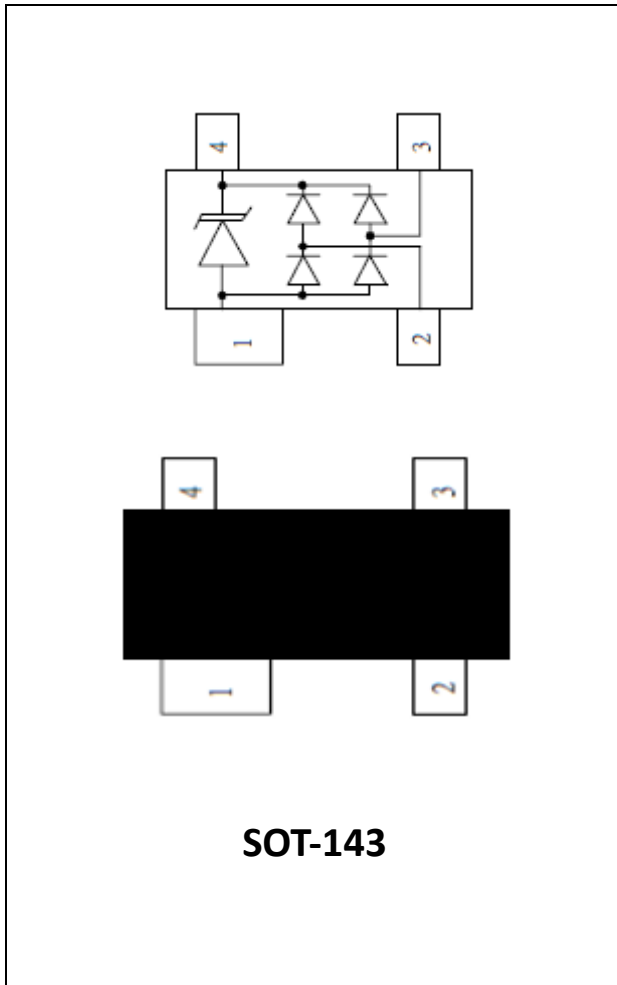


2-Line, Uni-directional, Transient Voltage Suppressor



Features

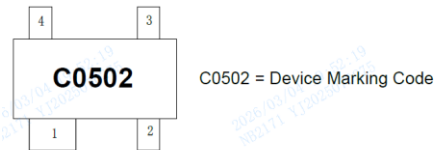
- Stand-off voltage: 5V Max
- Transient protection for each line according to
 - IEC61000-4-2(ESD): $\pm 30\text{kV}$ (contact)
 - IEC61000-4-2(ESD): $\pm 30\text{kV}$ (air)
 - IEC61000-4-5(lightning): 9A (8/20 μs)
- Ultra-low leakage current
- Ultra-low capacitance: 0.4pF typ (between I/O)
- Low clamping voltage
- RoHS Compliant

