ESDA6V8UL

2-Line, Ultra-low Capacitance, Uni-directional Transient Voltage Suppressors

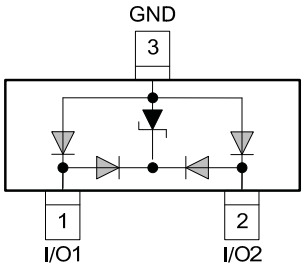
Descriptions

The ESDA6V8UL is a transient voltage suppressors (TVS) which provide a very high level protection for sensitive electronic components that may be subjected to electrostatic discharge (ESD). It is designed to replace multilayer varistors (MLV) in consumer equipments applications such as mobile phone, notebook, PAD, STB, LCD TV etc.

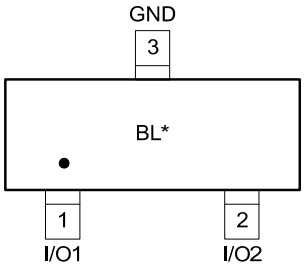
The ESDA6V8UL was past ESD transient voltage up to ±15KV (contact) according to IEC61000-4-2 and withstand peak current up to 3.5A for 8/20us pulse according to IEC61000-4-5.

The ESDA6V8UL is available in a SOT-23 package. Standard products are Pb-free and Halogen-free.

SOT-23



Pin configuration (Top view)



BL = Device Code

*** = Month (A~Z)**

Marking

Features

- Working voltage : 5V
- Peak power (tp=8/20us) : 45W
- ESD protection (IEC61000-4-2) : ±15KV Contact
- Low leakage current
- Small package

Applications

- Cell phone
- PAD
- Notebook
- STB
- LCD TV
- Digital camera
- Other electronics equipments

Order information

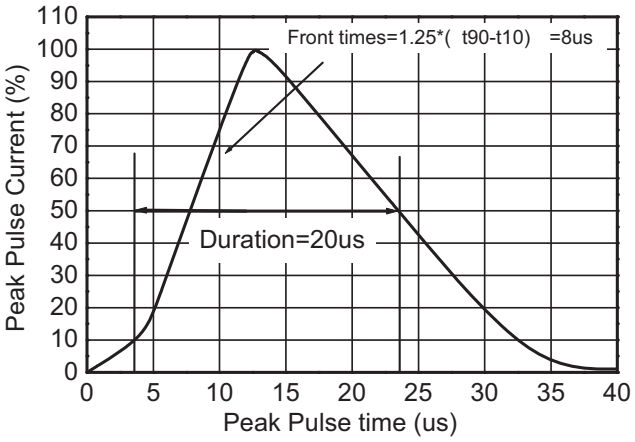
Device	Package	Shipping
ESDA6V8UL-3/TR	SOT-23	3000/Tape&Reel

Absolute maximum ratings

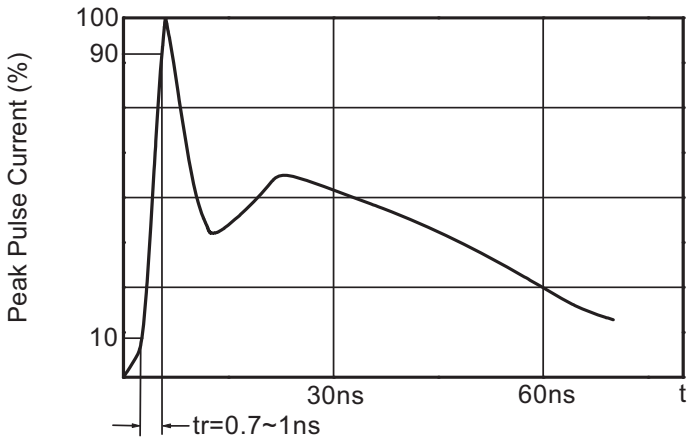
Parameter	Symbol	Rating	Unit
Peak pulse power (tp=8/20us)	Ppk	45	W
Peak pulse current (tp=8/20us)	Ipp	3.5	A
ESD voltage IEC61000-4-2 (Contact)	V_{ESD}	±15	KV
ESD voltage IEC61000-4-2 (Air)	V_{ESD}	±15	KV
Operation junction temperature	T_J	150	°C
Lead temperature	T_L	260	°C
Storage temperature	Tsg	-55~150	°C

