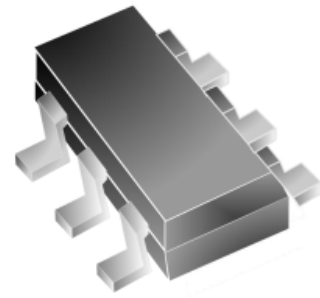




FEATURES:

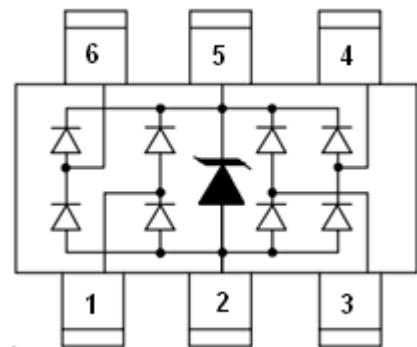
- ◇ 500 watts peak pulse power per line ($t_p=8/20\mu s$)
- ◇ Protects four I/O lines
- ◇ Low clamping voltage
- ◇ Low operating voltage
- ◇ Low capacitance: 1.5pF typical
- ◇ Low operating voltage: 5V
- ◇ ROHS compliant



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



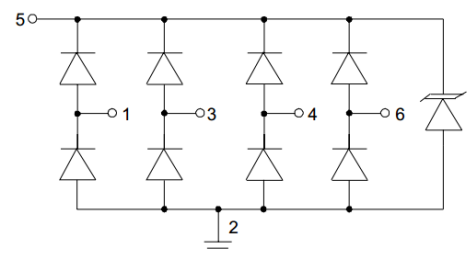
PIN Configuration

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



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
	V_C	$I_{PP} = 5\text{A}$, $t_p = 8/20\mu\text{s}$		10	12	
	V_C	$I_{PP} = 24\text{A}$, $t_p = 8/20\mu\text{s}$		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)

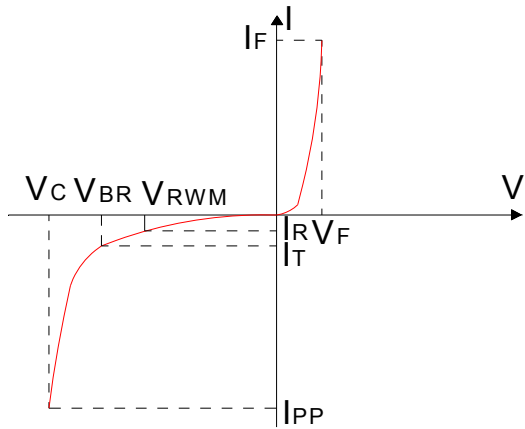


FIG.2: Pulse waveform (8/20 μs)

