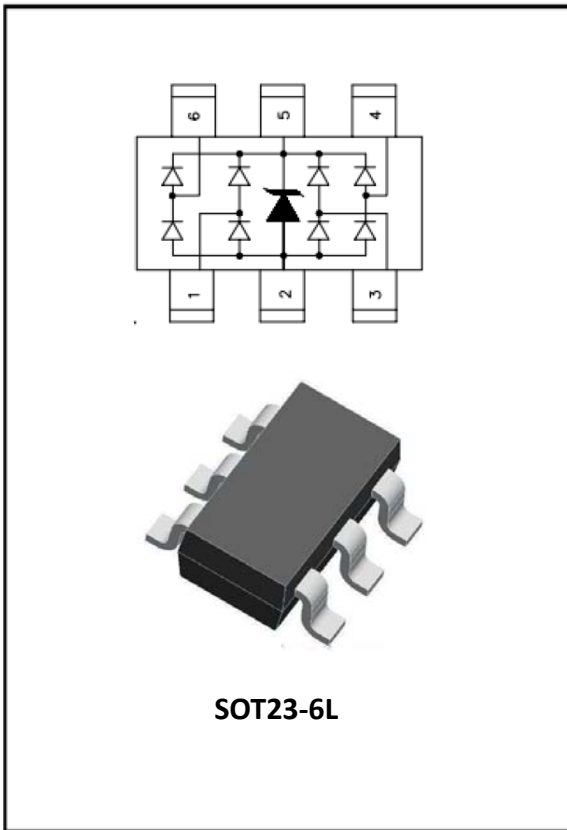


## 4-Line, Uni-directional, Ultra-low Capacitance, Transient Voltage Suppressor



### Features

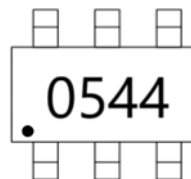
- Stand-off voltage: 5V Max
- Transient protection for each line according to  
IEC61000-4-2(ESD):  $\pm 15\text{kV}$  (contact)  
IEC61000-4-5(surge): 4.5A (8/20 $\mu\text{s}$ )
- Low leakage current
- Low clamping voltage:
- RoHS Compliant

### Applications

- USB 2.0
- Video graphics cards
- DVI
- IEEE 1394
- Monitor and Flat Panel Displays
- 10/100 Ethernet
- Notebooks

