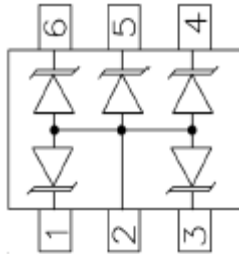


5-Line , Uni-directional , Transient Voltage Suppressor



SOT-563

Features

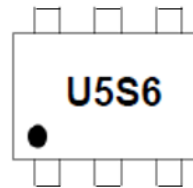
- Ultra small package
- Stand-off voltage: 5V
- Transient protection for each line according to IEC61000-4-2(ESD): $\pm 30\text{kV}$ (contact)
IEC61000-4-5(surge): 8A (8/20ns)
- Low clamping voltage
- RoHS Compliant

Applications

- Audio Players
- Peripherals
- Printers
- Desktops PC , Laptops and Servers
- Microprocessor Based Equipment
- Cell Phone Handsets and Accessories
- Set Top Box

Mechanical Characteristics

- Package: SOT-563
- Case Material: "Green" Molding Compound.
- Marking Information: See Below



■Definitions of electrical characteristics

V_F Forward voltage

I_F Forward current

V_{FC} Forward clamping voltage

I_{PP} Peak pulse current

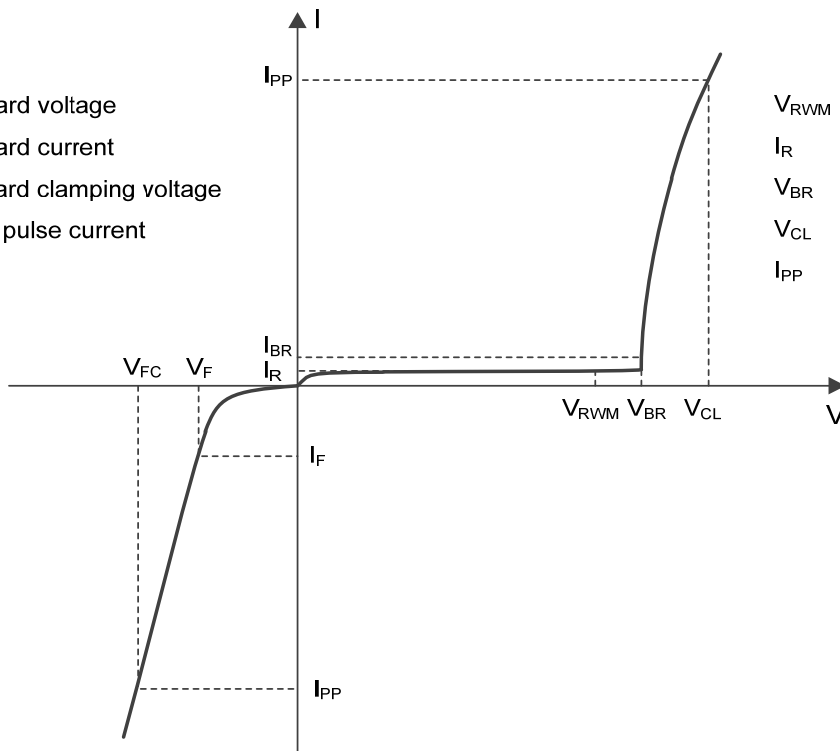
V_{RWM} Reverse stand-off voltage

I_R Reverse leakage current

V_{BR} Reverse breakdown voltage

V_{CL} Clamping voltage

I_{PP} Peak pulse current





ESD0505S6

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

PARAMETER	SYMBOL	VALUE	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	96	W
Peak pulse Current ($t_p = 8/20\mu s$)	I_{PP}	8	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 30	KV
ESD according to IEC61000-4-2 contact discharge		± 30	KV
Junction temperature	T_J	-55~125	°C
Storage Temperature Range	T_{STG}	-55~150	°C

■Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				5
Reverse leakage current	I_R	μA	$V_{RWM} = 5V$,			0.2
Reverse breakdown voltage	$V_{(BR)}$	V	$I_T = 1mA$,	6		8.5
Clamping voltage	V_{CL}	V	$I_{PP} = 1A$, $t_p = 8/20\mu s$			8
		V	$I_{PP} = 8A$, $t_p = 8/20\mu s$			12
Junction capacitance	CJ	pF	$V_R = 0V$, $f = 1MHz$		55	

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). Contact discharge mode, according to IEC61000-4-2.
- (3). Non-repetitive current pulse, according to IEC61000-4-5

■Ordering Information (Example)

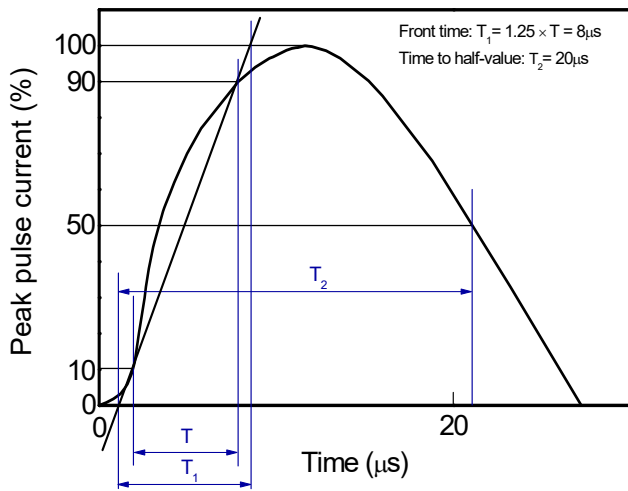
PREFERRED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD0505S6	Approximate 10	3000	30000	120000	Tape & reel



