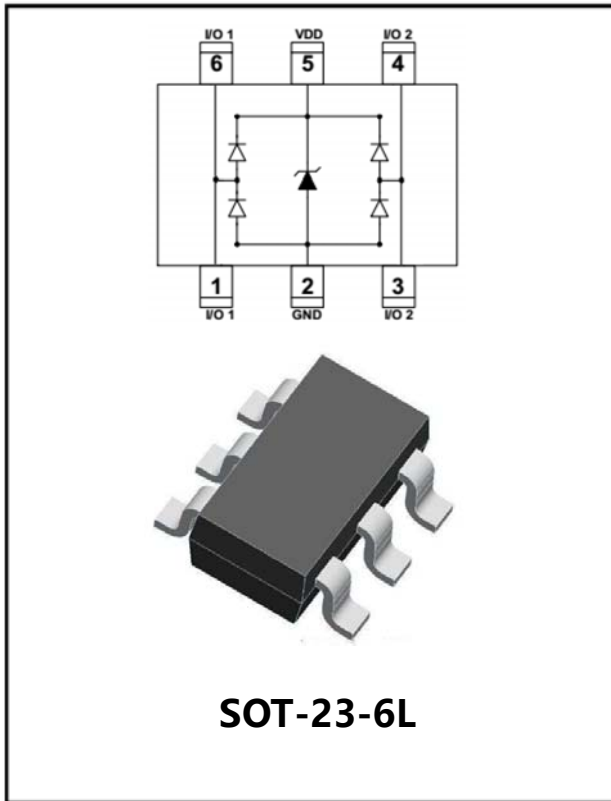


## 2-Line, Uni-directional, Ultra-low Capacitance, Transient Voltage Suppressor



### Features

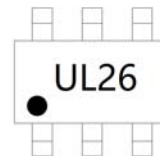
- Stand-off voltage: 5V Max
- Transient protection for each line according to IEC61000-4-2(ESD):  $\pm 30\text{kV}$  (contact)  
IEC61000-4-5(surge): 5A (8/20 $\mu\text{s}$ )
- Ultra-low capacitance:  $C_J = 1\text{ pF}$  Max
- Low leakage current
- Low clamping voltage
- RoHS Compliant

### Applications

- USB 2.0 power and data line
- Cellular Handsets and Accessories
- Touch Panels
- Digital Cameras
- Notebook Computers
- SIM Ports
- 10/100/1000 Ethernet