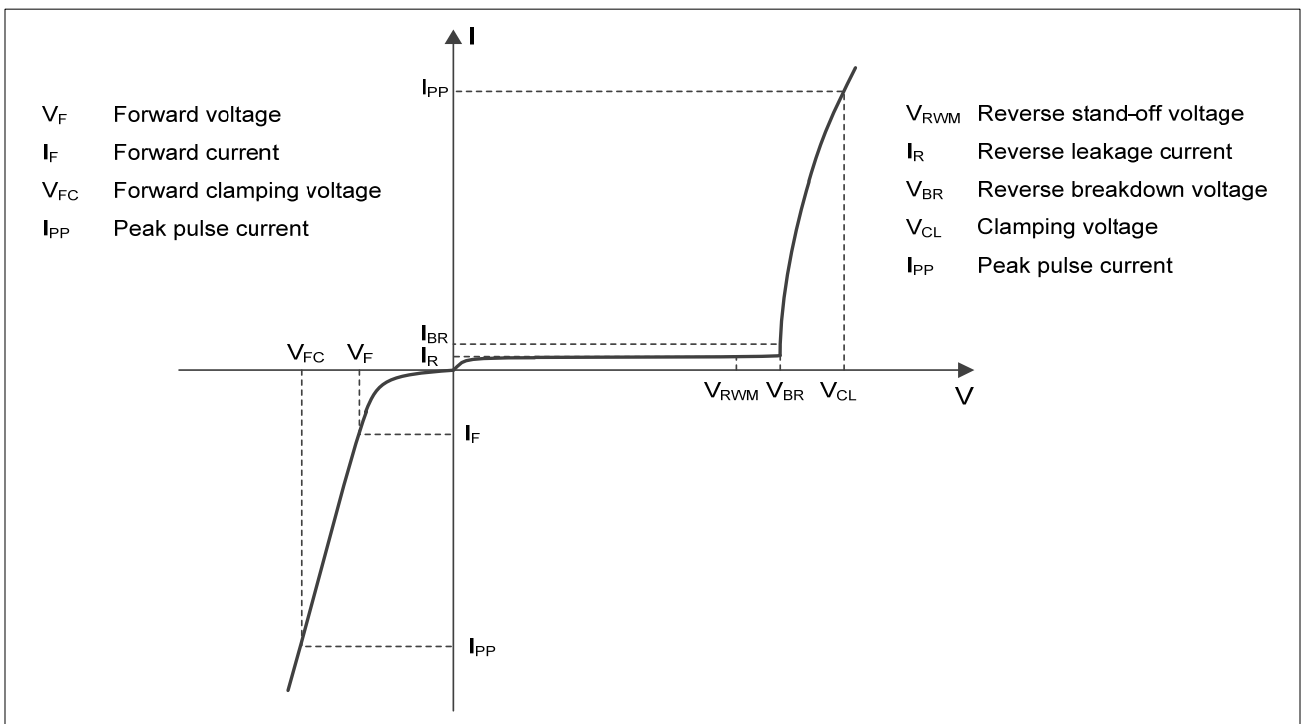
### Mechanical Data

- Package: SOT23-6L
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Moisture Sensitivity: Level 1 per J-STD-020
- Marking Information: See Below



0544: Device Marking Code  
Dot denotes Pin1

### ■Definitions of electrical characteristics





# SRV05-4C

## ■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ( $t_p = 8/20\mu s$ )	$P_{pk}$	60	W
Peak pulse current ( $t_p = 8/20\mu s$ )	$I_{pp}$	4.5	A
ESD according to IEC61000-4-2 air discharge	$V_{ESD}$	$\pm 20$	KV
ESD according to IEC61000-4-2 contact discharge		$\pm 15$	
Junction temperature	$T_J$	125	$^{\circ}C$
Operating temperature	$T_{OP}$	-55~150	$^{\circ}C$
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
Reverse leakage current	$I_R$	nA	$V_{RWM} = 5V$ , any I/O pin to ground			100
Reverse breakdown voltage	$V_{(BR)}$	V	$I_T = 1mA$ , any I/O pin to ground	6.0	8.0	9.5
Clamping voltage <sup>3)</sup>	$V_{CL}$	V	$I_{PP} = 4.5A$ , $t_p = 8/20\mu s$			15
Junction capacitance	CJ	pF	$V_R = 0V$ , $f = 1MHz$ Any I/O pin to GND		0.6	0.7
			$V_R = 0V$ , $f = 1MHz$ Between any I/O pin		0.3	0.4

Notes:

- 1) TLP parameter:  $Z_0 = 50\Omega$ ,  $t_p = 100ns$ ,  $t_r = 2ns$ , averaging window from 60ns to 80ns.
- 2) Contact discharge mode, according to IEC61000-4-2.

## ■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SRV05-4C	F2	Approximate 9	3000	30000	120000	7 reel



■ Characteristics (Typical)