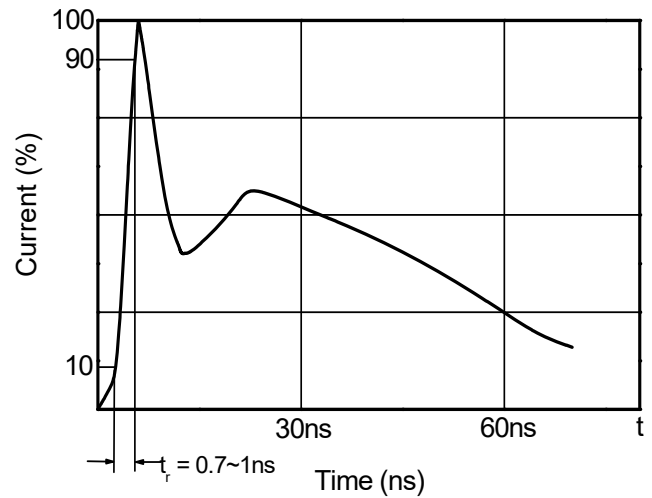
ESD0505S6

■ Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

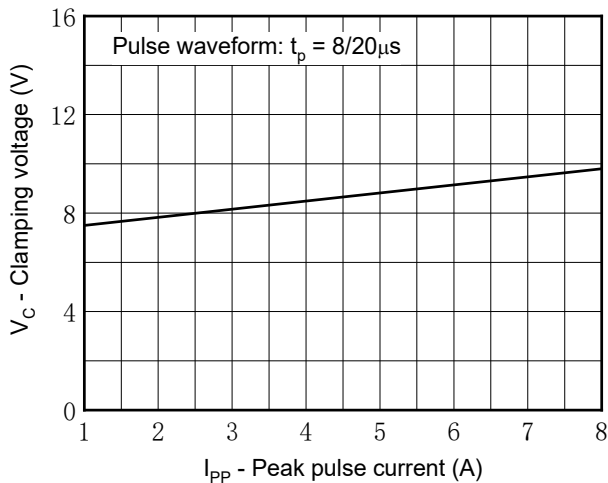
8/20 μs waveform per IEC61000-4-5



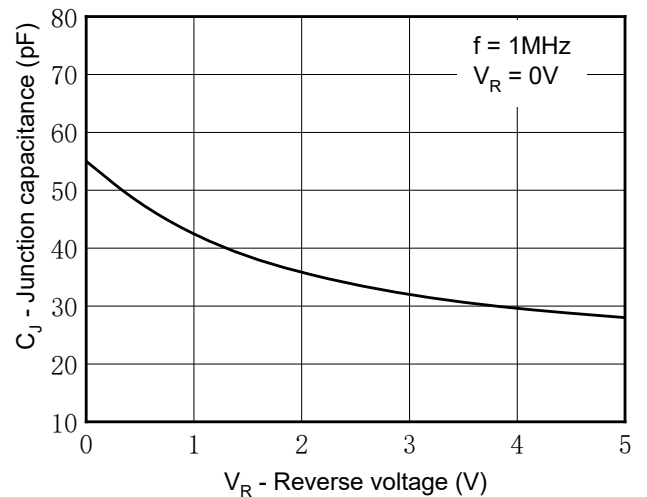
Contact discharge current waveform per IEC61000-4-2