Applications

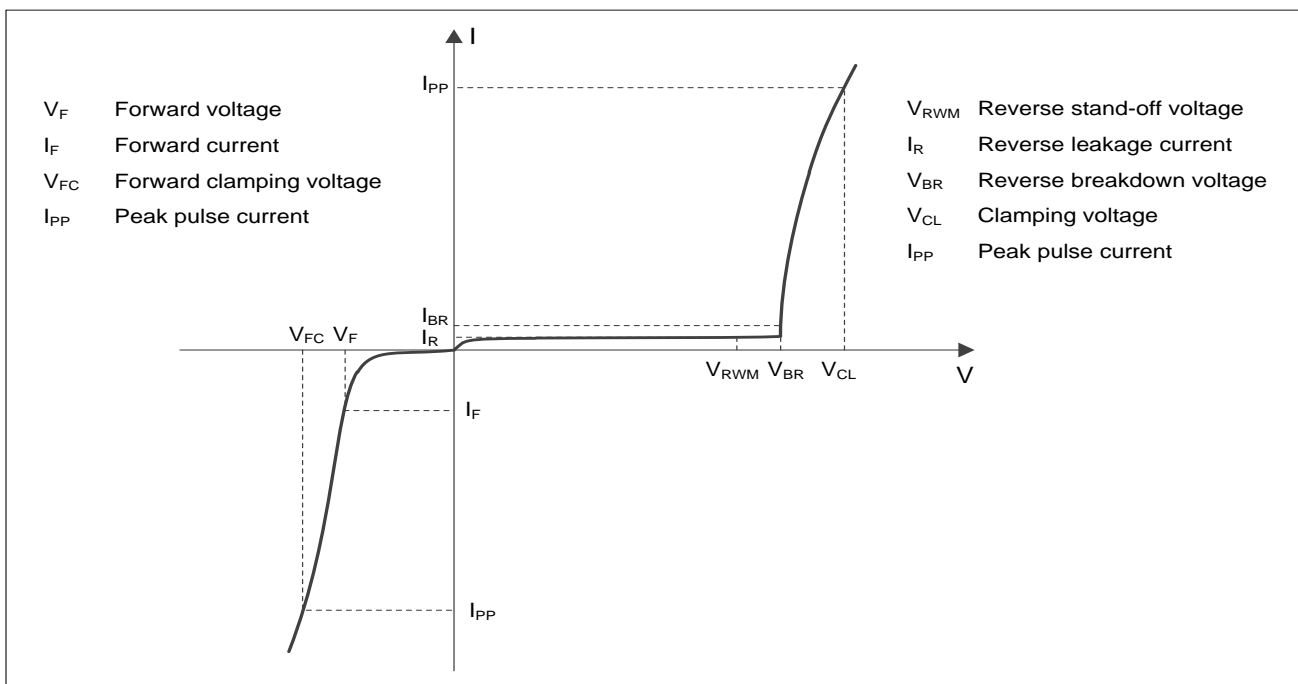
- Cellular Handsets and Accessories
- Notebooks and Handhelds
- Personal Digital Assistants
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players, Keypads, Side Keys, LCD
- USB 2.0

Mechanical Data

- Package: SOT-143
- Case Material: "Green" Molding Compound
- Marking Information: See Below



Definitions of electrical characteristics





ESDSL0512S1

Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ($t_p = 8/20\mu s$), VCC pin to ground	P_{pk}	288	W
Peak pulse power ($t_p = 8/20\mu s$), any I/O pin to ground	P_{pk}	135	W
Peak pulse current ($t_p = 8/20\mu s$), VCC pin to ground	I_{pp}	16	A
Peak pulse current ($t_p = 8/20\mu s$), any I/O pin to ground	I_{pp}	9	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 30	KV
ESD according to IEC61000-4-2 contact discharge		± 30	
Junction temperature	T_J	-55~125	$^{\circ}C$
Storage temperature	T_{STG}	-55~150	$^{\circ}C$

Electrical Characteristics ($T_a=25^{\circ}C$ Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V	Any I/O pin to ground			5
Reverse leakage current	I_R	μA	$V_{RWM} = 5V$,			0.5
Reverse breakdown voltage	$V_{(BR)}$	V	$I_T = 1mA$, any I/O pin to ground	6		
Clamping voltage	V_{CL}	V	$I_{PP} = 9A$, $t_p = 8/20\mu s$, any I/O pin to ground		13	15
		V	$I_{PP} = 16A$, $t_p = 8/20\mu s$, VCC pin to ground		15	
Junction capacitance	CJ	pF	$V_R = 0V$, $f = 1MHz$, between I/O pins		0.4	
		pF	$V_R = 0V$, $f = 1MHz$, any I/O pin to ground		1	

