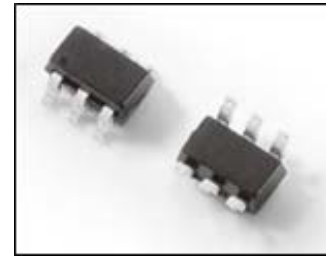




FEATURES:

- ◇ 500 watts peak pulse power per line ($t_P=8/20\mu s$)
- ◇ Protects four I/O lines
- ◇ Low clamping voltage
- ◇ Low operating voltage
- ◇ Low capacitance: 1.5pF typical
- ◇ Low operating voltage: 5V
- ◇ RoHS compliant
- ◇ Meets MSL level 3



SOT23-6L

MAIN APPLICATIONS

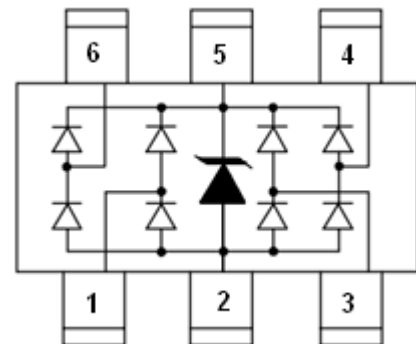
- ◇ USB 2.0 power and data line protection
- ◇ Digital video interface (DVI)
- ◇ Notebook computers
- ◇ Video graphics cards
- ◇ Monitors and flat panel displays
- ◇ 10/100/1000 ethernet
- ◇ SIM ports
- ◇ ATM interfaces

PROTECTION SOLUTION TO MEET

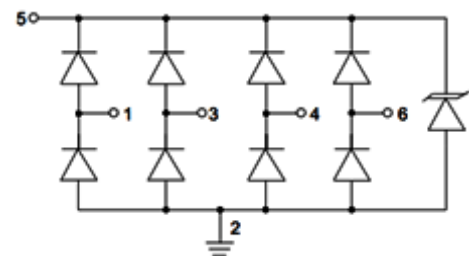
- ◇ IEC61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- ◇ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◇ IEC61000-4-5 (Lightning) 24A (8/20 μs)

MECHANICAL CHARACTERISTICS

- ◇ JEDEC SOT23-6L package
- ◇ Molding compound flammability rating: UL 94V-0
- ◇ Quantity per reel: 3, 000pcs
- ◇ Lead finish: lead free
- ◇ Marking code: 05U



PIN Configuration



Circuit Diagram

ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20 μs waveform	P_{PP}	500	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	+/- 30 +/- 30	kV
Lead soldering temperature	T_L	260 (10 sec.)	$^{\circ}\text{C}$
Operating junction temperature range	T_J	-55 to +125	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	V_{RWM}	pin5 to pin2			5.0	V
Reverse breakdown voltage	V_{BR}	$I_T = 1\text{mA}$ pin 5 to pin2	6.0		9.0	V
Reverse leakage current	I_R	$V_{RWM} = 5\text{V}$ pin5 to pin2			500	nA
Forward voltage	V_F	$I_T=10\text{mA}$		0.8	1.2	V
Clamping voltage (I/O pin to Ground)	V_C	$I_{PP} = 1\text{A}$, $t_P=8/20\mu\text{s}$		9	10	V
		$I_{PP} = 5\text{A}$, $t_P=8/20\mu\text{s}$		10	12	
		$I_{PP} = 24\text{A}$, $t_P=8/20\mu\text{s}$		16	18	
Junction capacitance	C_J	$V_{RWM}=0\text{V}$, $f=1\text{MHz}$ Any I/O pin to Ground		3	3.5	pF
		$V_{RWM}=0\text{V}$, $f= 1\text{MHz}$ Between I/O pins		1.5	2	

RATINGS AND V-I CHARACTERISTICS CURVES ($T_A=25^{\circ}\text{C}$, unless otherwise noted)

FIG.1:V- I curve characteristics (Uni-directional)

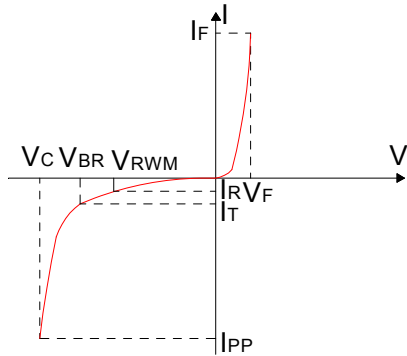


FIG.2: Pulse waveform (8/20 μs)

