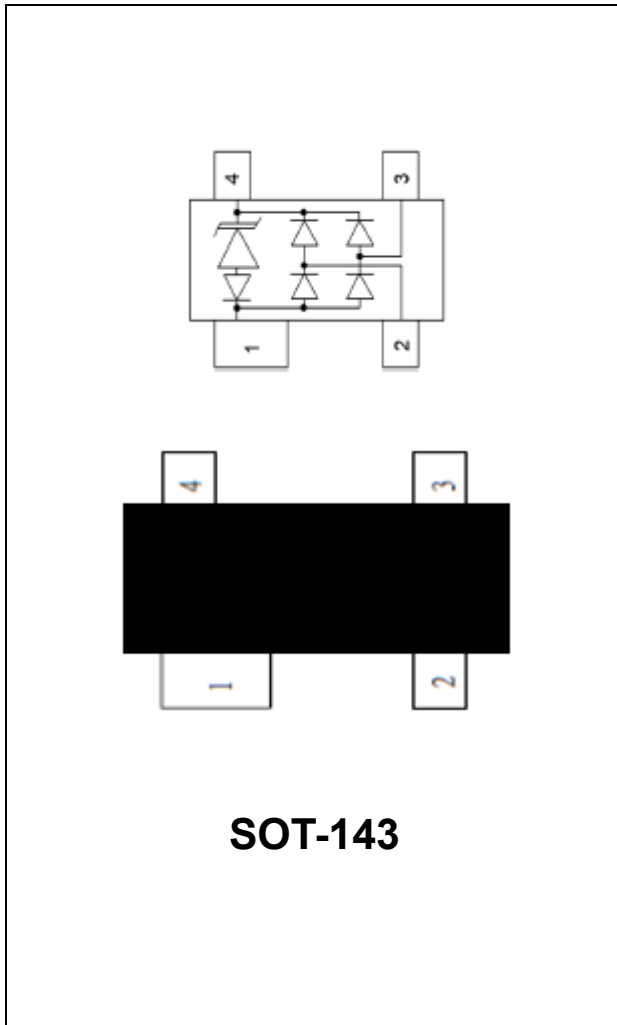


2-Line, Uni-directional, Transient Voltage Suppressor



SOT-143

Features

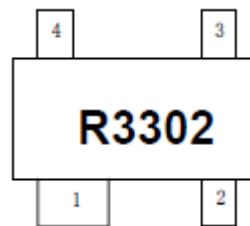
- Stand-off voltage: 3.3V Max
- Transient protection for each line according to
IEC61000-4-2(ESD): $\pm 30\text{kV}$ (contact)
IEC61000-4-5(surge): 11A (8/20 μs)
- Low leakage current
- Ultra-low capacitance: $C_J = 1\text{ pF}$ typ (I_0/ground)
- Low clamping voltage
- RoHS Compliant