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

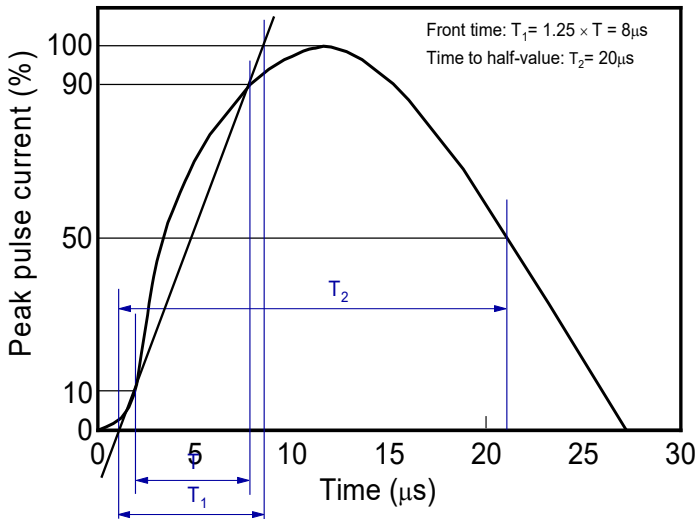


Fig.2 Contact discharge current waveform per IEC61000-4-2



Fig.3 Clamping voltage vs. Peak pulse current

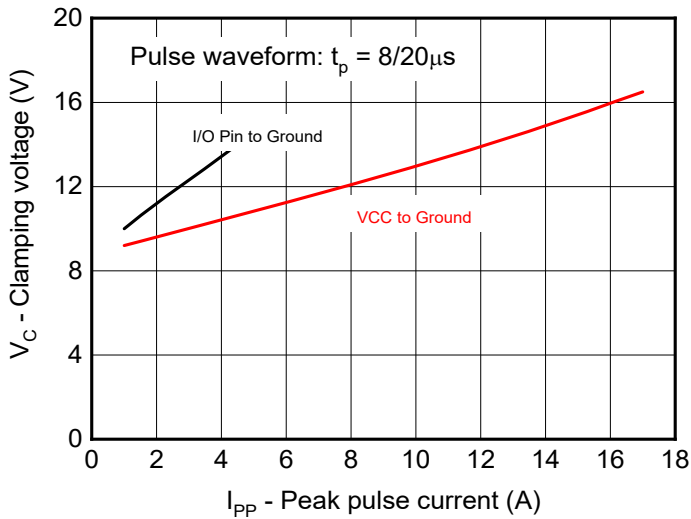


Fig.4 Capacitance vs. Reverse voltage

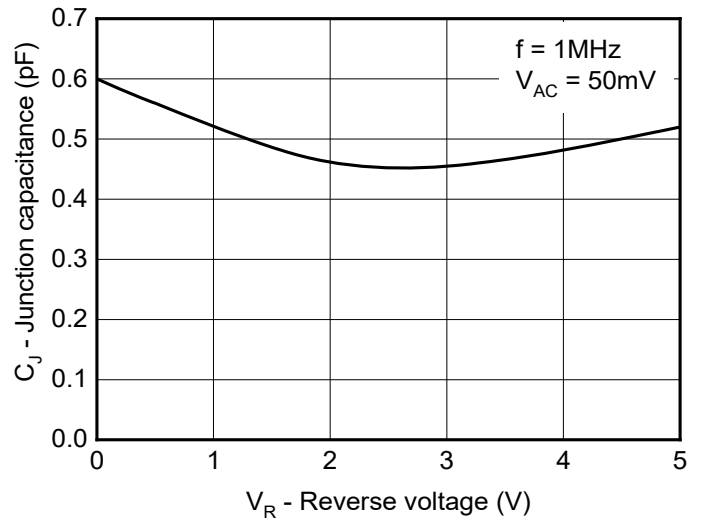


Fig.5 Non-repetitive peak pulse power vs. Pulse time

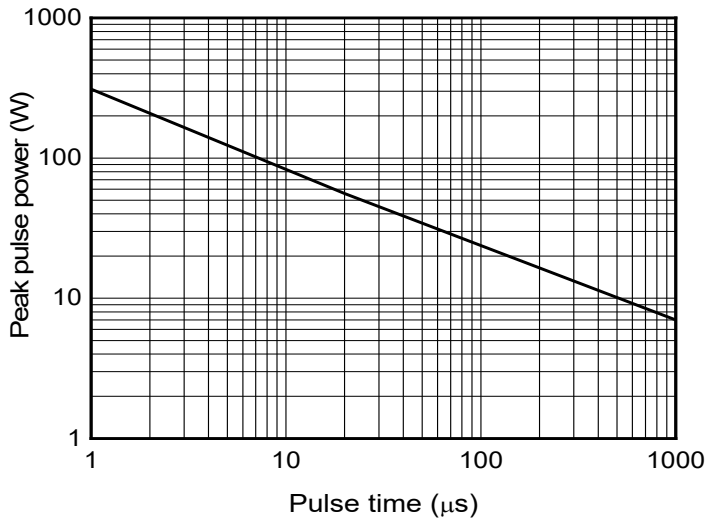


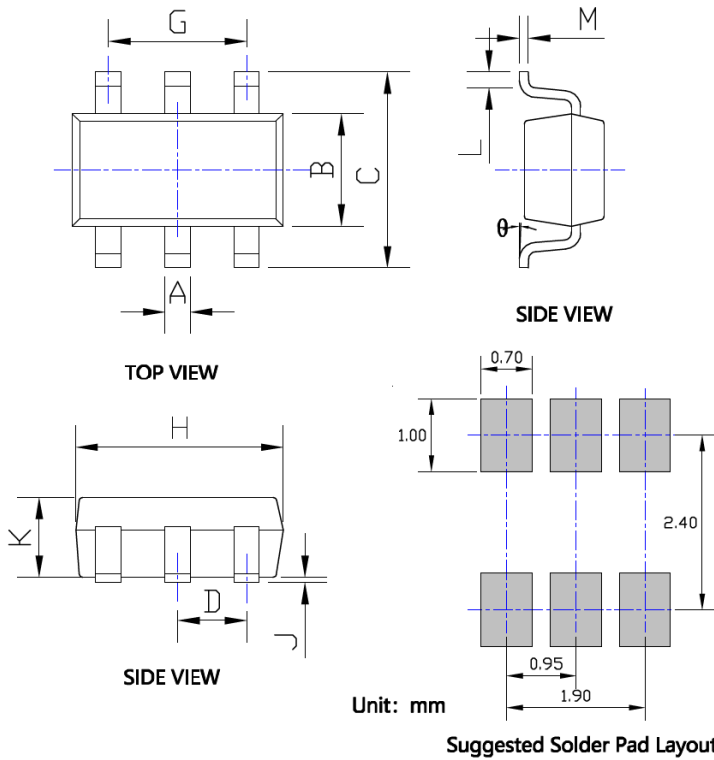
Fig.6 Power derating vs. Ambient temperature





# SRV05-4C

## ■ 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
$\theta$	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.

**Notes:**

This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met.



## SRV05-4C

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