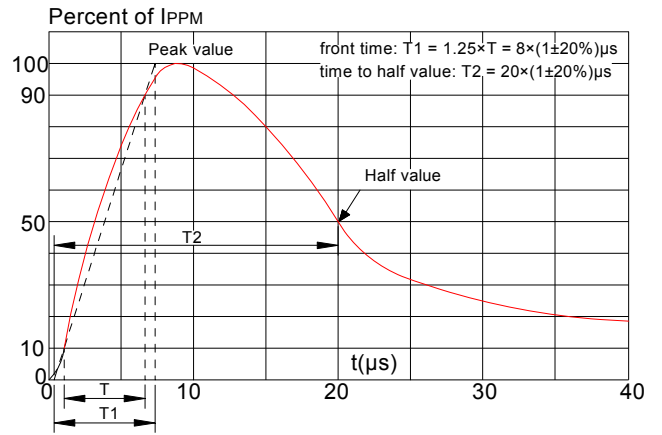


FIG.3: Pulse derating curve

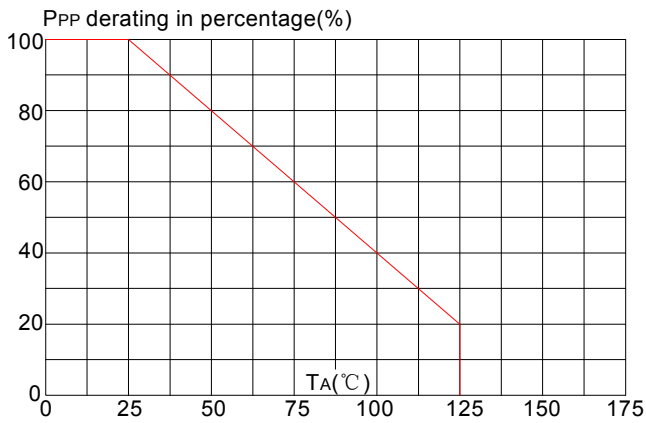
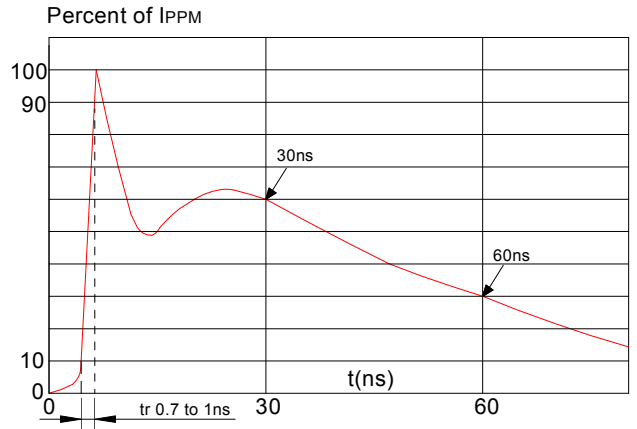
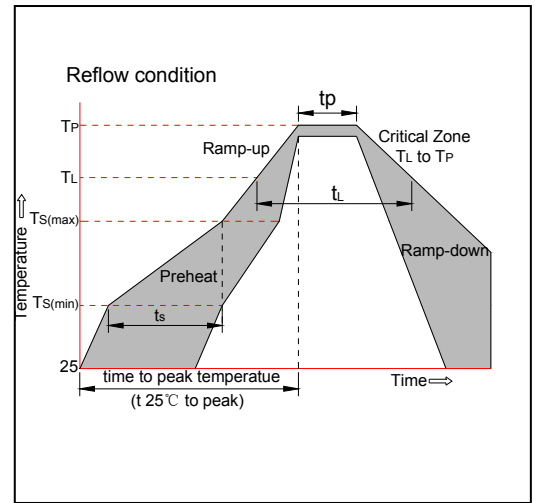


FIG.4: ESD clamping (30kV contact)

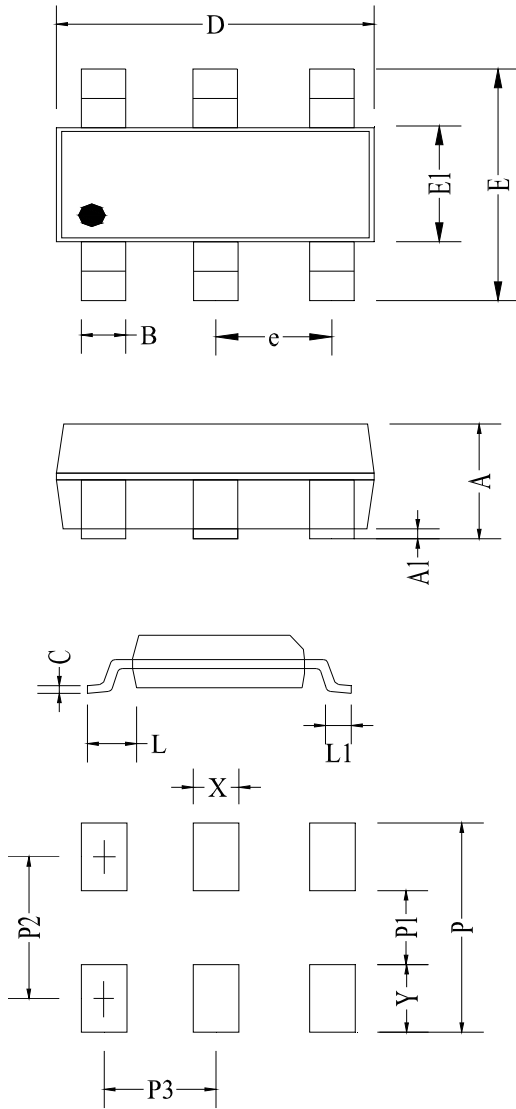


SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see figure at right)
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 (Liquidus 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)(Liquidus)	+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



