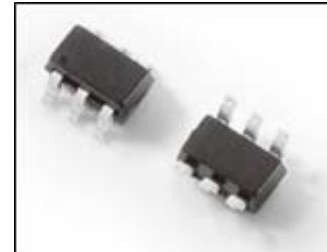




FEATURES:

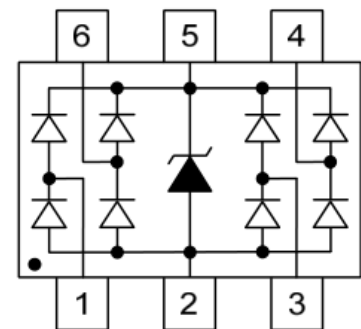
- ✧ Protects four I/O lines
- ✧ Low clamping voltage
- ✧ Low operating voltage
- ✧ Low capacitance
- ✧ RoHS compliant
- ✧ Meets MSL level 3



SOT23-6L

MAIN APPLICATIONS

- ✧ USB power and data line protection
- ✧ Video line protection
- ✧ WAN/LAN equipment
- ✧ Portable electronics
- ✧ 10/100/1000 ethernet
- ✧ Microcontroller input protection



PIN Configuration

PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ IEC61000-4-5 (Lightning) 38A (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: H05

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}	1000	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}				5.0	V
Reverse breakdown voltage	V_{BR}	$I_T=1\text{mA}$	6.0			V
Reverse leakage current	I_R	$V_{RWM}=5\text{V}$			1	μA
Clamping voltage	V_C	$I_{PP}=1\text{A}$, $t_P=8/20\mu\text{s}$			9.8	V
		$I_{PP}=38\text{A}$, $t_P=8/20\mu\text{s}$			25	V
Junction capacitance	C_J	$V_{RWM}=0\text{V}$, $f=1\text{MHz}$ Any I/O pin to Ground		5		pF

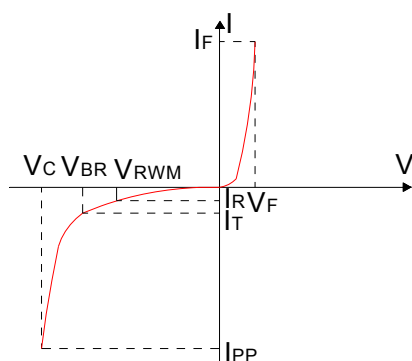
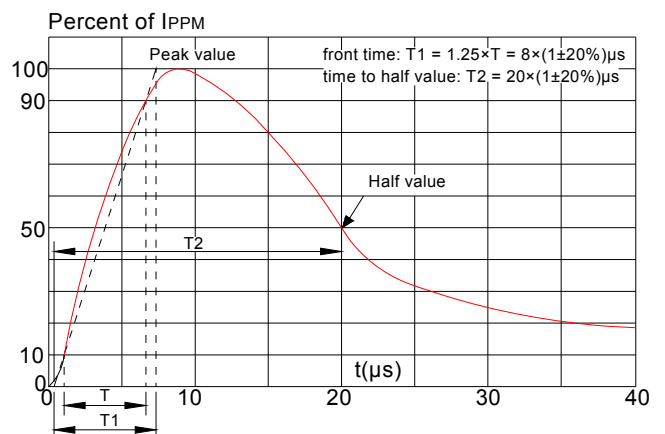
RATINGS AND V-I CHARACTERISTICS CURVES ($T_A=25^{\circ}\text{C}$, unless otherwise noted)**FIG.1: V- I curve characteristics (Uni-directional)****FIG.2: Pulse waveform (8/20 μs)**

FIG.3: Pulse derating curve

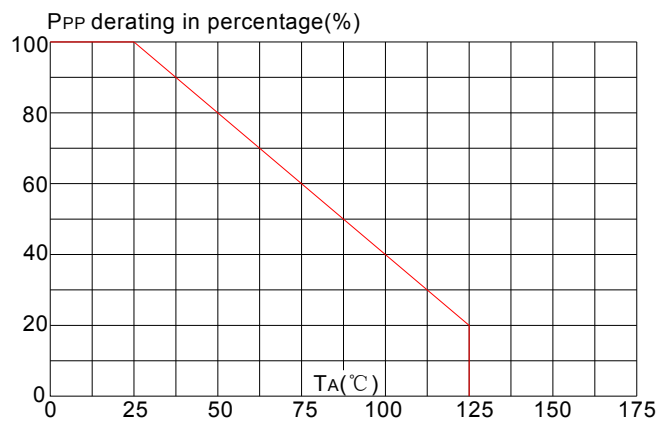
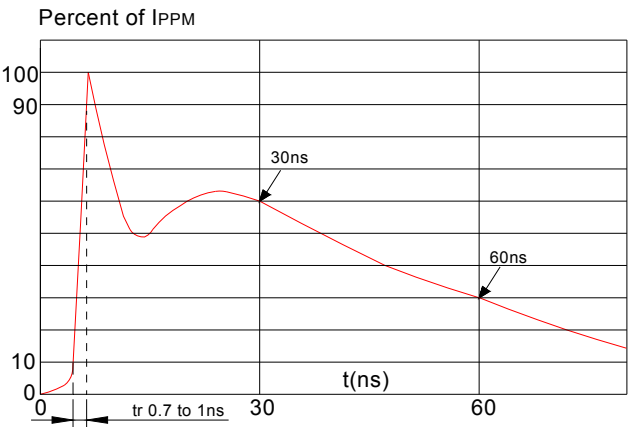
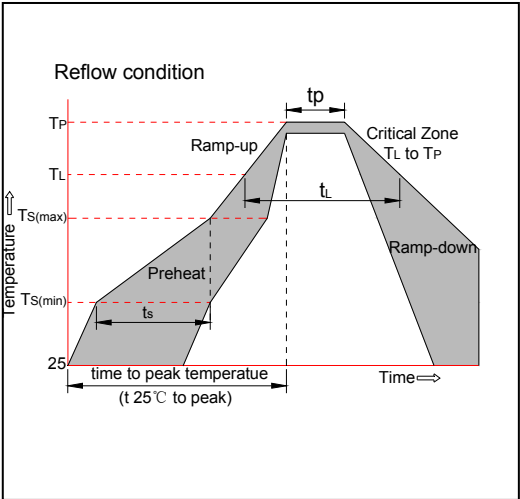