Applications

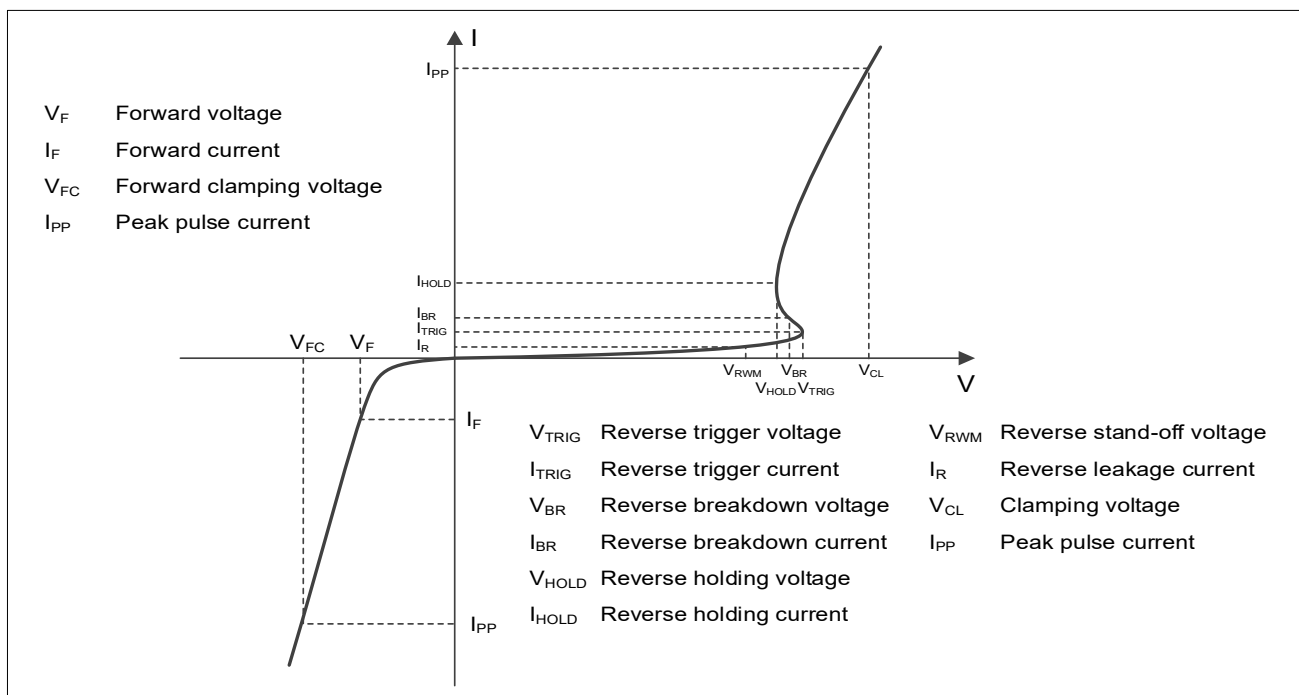
- Cellular Handsets and Accessories
- Notebooks and Handhelds
- Personal Digital Assistants
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players, Keypads, Side Keys, LCD
- USB 2.0

Mechanical Data

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



■Definitions of electrical characteristics





ESDSLC3302S1

■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ($t_p = 8/20\mu s$), VCC pin to ground	P_{pk}	230	W
Peak pulse power ($t_p = 8/20\mu s$), any I/O pin to ground	P_{pk}	110	W
Peak pulse current ($t_p = 8/20\mu s$), VCC pin to ground	I_{pp}	23	A
Peak pulse current ($t_p = 8/20\mu s$), any I/O pin to ground	I_{pp}	11	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	°C
Storage temperature	T_{STG}	-55~150	°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			3.3
Reverse breakdown voltage	$V_{(BR)}$	V	$I_T = 1mA$,	3.5		
Reverse leakage current	I_R	μA	$V_{RWM} = 3.3V$,			0.5
Clamping voltage	V_{CL}	V	$I_{PP} = 23A$, $t_p = 8/20\mu s$, VCC pin to ground		8	10
		V	$I_{PP} = 1A$, $t_p = 8/20\mu s$, any I/O pin to ground		5	7
		V	$I_{PP} = 11A$, $t_p = 8/20\mu s$ any I/O pin to ground		8	10
Junction capacitance	C_J	pF	$V_R = 0V$, $f = 1MHz$, between I/O pins		0.5	
		pF	$V_R = 0V$, $f = 1MHz$, any I/O pin to ground		1	.