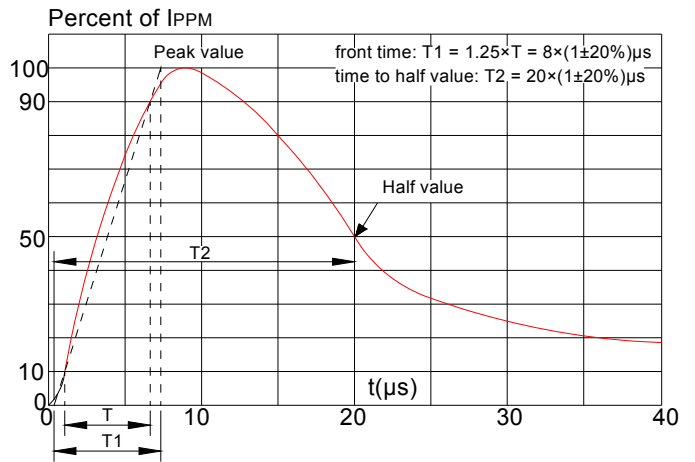


FIG.3: Pulse derating curve

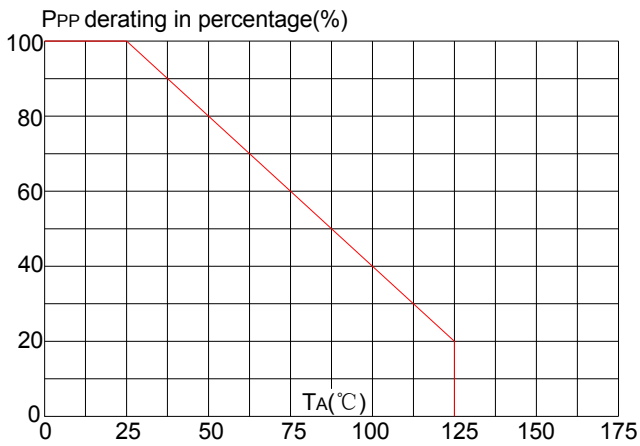
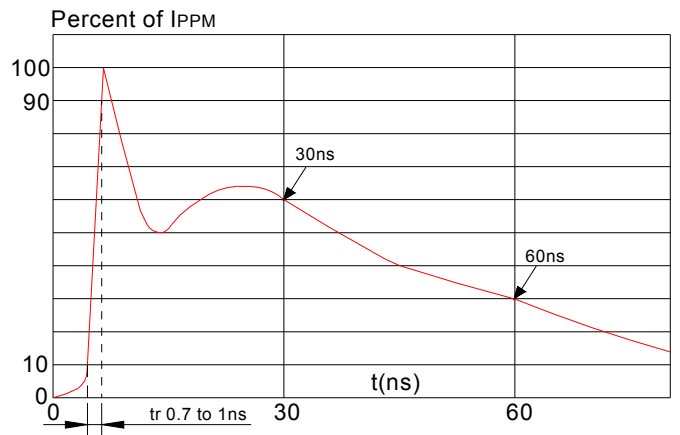
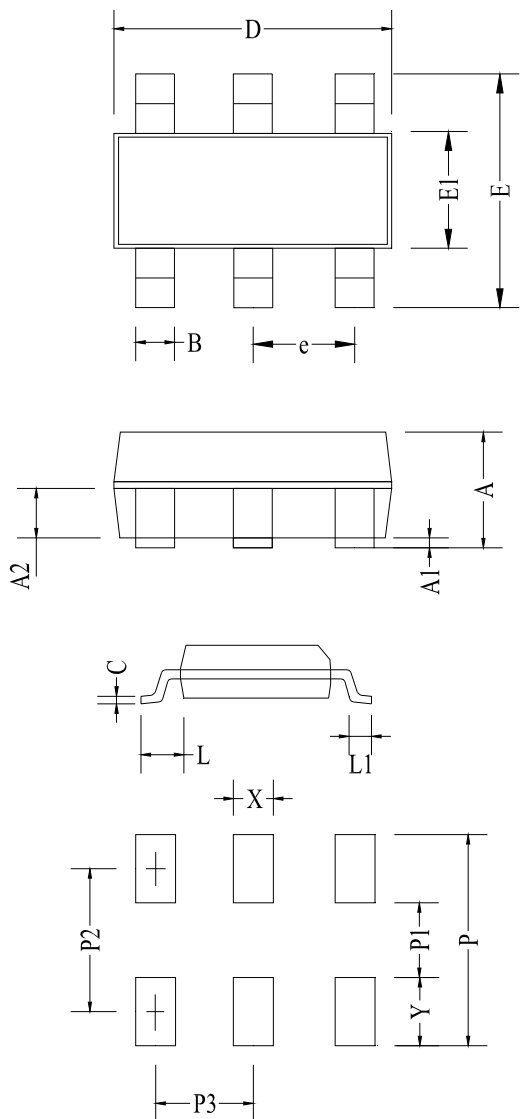


FIG.4: ESD clamping (8KV contact)



PACKAGE MECHANICAL DATA



Symbol	Millimeter		Inches	
	Min	Max	Min	Max
A	0.90	1.45	0.035	0.057
A1	0.00	0.15	0.000	0.006
A2	0.45	0.65	0.017	0.026
B	0.35	0.50	0.010	0.020
C	0.08	0.20	0.003	0.007
D	2.80	3.00	0.110	0.122
e	0.69	1.02	0.032	0.043
E1	1.50	1.75	0.060	0.069
E	2.80BSC		0.110BSC	
L1	0.35	0.60	0.013	0.024
L	0.60		0.024	
X	0.60		0.024	
Y	1.10		0.043	
P	3.60		0.141	
P1	1.40		0.055	
P2	2.50		0.098	
P3	0.95		0.037	

Land Pattern

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