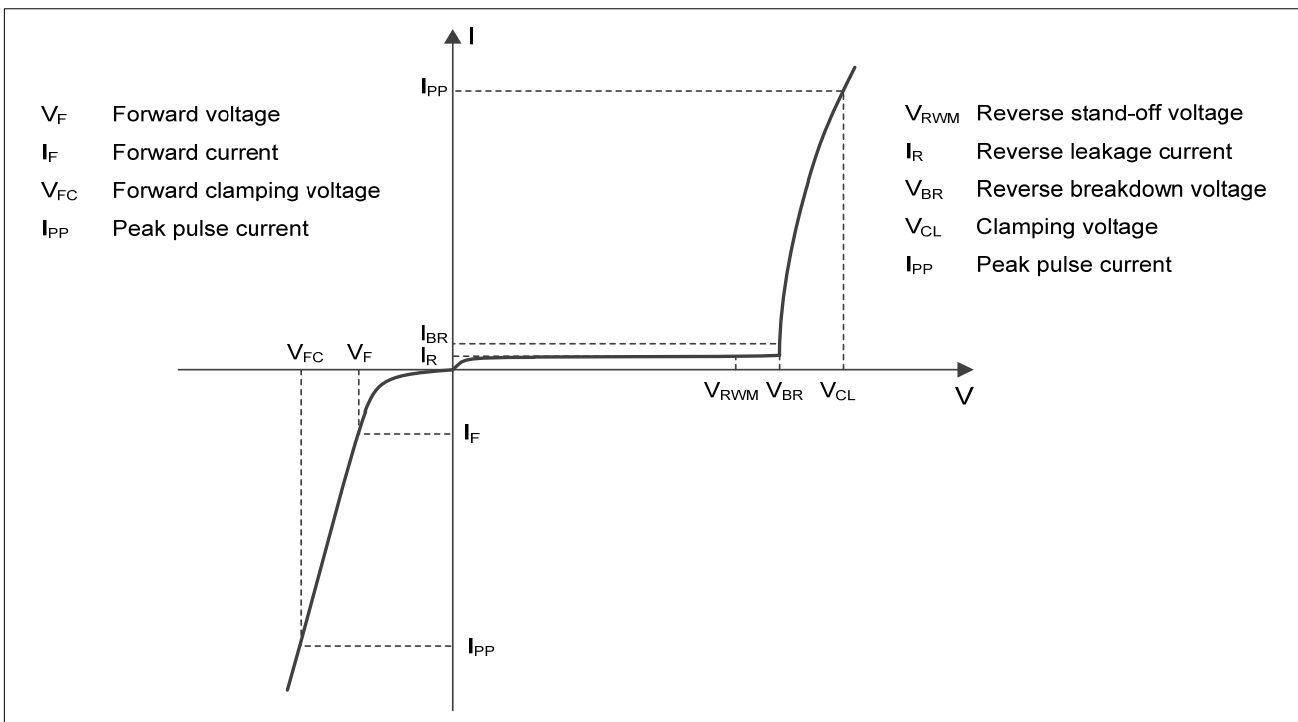
### Mechanical Characteristics

- 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



UL26 = Device Marking Code  
Dot denotes Pin1

### ■Definitions of electrical characteristics





# SRL05

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

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power ( $t_p = 8/20\mu s$ )	$P_{pk}$	90	W
Peak pulse current ( $t_p = 8/20\mu s$ )	$I_{pp}$	5	A
ESD according to IEC61000-4-2 air discharge	$V_{ESD}$	$\pm 30$	KV
ESD according to IEC61000-4-2 contact discharge		$\pm 30$	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	$I_R$	$\mu A$	$V_{RWM} = 5V$ , any I/O Pin to ground			1
Reverse breakdown voltage	$V_{BR}$	V	$I_{BR} = 1mA$ , any I/O pin to ground	6.1		9.6
Clamping voltage <sup>2)</sup>	$V_{CL}$	V	$I_{PP} = 1A$ , $t_p = 8/20\mu s$ , any I/O pin to ground			12
		V	$I_{PP} = 5A$ , $t_p = 8/20\mu s$ , any I/O pin to ground			17
Junction capacitance	$C_J$	pF	$V_R = 0V$ , $f = 1MHz$ , Any I/O pin to ground		0.8	1.0
			$V_R = 0V$ , $f = 1MHz$ Between I/O pins		0.4	0.5

### Notes:

- (1). TLP parameter:  $Z_0 = 50\Omega$ ,  $t_p = 100ns$ ,  $t_r = 2ns$ , averaging window from 60ns to 80ns. RDYN is calculated from 4A to 16A.
- (2). Non-repetitive current pulse, according to IEC61000-4-5

## ■Ordering Information (Example)

PREFERED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SRL05	Approximate 15.85	3000	30000	120000	Tape & reel