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

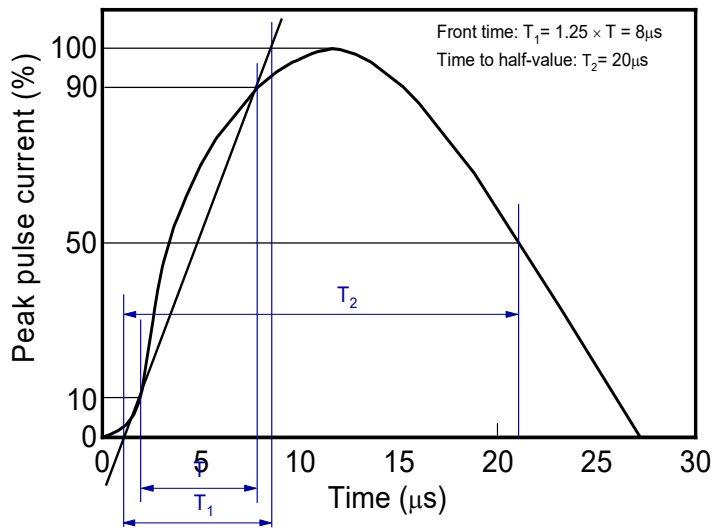
■Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDSLC3302S1	F1	Approximate 12	3000	30000	120000	7 reel

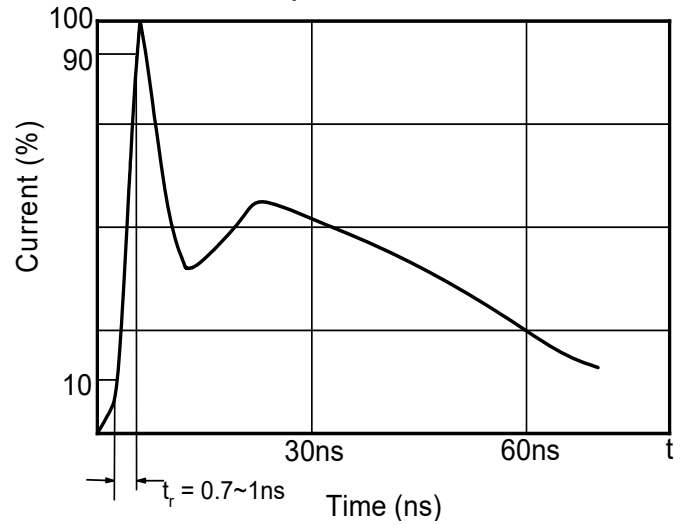


■ Characteristics (Typical)

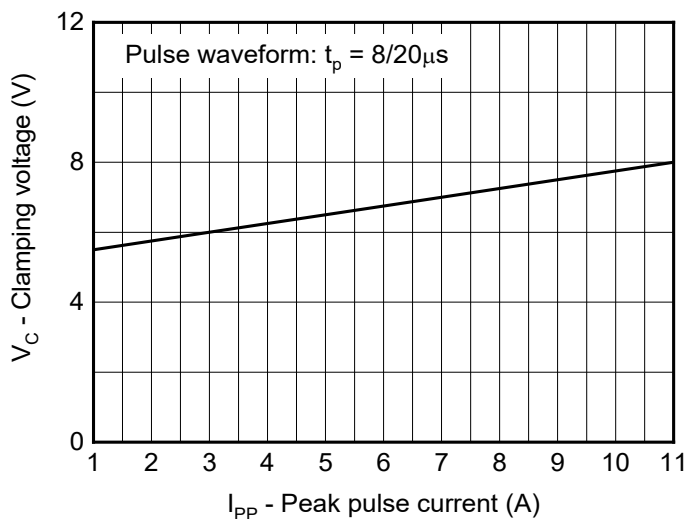
8/20 μ s waveform per IEC61000-4-5



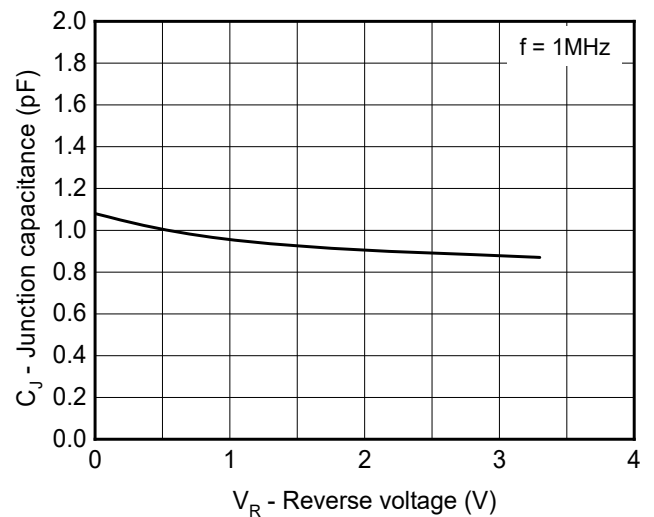
Contact discharge current waveform per IEC61000-4-2