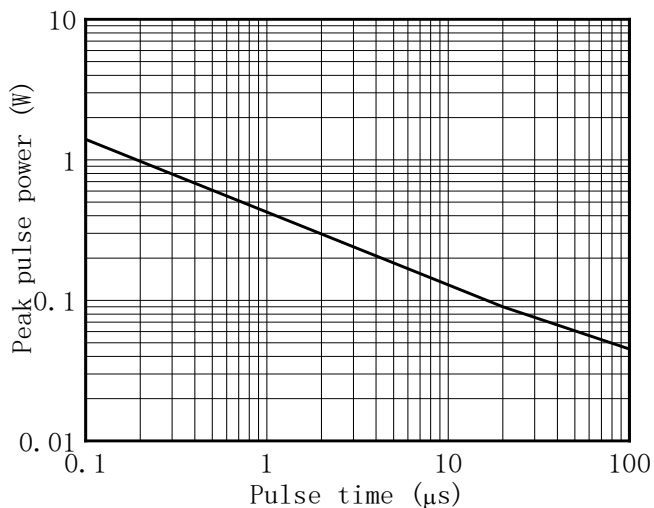
Clamping voltage vs. Peak pulse current



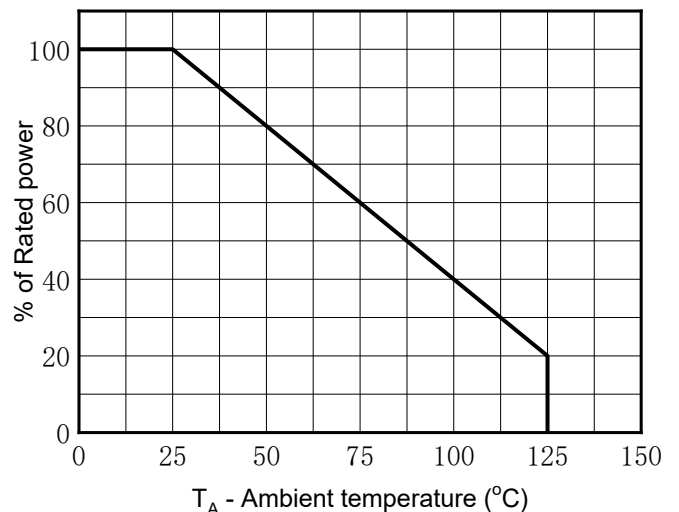
Capacitance vs. Reverse voltage



Non-repetitive peak pulse power vs. Pulse time

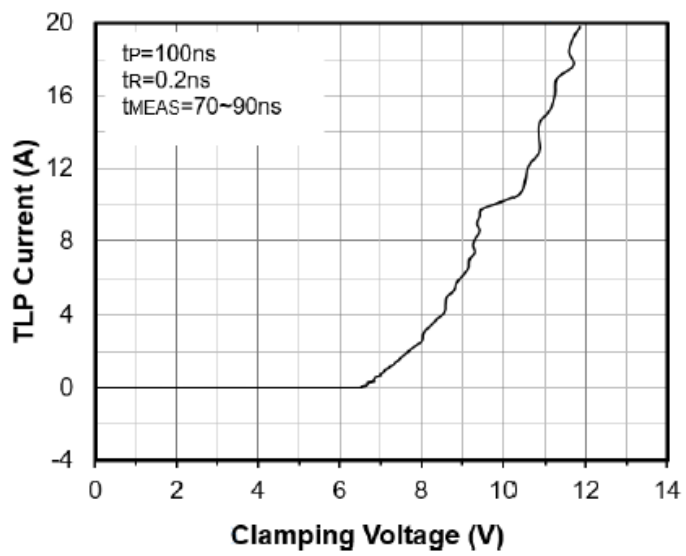


Power derating vs. Ambient temperature



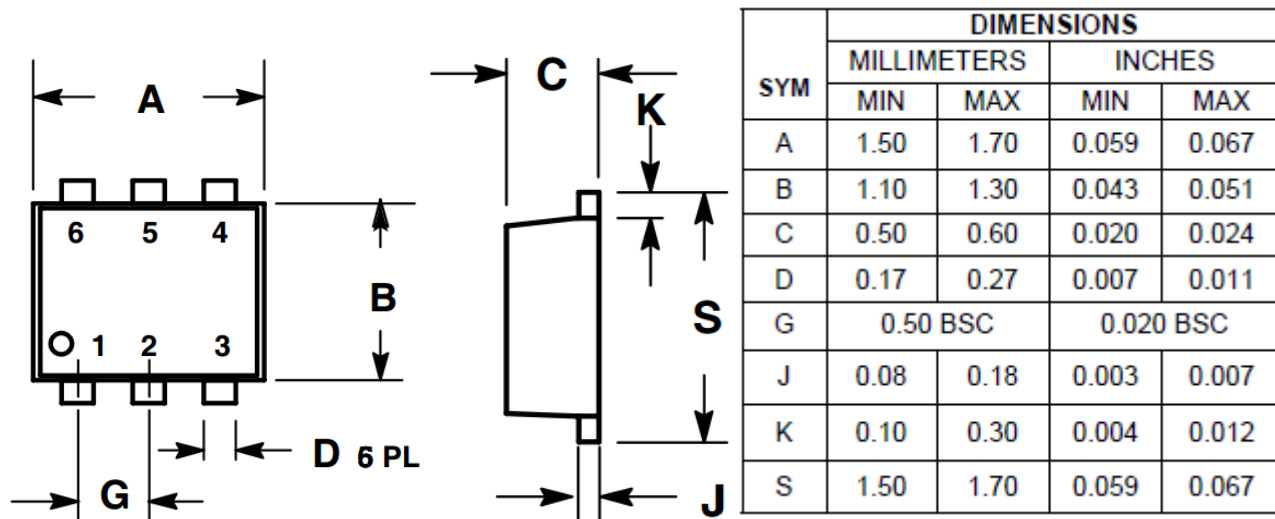


TLP Measurement

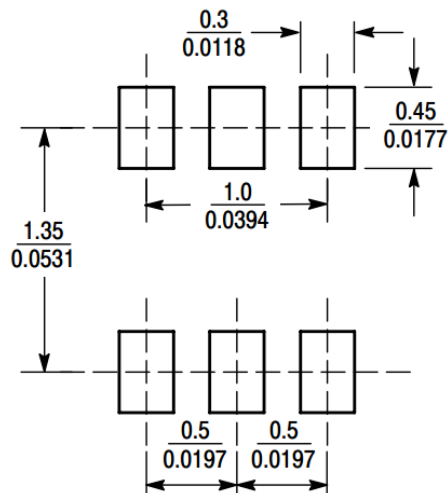




■Outline Dimensions



■Recommend land pattern (Unit:mm)



Notes:

This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met.



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