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

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

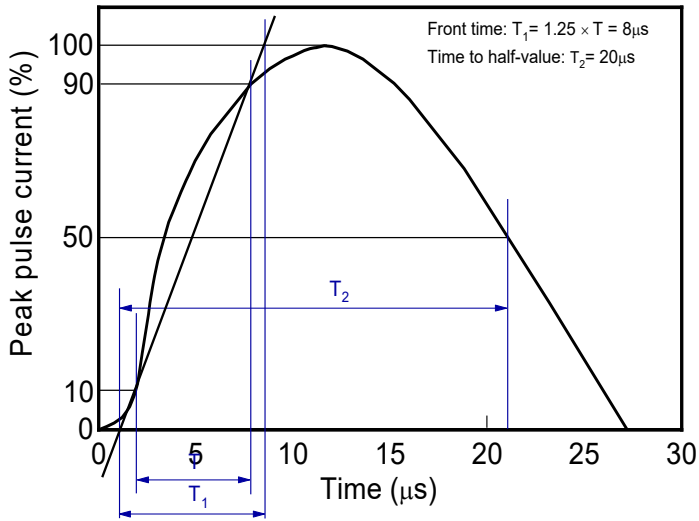


Fig.2 Contact discharge current waveform per IEC61000-4-2

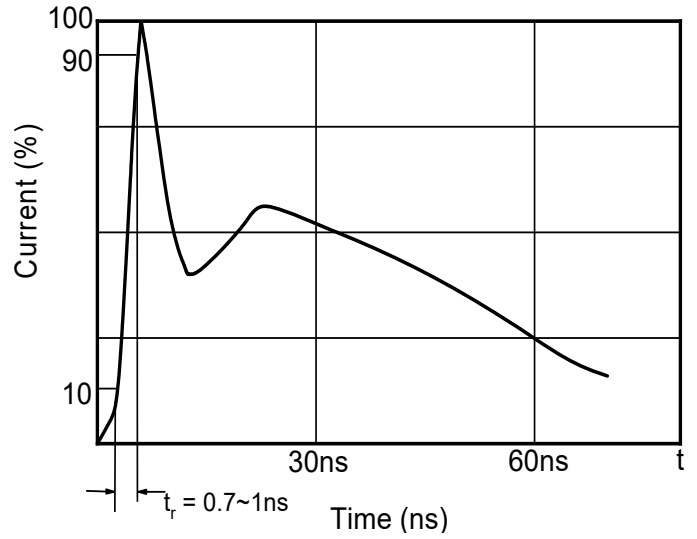


Fig.3 Clamping voltage vs. Peak pulse current

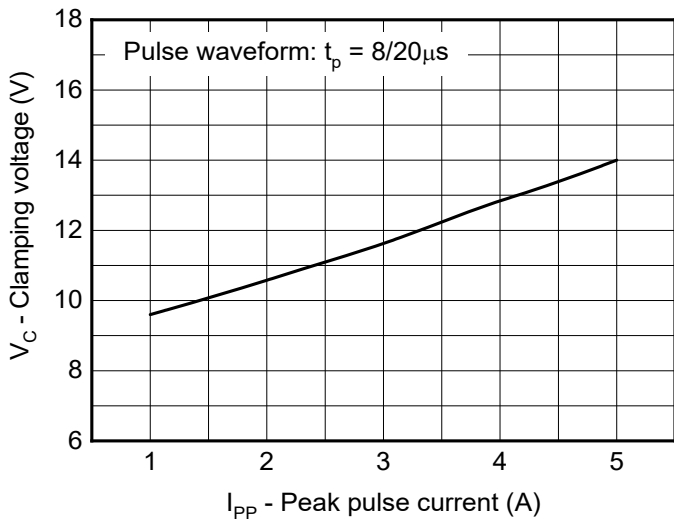


Fig.4 Capacitance vs. Reverse voltage

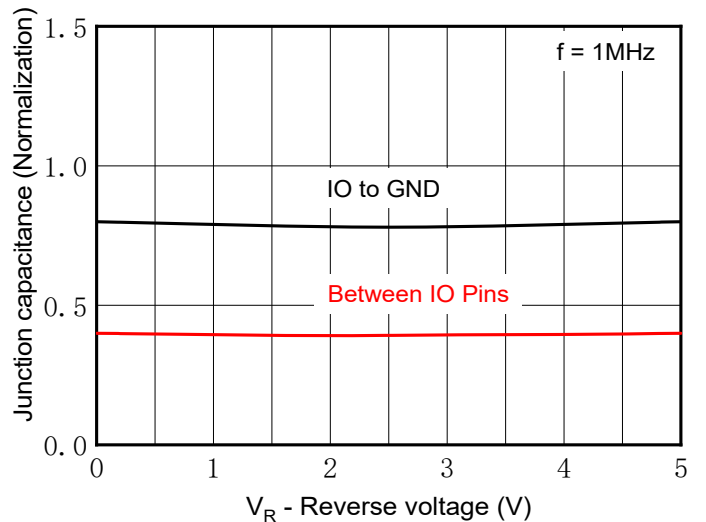