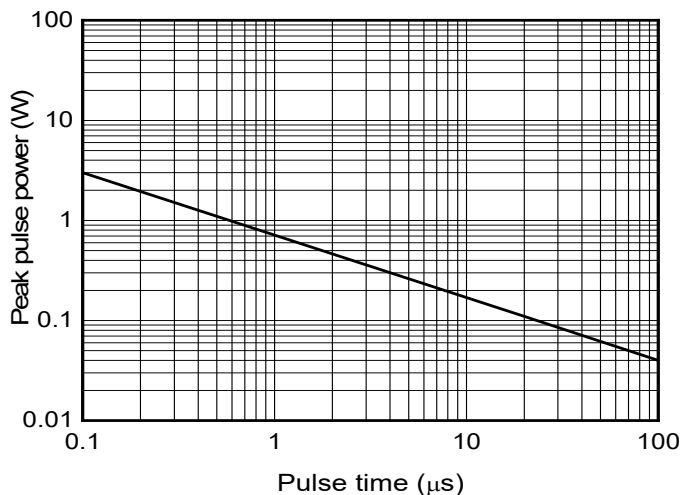
Clamping voltage vs. Peak pulse current



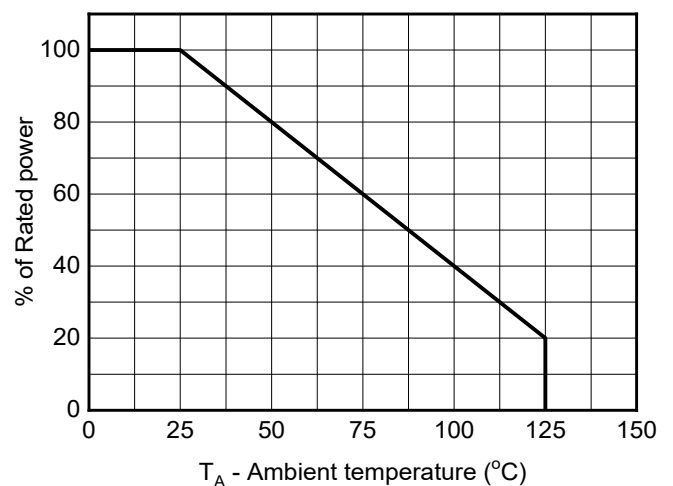
Capacitance vs. Reverse voltage



Non-repetitive peak pulse power vs. Pulse time



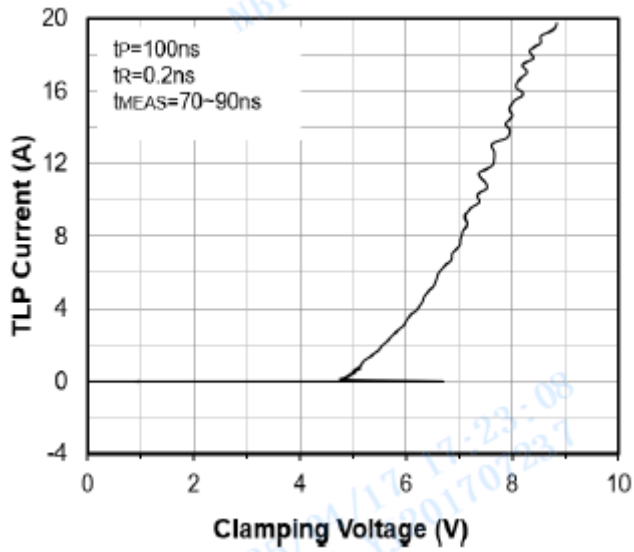
Power derating vs. Ambient temperature



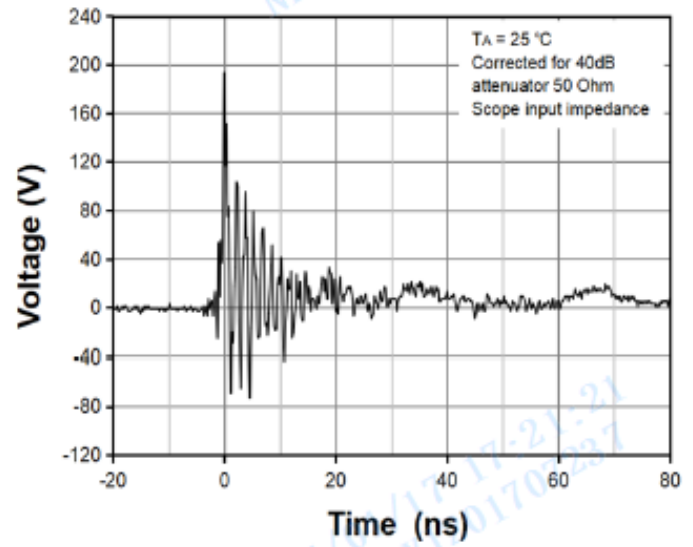


ESDSL3302S1