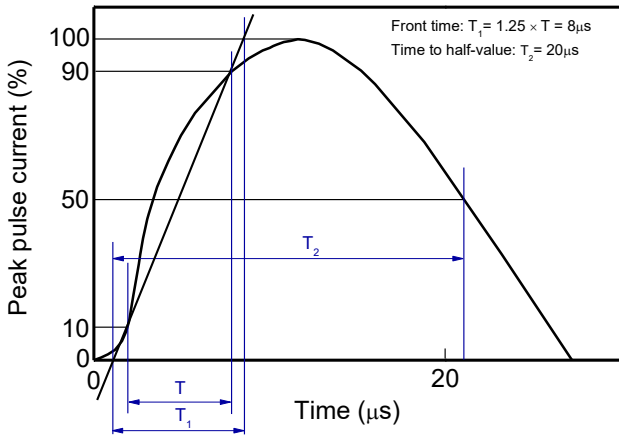
Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDSL0512S1	F1	Approximate 0.9	3000	30000	120000	7 reel

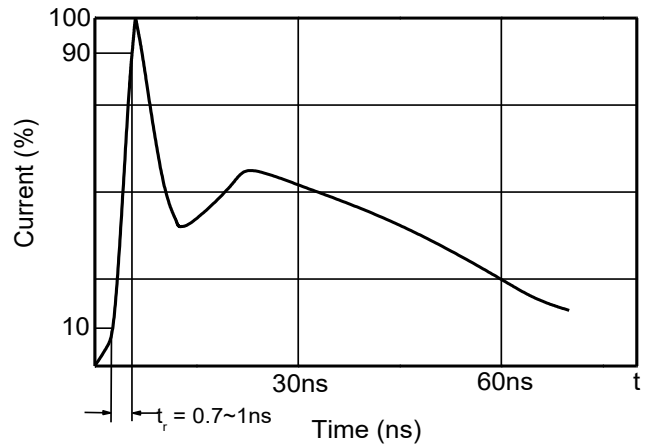


■ Characteristics (Typical)

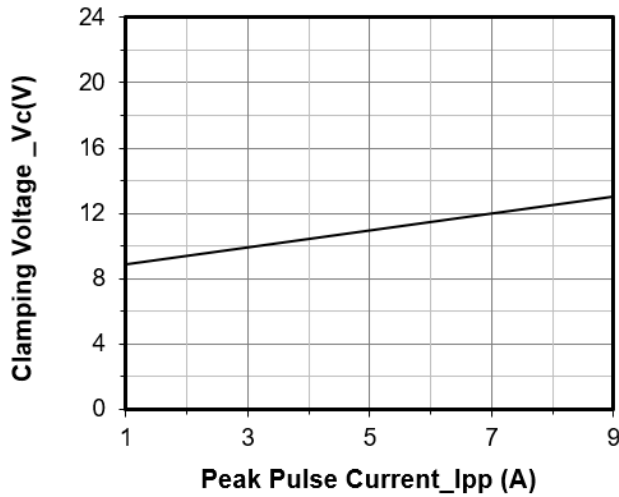
8/20 μ s waveform per IEC61000-4-5



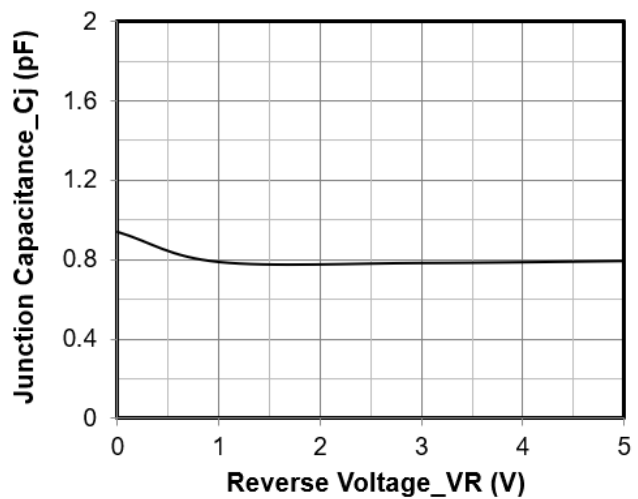
Contact discharge current waveform per IEC61000-4-2



