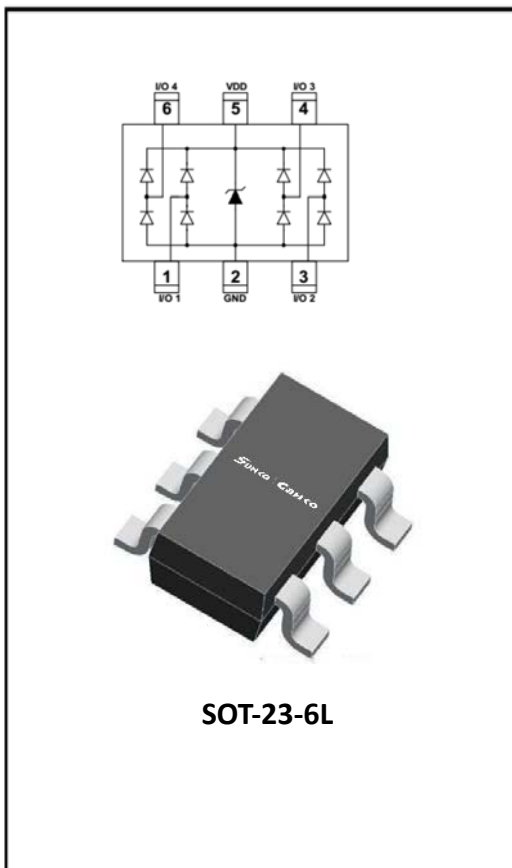


4-Line, Uni-directional, Ultra-low Capacitance, Transient Voltage Suppressor



SOT-23-6L

Features

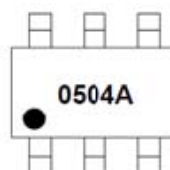
- Operating voltage: 5V
- Transient protection for each line according to
IEC61000-4-2(ESD): $\pm 20\text{kV}$ (contact)
IEC61000-4-5(surge): 5A (8/20 μs)
- Ultra low capacitance: $C_j=0.65\text{pF}$ typ
- Ultra low leakage
- Low clamping voltage
- Up to 4 lines protects
- Compliant

Applications

- USB 2.0 Power and Data lines protection
- Digital Visual Interface (DVI)
- Monitors and Flat Panel Displays
- Video Graphic Cards
- Notebook and PC Computers