Electronics characteristics (Ta=25°C, unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reveres maximum working voltage	V_{RWM}				5	V
Reveres leakage current	I_R	V_{RWM}=5V			1	uA
Reveres breakdown voltage	V_{BR}	I_T=1mA	6.5			V
Forward voltage	V_F	I_F=10mA	-0.4		-1.4	V
Clamping voltage	V_C	Ipp=1A tp=8/20us			10	V
		Ipp=3.5A tp=8/20us			13.5	V
Junction capacitance	C_J	I/O to GND V_R=0V, F=1MHz		0.9	1.2	pF
Junction capacitance	C_J	I/O to I/O V_R=0V, F=1MHz		0.45	0.6	pF

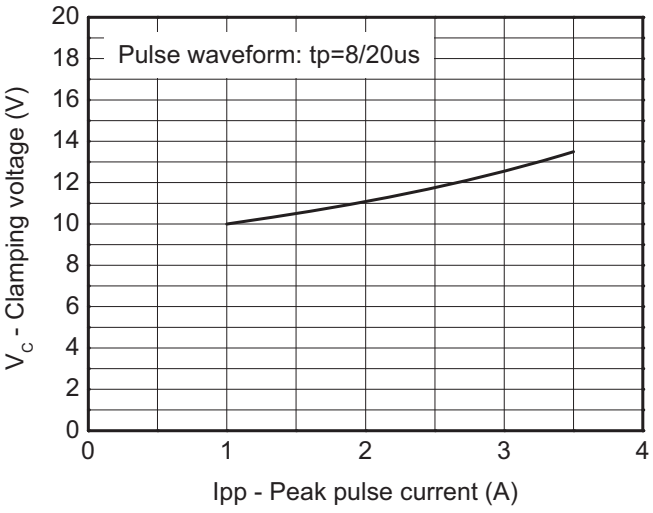


8/20us waveform

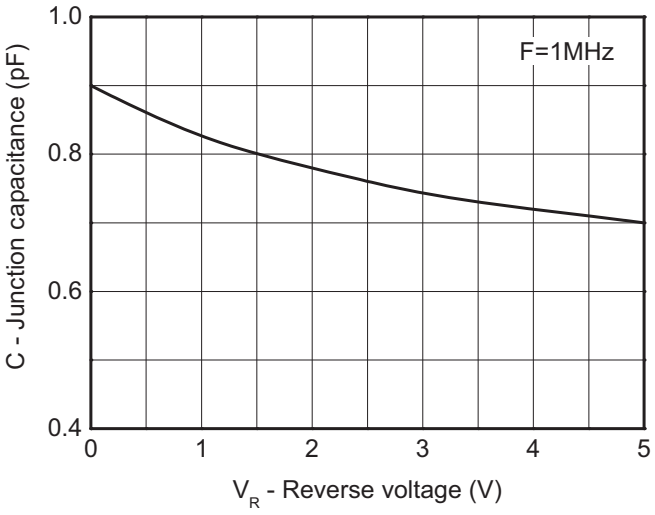


IEC61000-4-2 waveform

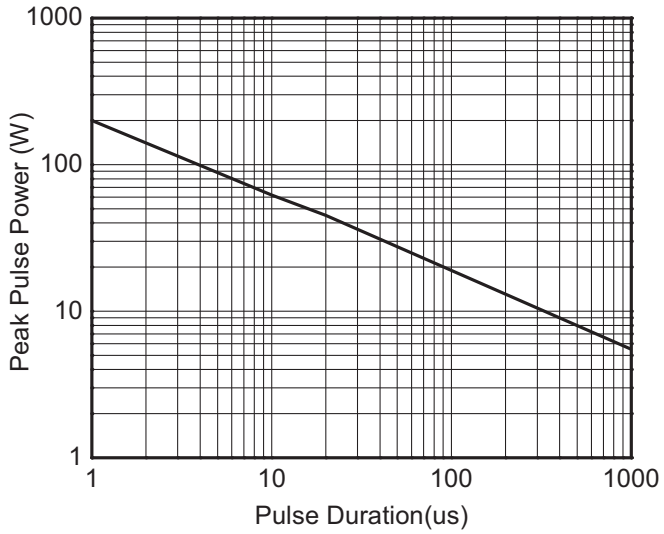
Typical characteristics (Ta=25°C, unless otherwise noted)