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



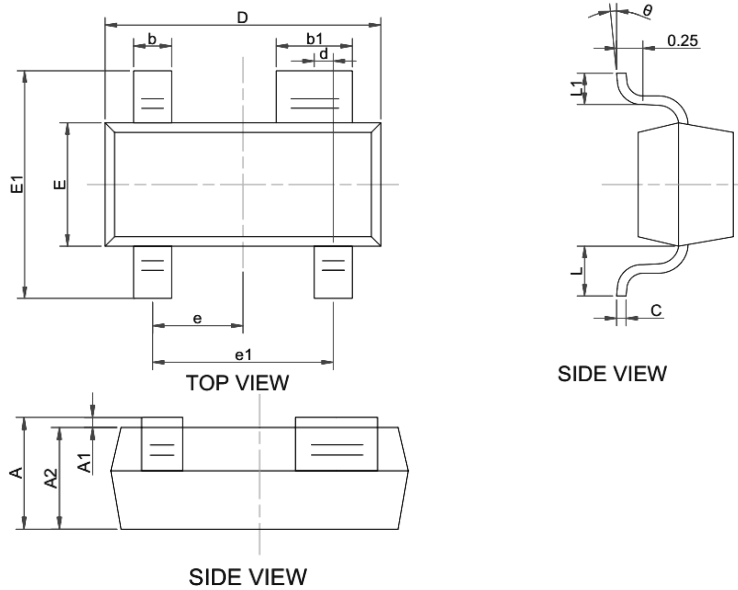
TLP Measurement





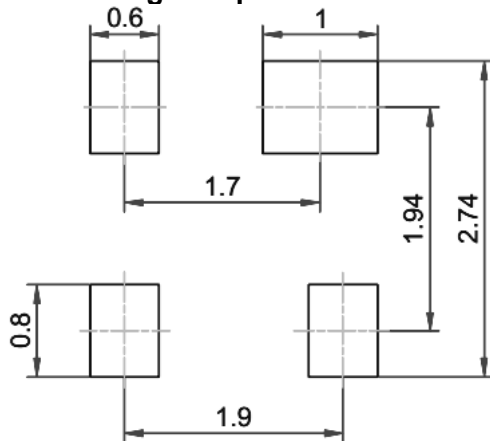
ESDSL3302S1

■ Outline Dimensions



SYS	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°

■ Soldering Footprint



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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