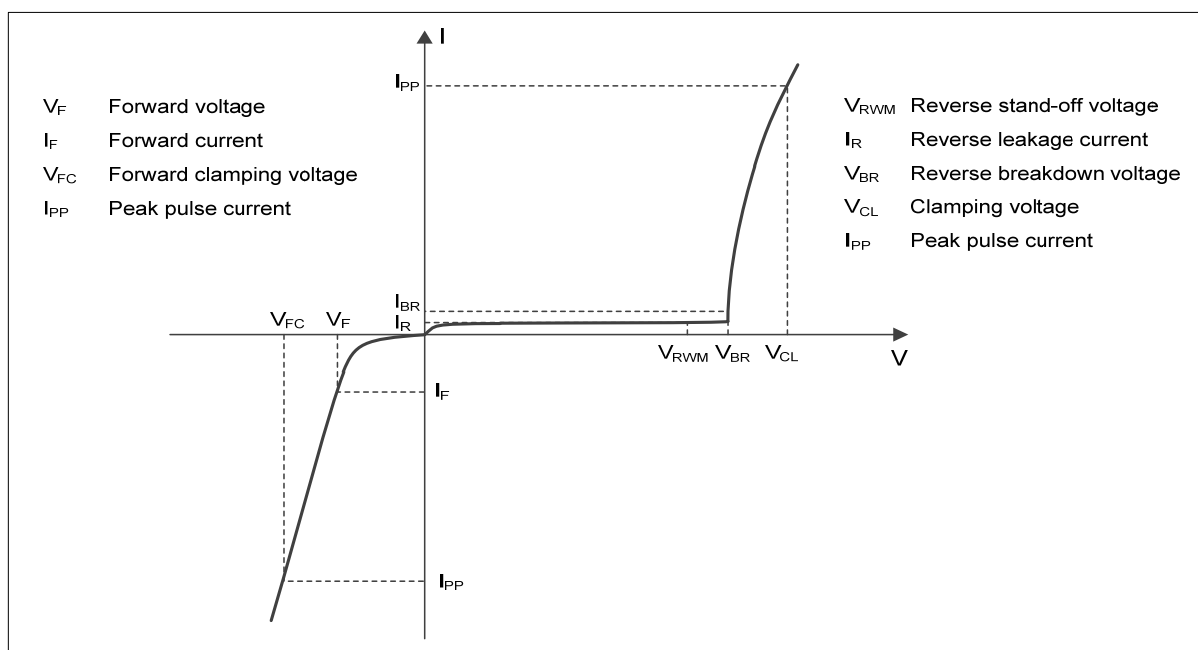
Mechanical Data

- 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



0504A = Device Marking Code
Dot denotes Pin1

■Definitions of electrical characteristics



■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	75	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	5	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 25	KV
ESD according to IEC61000-4-2 contact discharge		± 20	
Junction temperature	T_J	-55~125	$^{\circ}C$
Storage temperature	T_{STG}	-55~150	$^{\circ}C$

■Electrical Characteristics ($T_a=25^{\circ}C$ Unless otherwise specified)

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	$V_{RWM} = 5.0V$, any I/O pin to ground			0.5
Reverse breakdown voltage	$V_{(BR)}$	V	$I_T = 1mA$, any I/O pin to ground	6.0		
Clamping voltage	V_{CL}	V	$I_{PP} = 1A$, $t_p = 8/20\mu s$			10
		V	$I_{PP} = 5A$, $t_p = 8/20\mu s$			15
Junction capacitance	CJ	pF	$V_R = 0V$, $f = 1MHz$ Any I/O pin to GND		0.65	0.8
			$V_R = 0V$, $f = 1MHz$ Between I/O pins		0.3	0.4

Notes: I/O pins are Pin 1, 3, 4 and 6

■Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDSL0504S2	Approximate 15.85	3000	30000	120000	Tape & reel	7 reel

■ Characteristics (Typical)

