

## Features

- Ultra small capacitance:  $C_{I/O-GND}=0.65\text{pF(Typ.)}$   
 $C_{I/O-I/O}=0.3\text{pF(Typ.)}$
- Reverse Working Voltage:5V
- Low leakage current
- SOT-23-6L surface mount package
- IEC 61000-4-2 (ESD Air):  $\pm 15\text{kV}$
- IEC 61000-4-2 (ESD Contact):  $\pm 15\text{kV}$
- IEC 61000-4-5 (Lightning 8/20 $\mu\text{s}$ ): 5A

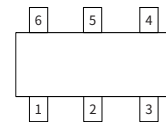
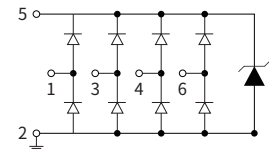
## Applications

- USB 2.0&3.0 power and data line protection
- Digital video interface (DVI)
- Notebook computers
- Video graphics cards
- Monitors and flat panel displays
- SIM ports

## Maximum Ratings (Ta=25°C Unless otherwise specified)

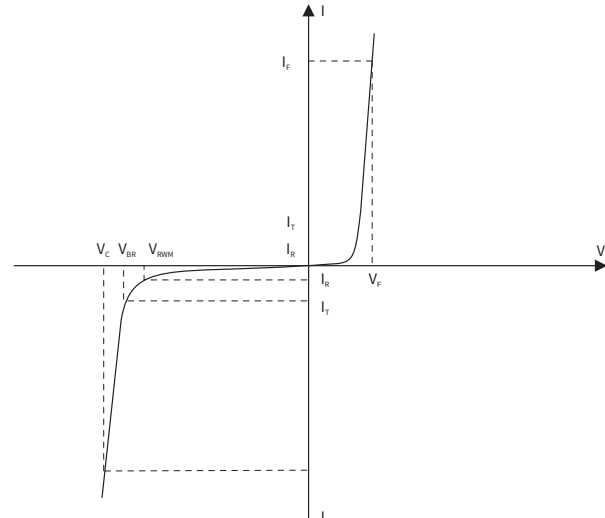
SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$V_{\text{ESD}}$	Electrostatic Discharge Voltage	ESD per IEC 61000-4-2( Air )	$\pm 15$	KV
		ESD per IEC 61000-4-2( Contact)	$\pm 15$	KV
$P_{\text{PP}}$	Peak Pulse Power	$t_p = 8/20 \mu\text{s}$	75	W
$I_{\text{PP}}$	Rated Peak Pulse Current	$t_p = 8/20 \mu\text{s}$	5	A
$T_J$	Operating JunctionTemperature Range	—	-55 to +125	°C
$T_{\text{STG}}$	Operating JunctionTemperature Range	—	-55 to +125	°C

## SOT23-6L



## Electrical Parameter

SYMBOL	PARAMETER
$V_C$	Clamping Voltage @ $I_{\text{PP}}$
$V_{\text{BR}}$	Breakdown Voltage @ $I_T$
$I_{\text{PP}}$	Peak Pulse Current
$I_T$	Test Current
$I_R$	Reverse Leakage Current @ $V_{\text{RWM}}$
$V_{\text{RWM}}$	Peak Reverse Working Voltage
$P_{\text{PP}}$	Peak Pulse Power Dissipation
$C_J$	Junction Capacitance @ $V_R=0\text{V}, f=1\text{MHz}$
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$