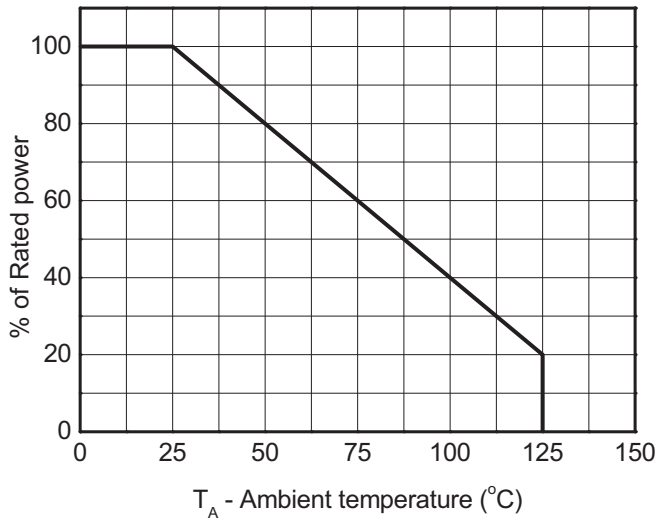
Clamping voltage vs. Peak pulse current



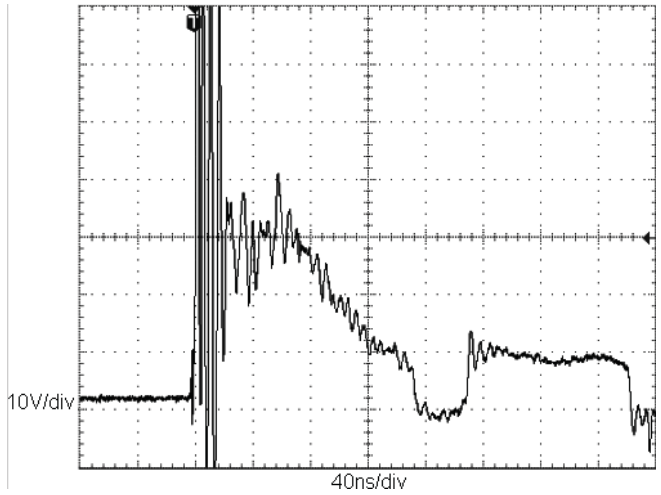
Capacitance vs. Reveres voltage



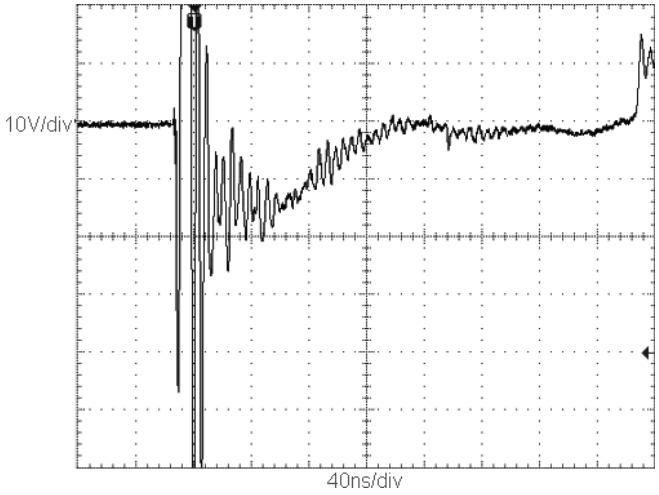
Non-Repetitive Peak Pulse Power vs. Pulse time