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

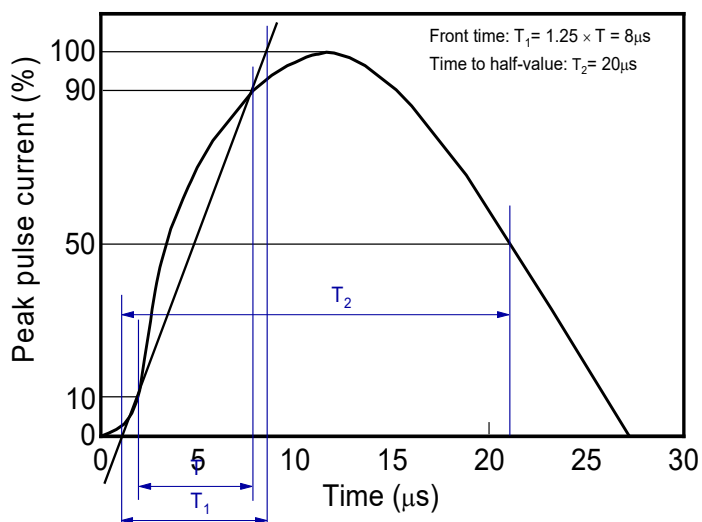


Fig.2 Contact discharge current waveform per IEC61000-4-2

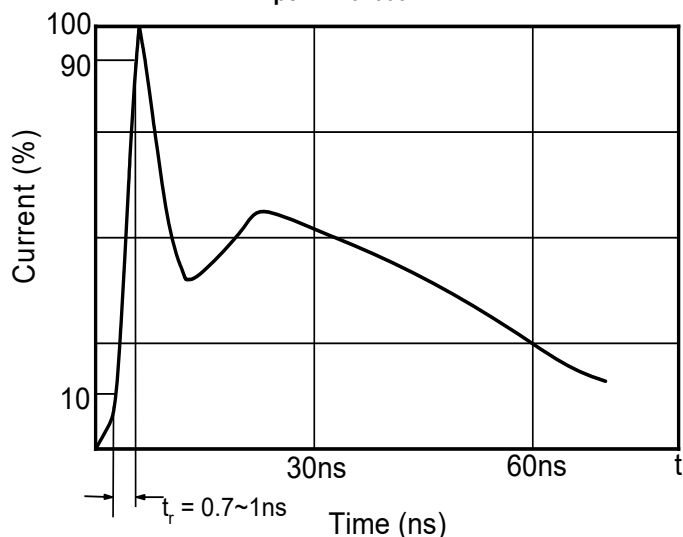


Fig.3 Clamping voltage vs. Peak pulse current

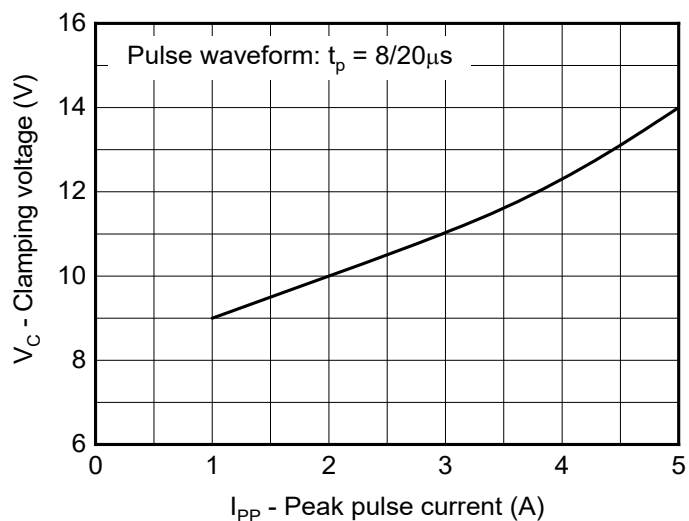


Fig.4 Capacitance vs. Reverse voltage

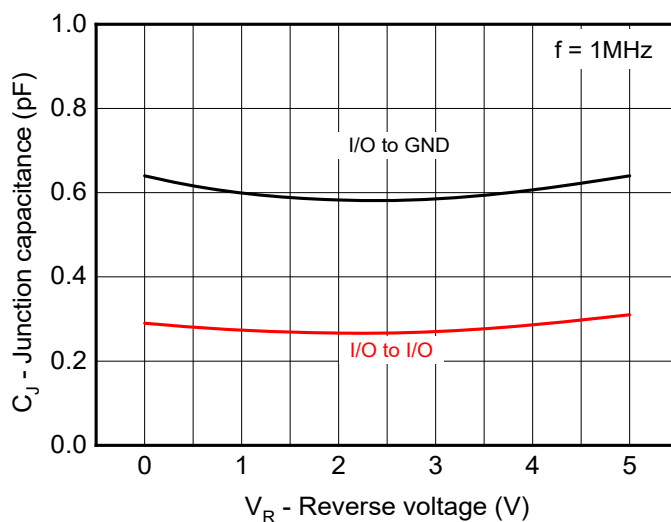


Fig.5 Non-repetitive peak pulse power vs. Pulse time

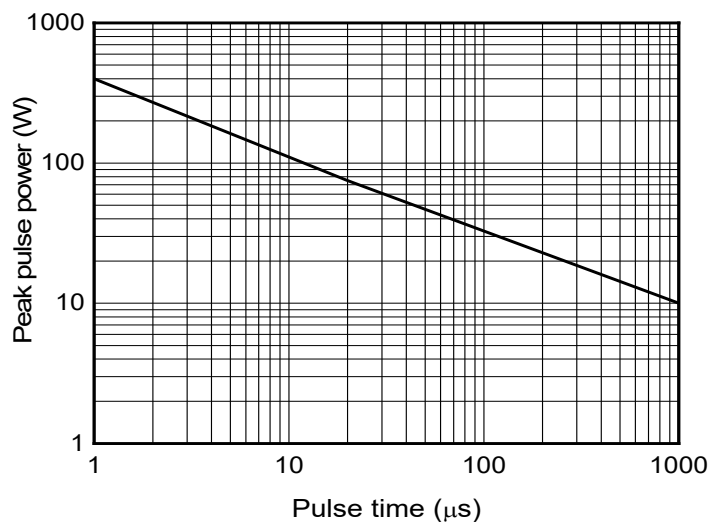