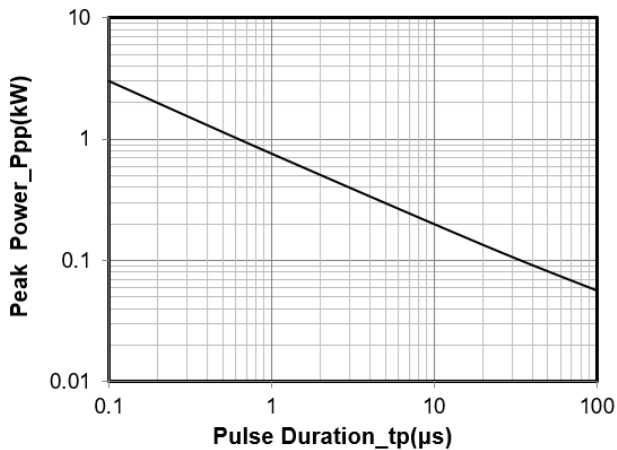
Clamping voltage vs. Peak pulse current



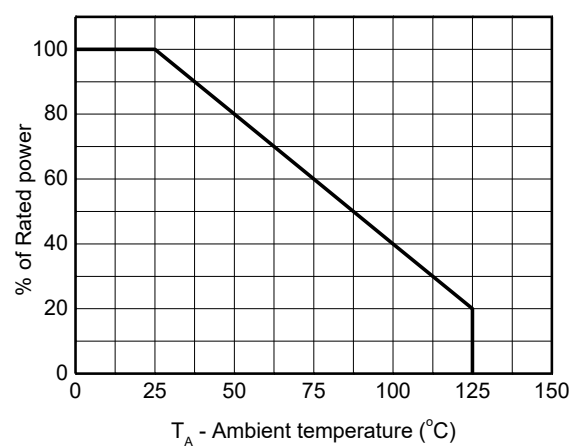
Capacitance vs. Reverse voltage



Non-repetitive peak pulse power vs. Pulse time



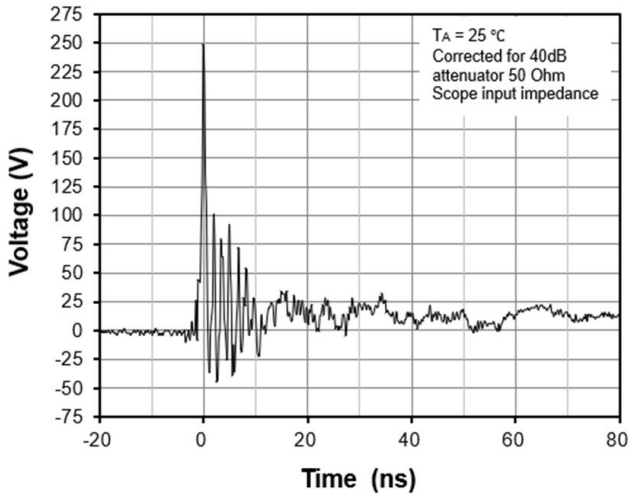
Power derating vs. Ambient temperature



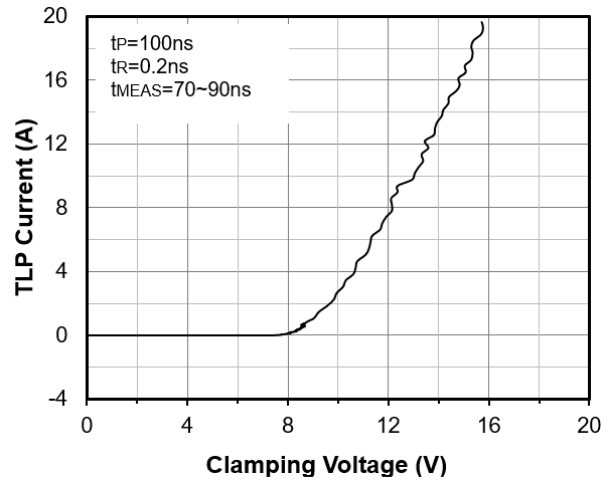


ESDSL0512S1

ESD clamping
(8kV contact discharge per IEC61000-4-2)