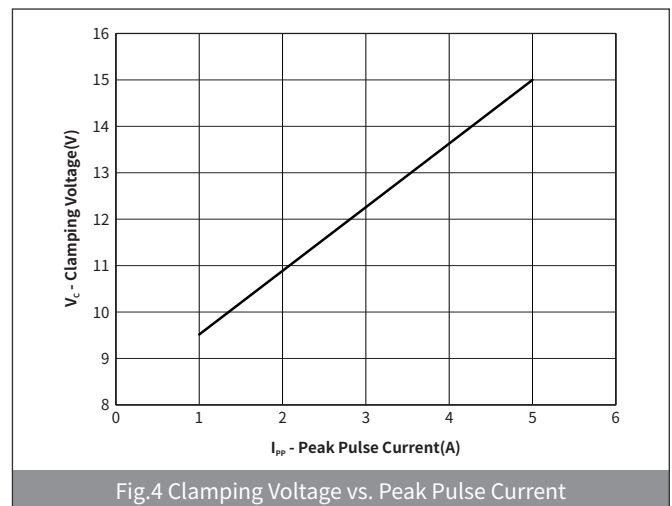
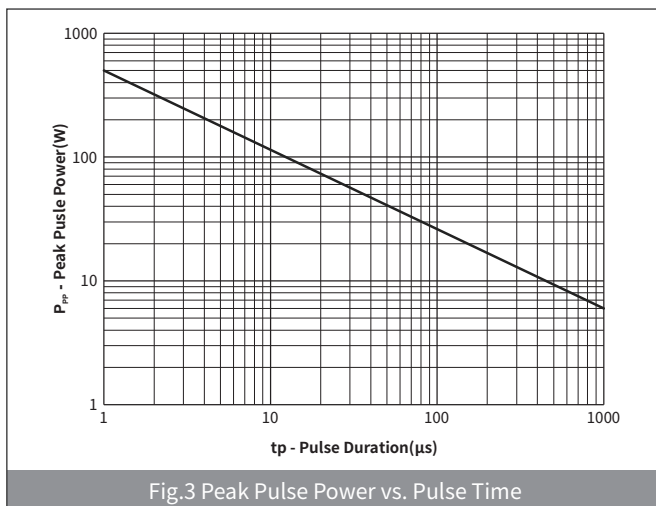
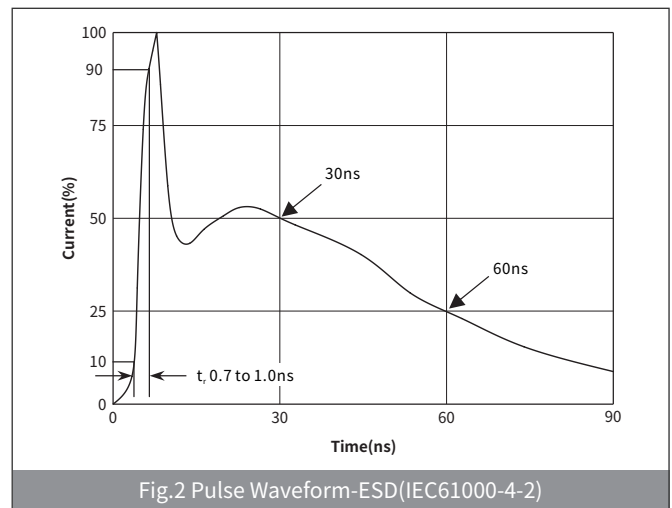
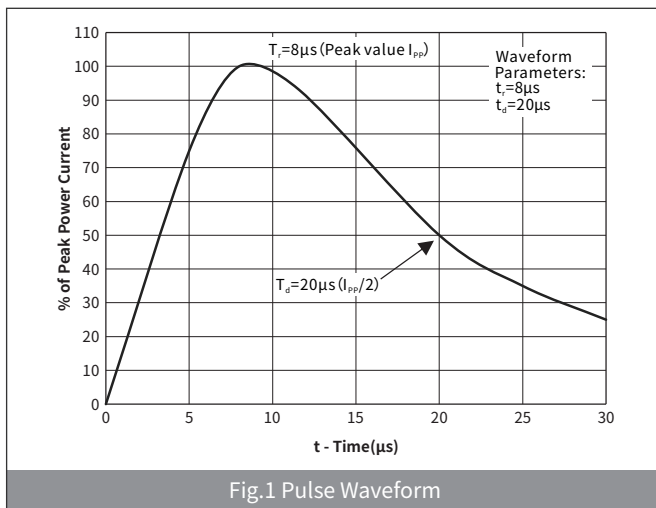


**Electrical Characteristics** ( $T_a=25^\circ\text{C}$  Unless otherwise specified)

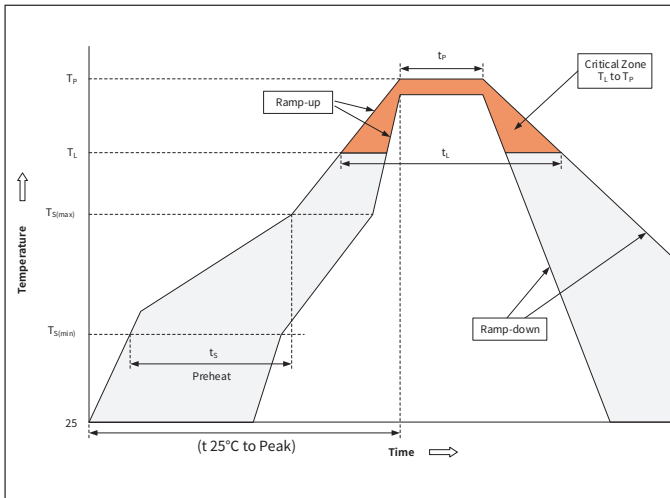
PARAMETER	SYMBOL	CONDITION	Min	Typ	Max	UNIT
Peak Reverse Working Voltage	$V_{RWM}$	$T_a=25^\circ\text{C}$	—	—	5.0	V
Breakdown Voltage	$V_{BR}$	$I_T=1\text{mA}, T_a=25^\circ\text{C}$	6.0	—	—	V
Reverse Leakage Current	$I_R$	$V_{RWM}=5.0\text{V}, T_a=25^\circ\text{C}$	—	—	1.0	$\mu\text{A}$
Forward voltage	$V_F$	$I_T=10\text{mA}, T_a=25^\circ\text{C}$	—	0.8	1.0	V
Clamping Voltage	$V_C$	$I_{PP}=1.0\text{A}, t_p=8/20\mu\text{s}$	—	9.5	11.0	V
		$I_{PP}=5.0\text{A}, t_p=8/20\mu\text{s}$	—	12.5	15.0	
Junction Capacitance	$C_J$	$V_{RWM}=0\text{V}, f=1\text{MHz}, \text{I/O pin to GND}$	—	0.65	0.80	pF
		$V_{RWM}=0\text{V}, f=1\text{MHz}, \text{Between I/O pins}$	—	0.30	0.50	