Fig.6 Power derating vs. Ambient temperature

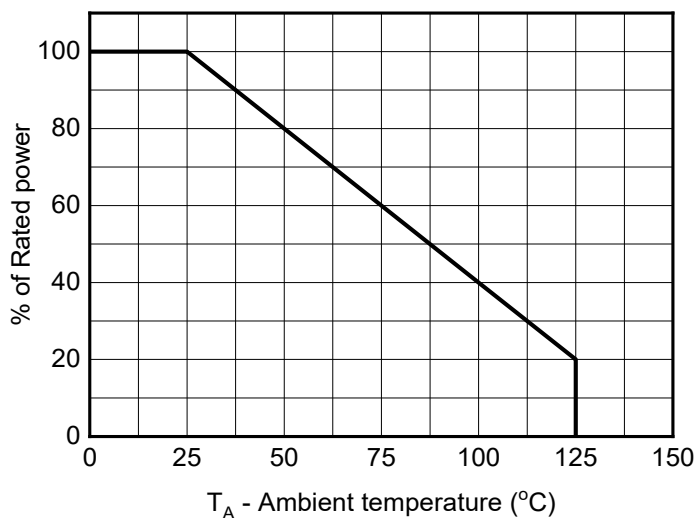
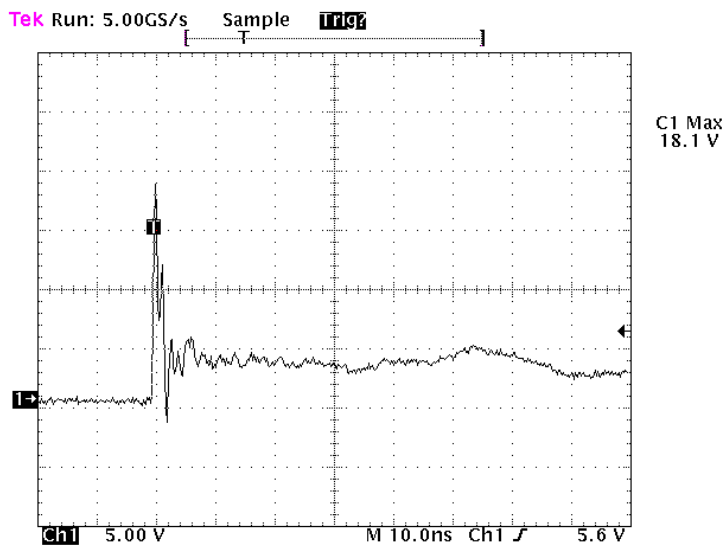
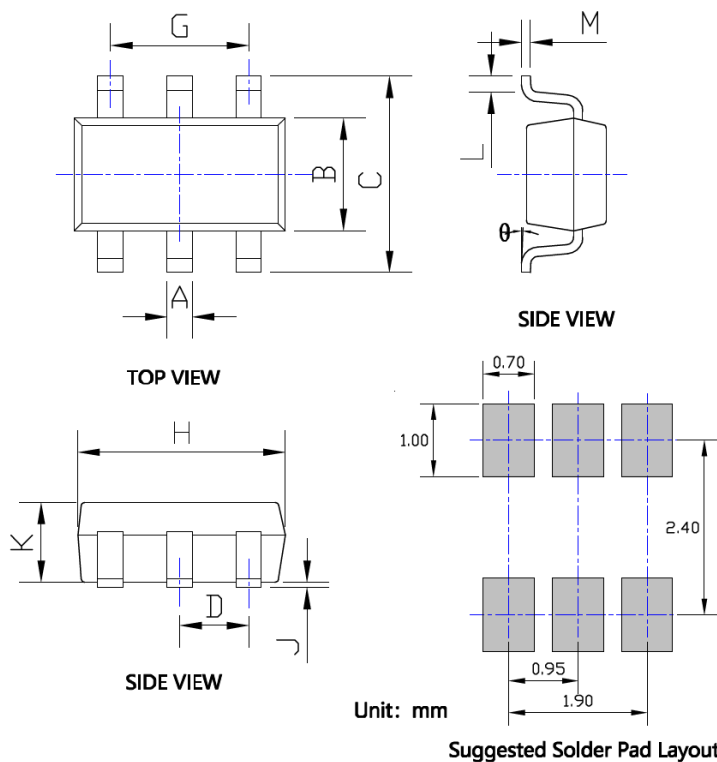


Fig.7 ESD clamping
(+8kV contact discharge per IEC61000-4-2)



Note: Data is taken With a 10x attenuator

■ Outline Dimensions



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°

Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

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