Power derating vs. Temperature



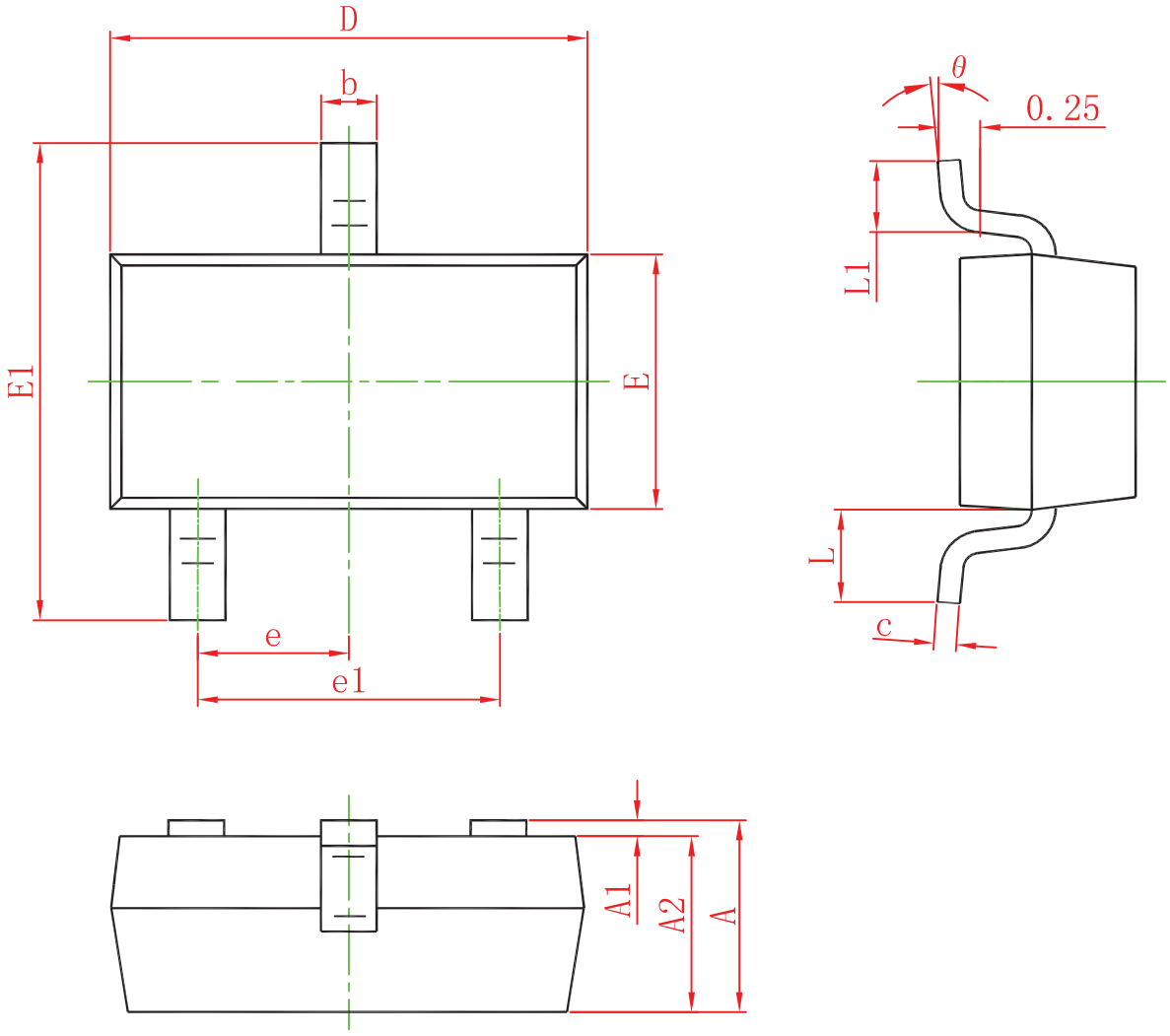
ESD Clamping
(IEC61000-4-2 +15KV contact)



ESD Clamping
(IEC61000-4-2 -15KV contact)

Package outline dimensions

SOT-23



Symbol	Dimensions in millimeter		
	Min.	Typ.	Max.
A	0.900	1.025	1.150
A1	0.000	0.500	0.100
A2	0.900	0.975	1.050
b	0.300	0.400	0.500
c	0.080	0.115	0.150
D	2.800	2.900	3.000
E	1.200	1.300	1.400
E1	2.250	2.400	2.550
e		0.950TYP	
e1	1.800	1.900	2.000
L		0.500REF	
L1	0.300	0.400	0.500
θ	0°	4°	8°