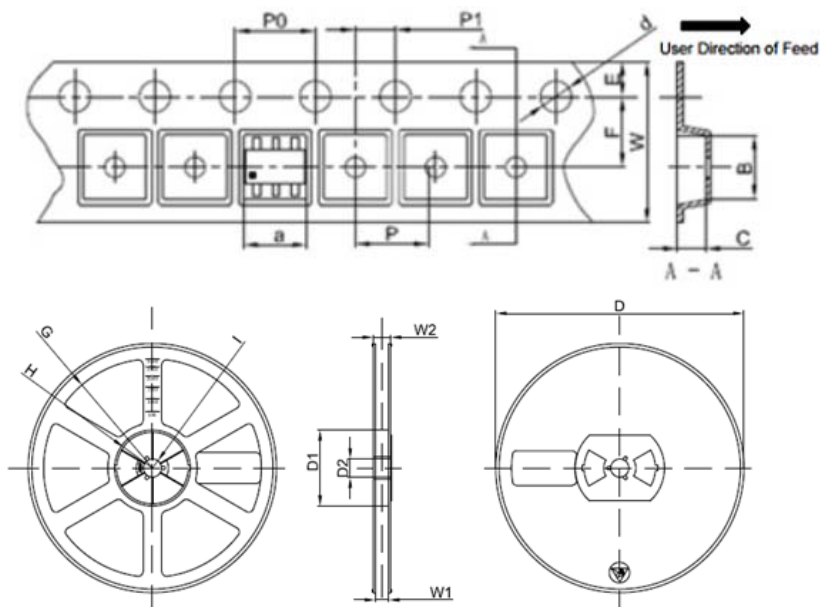
PACKAGE MECHANICAL DATA



Land Pattern

Symbol	Millimeter			Inches		
	Min	Typ	Max	Min	Typ	Max
A	0.90	1.18	1.45	0.035	0.046	0.057
A1	0.02	0.08	0.14	0.001	0.003	0.006
B	0.35	0.40	0.50	0.014	0.016	0.020
C	0.08	0.15	0.20	0.003	0.006	0.008
D	2.92	3.00	3.02	0.115	0.118	0.119
e	0.69	0.95	1.02	0.027	0.037	0.040
E1	1.50	1.60	1.75	0.059	0.063	0.069
E	2.80BSC			0.110BSC		
L1	0.35	0.45	0.55	0.014	0.018	0.022
L	0.6			0.024		
X	0.6			0.024		
Y	1.1			0.043		
P	3.6			0.142		
P1	1.4			0.055		
P2	2.5			0.098		
P3	0.95			0.037		

TAPE AND REEL SPECIFICATION-SOT23-6L



Symbol	Millimeter	Inches
	Typ.	Typ.
a	3.17	0.125
B	3.23	0.127
C	1.37	0.054
d	Φ1.55	Φ0.061
E	1.75	0.069
F	3.50	0.138
P0	4.00	0.157
P	4.00	0.157
P1	2.00	0.079
W	8.00	0.315
D	Φ180	Φ7.087
D1	60.00	2.632
D2	13.00	0.512
G	R78.00	R3.071
H	R25.60	R1.008
I	R6.50	R0.256
W1	9.50	0.374
W2	13.10	0.516

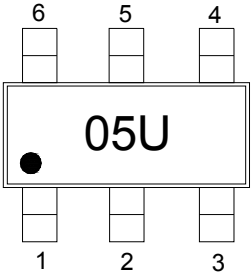
Packaging Description:

SOT23-6L parts are shipped in tape. The carrier tape is made from a dissipative(carbon filled) polycarbonate resin. The cover tape is a multilayer film(heat activated adhesive in nature)primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000units per 7" or 17.8cm diameter reel. The reels are clear in color and made of polystyrene plastic(anti-static coated).

ORDERING INFORMATION

OUTLINE	PACKAGE TYPE	QUANTITY REEL	DESCRIPTION
TAPING	SOT23-6L	3,000	7 inch reel pack

MARKING CODE

Part Number	Marking Code
SRV05-4U	

Information furnished in this document is believed to be accurate and reliable. However, Jiangsu JieJie Microelectronics Co.,Ltd assumes no responsibility for the consequences of use without consideration for such information nor use beyond it.

Information mentioned in this document is subject to change without notice, apart from that when an agreement is signed, Jiangsu JieJie complies with the agreement.

Products and information provided in this document have no infringement of patents. Jiangsu JieJie assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information.

This document is the 1.3rd version which is made in 30-June-2020. This document supersedes and replaces all information previously supplied.

 is a registered trademark of Jiangsu JieJie Microelectronics Co.,Ltd.

Copyright ©2020 Jiangsu JieJie Microelectronics Co.,Ltd. Printed All rights reserved.