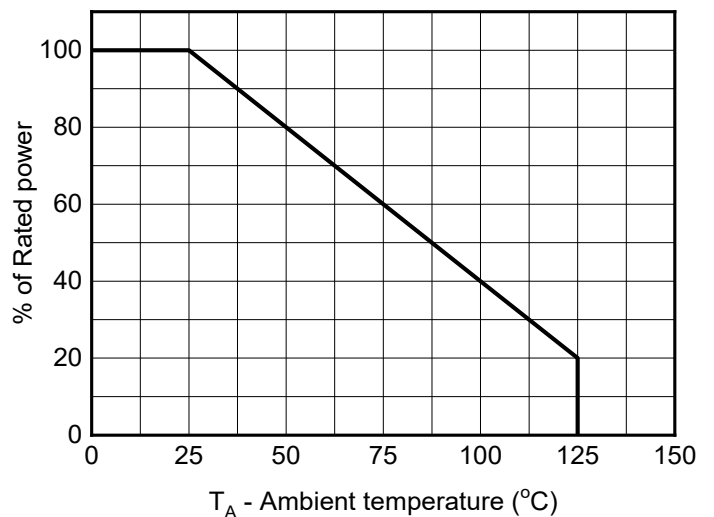
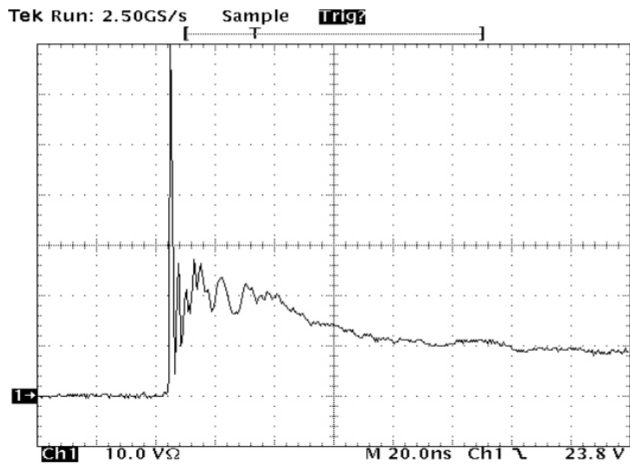
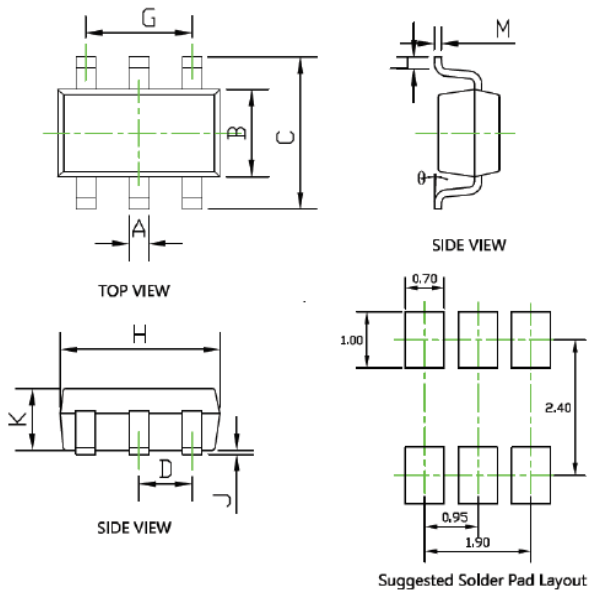


Fig.7 ESD clamping - I/O to GND
(+8kV contact discharge per IEC61000-4-2)



■SOT-23 6L Package Outline Drawing

SOT-23-6L



Note:
1. Controlling dimension in millimeters.
2. General tolerance: ± 0.06 mm.
3. The pad layout is for reference purposes only.

SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.012	0.020	0.300	0.500
B	0.059	0.067	1.500	1.700
C	0.104	0.116	2.650	2.950
D	0.037BSC		0.950BSC	
G	0.075BSC		1.900BSC	
H	0.111	0.119	2.820	3.020
J	0.000	0.004	0.000	0.100
K	0.041	0.045	1.050	1.150
L	0.012	0.024	0.300	0.600
M	0.004	0.008	0.100	0.200
θ	0°	8°	0°	8°

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