**Ordering Information**

PREFERRED P/N	PACKAGE	SIZE(mm)	DELIVERY MODE	MPQ(PCS)
SRV05-4	SOT-23-6L	2.90×2.80×1.10	7" REEL	3000

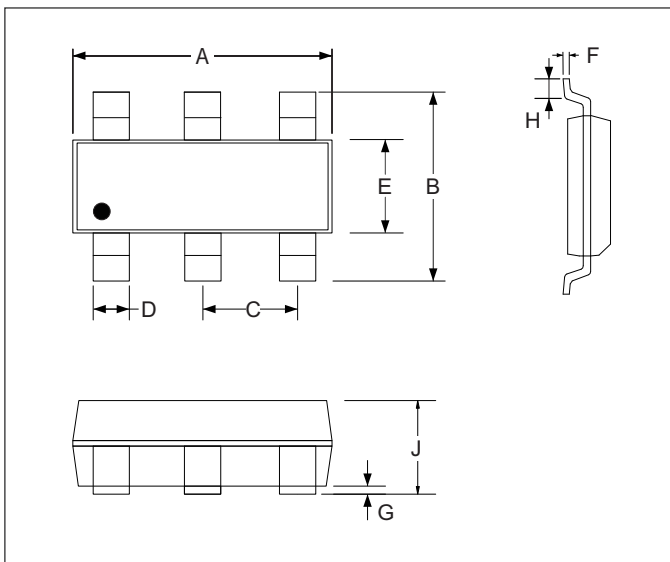
**Ratings And Characteristics Curves** ( $T_a=25^\circ\text{C}$  Unless otherwise specified)


### ► Recommended Soldering Conditions



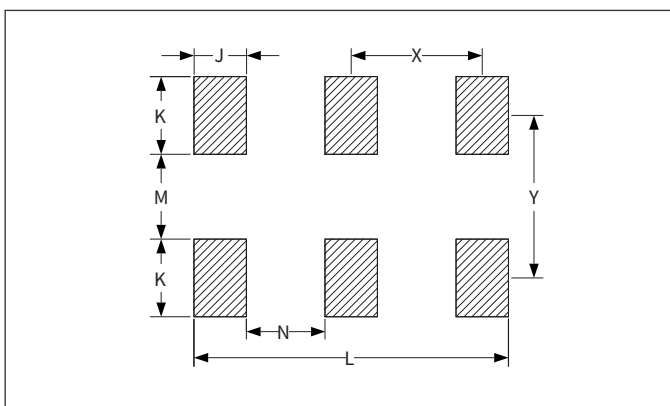
Profile Feature		Pb-Free Assembly
Pre-heat	Temperature Min ( $T_{S(min)}$ )	+150°C
	Temperature Max ( $T_{S(max)}$ )	+200°C
	Time (Min to Max) ( $t_s$ )	60-180 secs.
Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak)		3°C /sec. Max
$T_{S(max)}$ to $T_L$ - Ramp-up Rate		3°C /sec. Max
Reflow	Temperature( $T_L$ )(Liquid us)	+217°C
	Temperature( $t_L$ )	60-150 secs.
Peak Temp ( $T_P$ )		+260(+0/-5)°C
Time within 5°C of actual Peak Temp ( $t_p$ )		20-40secs
Ramp-down Rate		6°C /sec. Max
Time 25°C to Peak Temp ( $T_P$ )		8 min. Max
Do not exceed		+260°C

### ► Package Outline Dimensions (SOT23-6L)



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.80	3.00	0.110	0.118
B	2.60	3.00	0.102	0.118
C	0.93	0.97	0.037	0.038
D	0.41		0.016	
E	1.50	1.70	0.059	0.067
F	0.11	0.19	0.004	0.007
G	-	0.10	-	0.004
H	0.40	-	0.016	-
J	1.00	1.20	0.035	0.057

### ► Suggested Pad Layout



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.60	-	0.024	-
K	0.90	-	0.035	-
M	-	1.40	-	0.055
N	-	0.35	-	0.014
X	-	0.95	-	0.037
Y	-	2.30	-	0.090
L	-	2.50	-	0.098

Note :

This soldering footprint is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met.

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