Fig.5 Non-repetitive peak pulse power vs. Pulse time

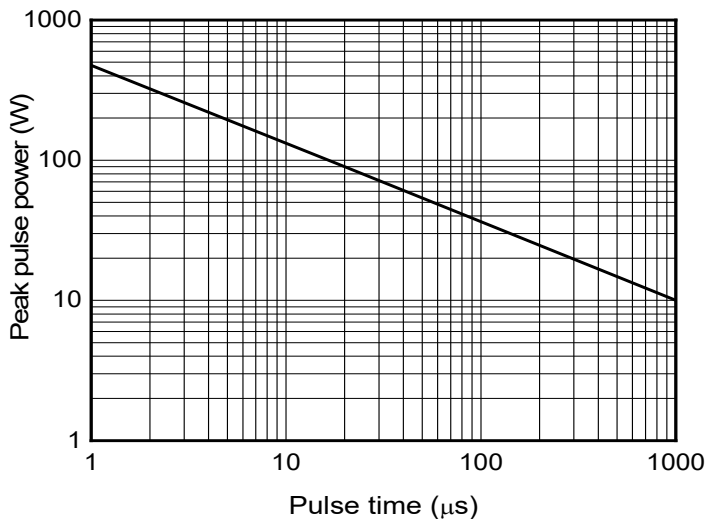
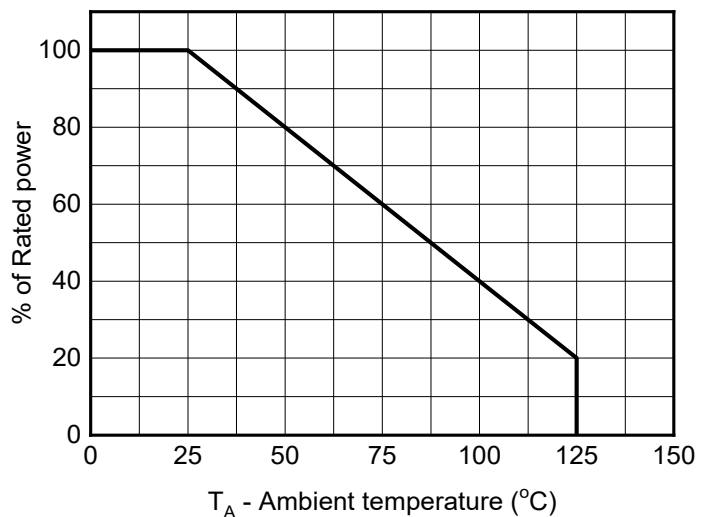
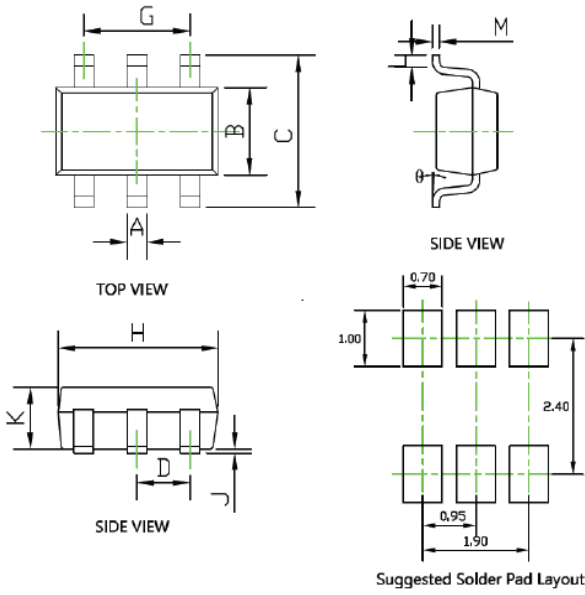


Fig.6 Power derating vs. Ambient temperature



## ■SOT-23 6L Package Outline Drawing

SOT-23-6L



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: ±0.05mm.  
 3. The pad layout is for reference purposes only.



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