FIG.4: ESD clamping (30kV contact)

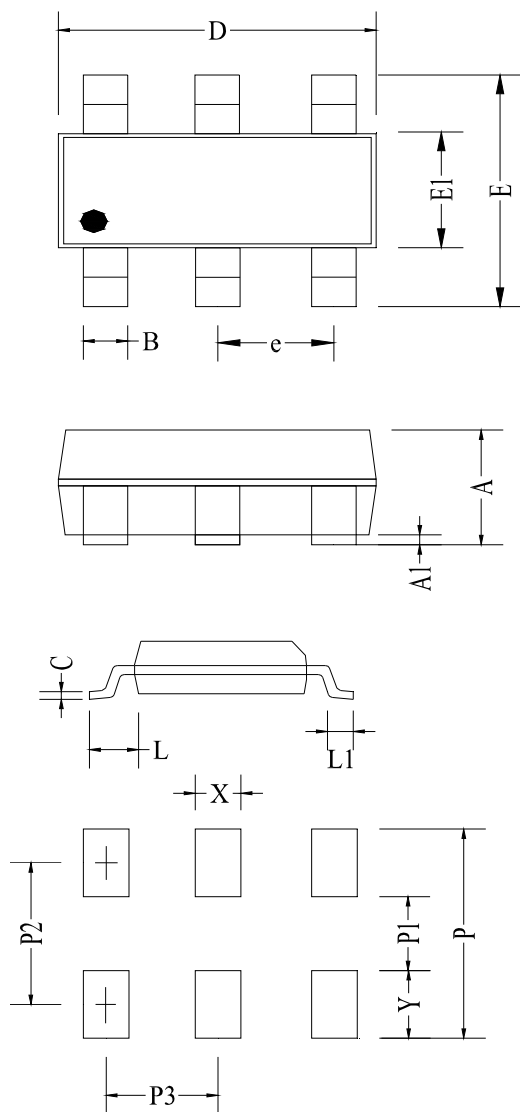


SOLDERING PARAMETERS

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) (ts)	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



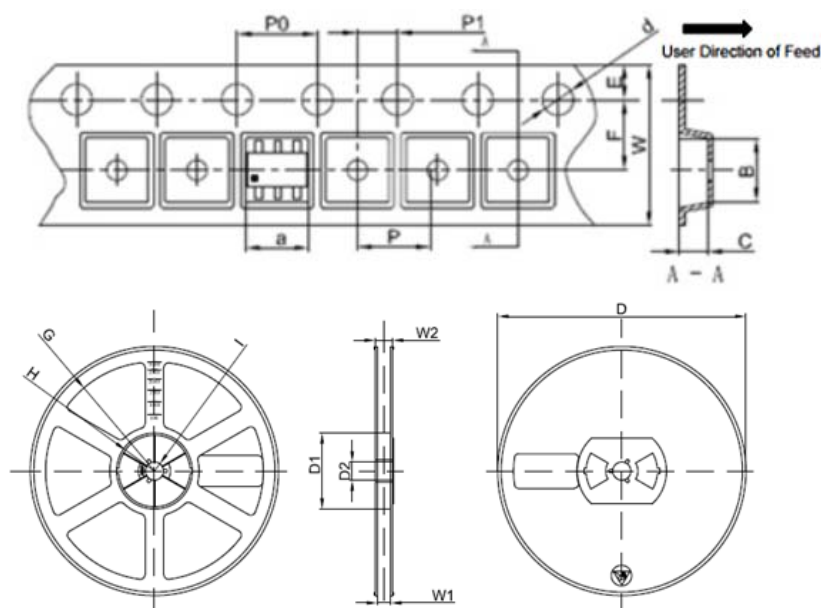
PACKAGE MECHANICAL DATA



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



Packaging Description:

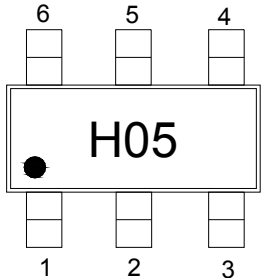
SOT23-6L parts are shipped in tape. The carrier tape is made from a dissipative(carbon filled) polycarbonate resin. The cover tape is a multilayer film(heat activated adhesive in nature)primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in 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).

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

ORDERING INFORMATION

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

MARKING CODE

Part Number	Marking Code
SRV05-4H	 The diagram shows a rectangular component with six pins. Pins 1, 2, and 3 are at the bottom, and pins 4, 5, and 6 are at the top. A central rectangular area contains the marking code 'H05' and a small black dot to its left.

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