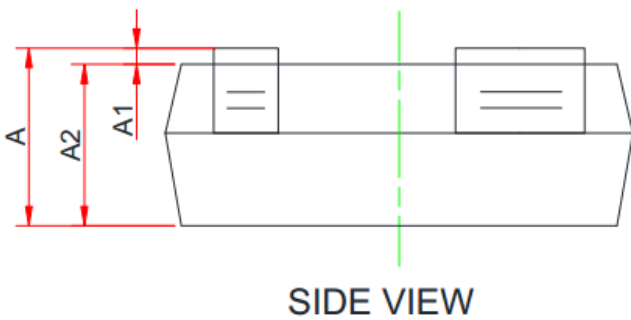
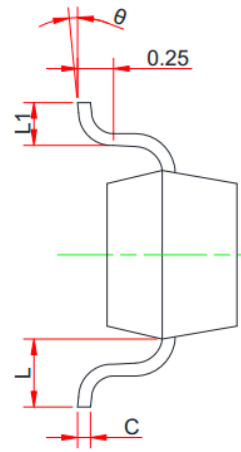
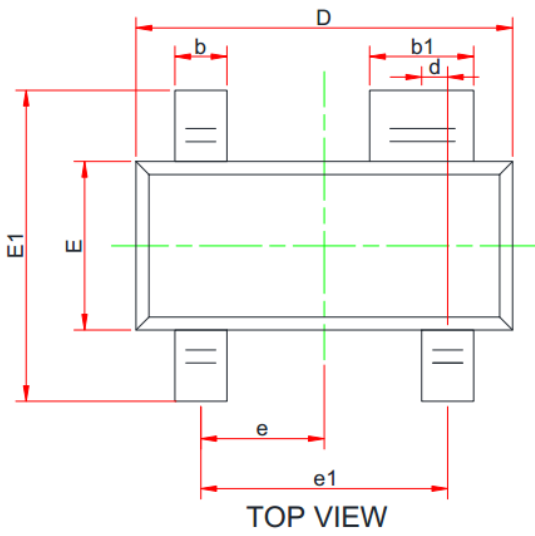
TLP Measurement





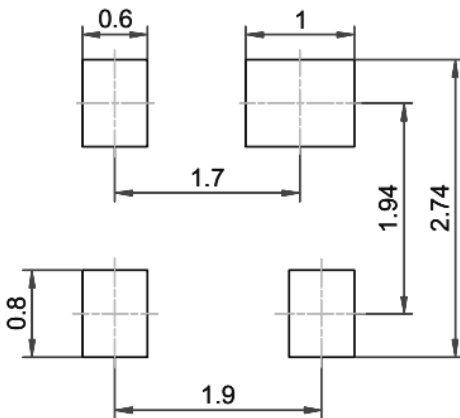
ESDSL0512S1

■ Outline Dimensions



SYM	MILLIMETERS		
	MIN	NOM	MAX
A	0.90	-	1.15
A1	0.00	0.05	0.10
A2	0.90	-	1.05
b	0.30	0.40	0.50
b1	0.75	-	0.90
c	0.08	-	0.15
D	2.80	2.90	3.00
d	0.20 Typ		
E	1.20	1.30	1.40
E1	2.25	2.40	2.55
e	0.95 Typ		
e1	1.80	1.90	2.00
L	0.55 Ref		
L1	0.30	0.40	0.50
θ	0°	-	8°

■ Suggested Land Pattern



Notes:

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



Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.