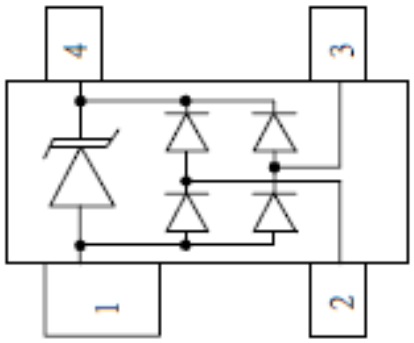
2-Line, Uni-directional, Transient Voltage Suppressor



SOT-143

Features

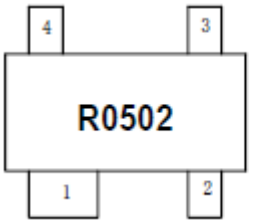
- Stand-off voltage: 5V Max
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±20kV (contact)
  IEC61000-4-5(surge): 5A (8/20μs)
- Low leakage current
- Ultra-low capacitance: CJ = 0.3pF typ
- Low clamping voltage
- RoHS Compliant

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

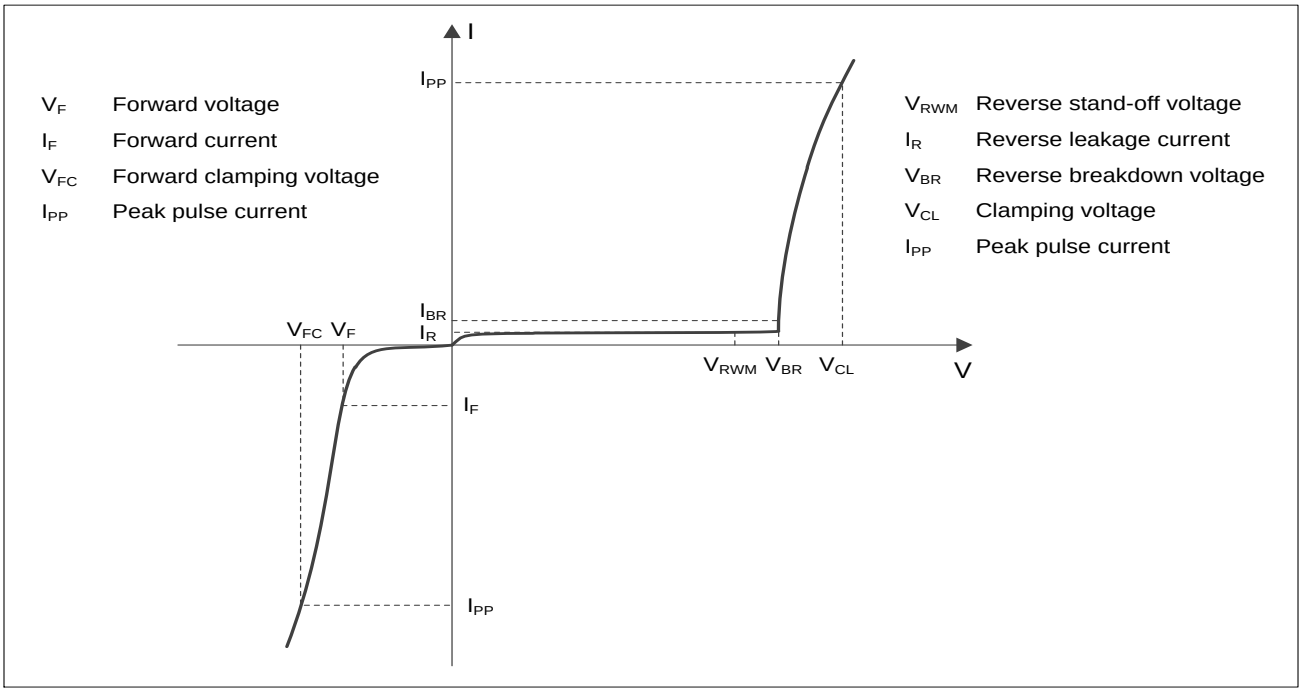
Mechanical Data

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



R0502 = Device Marking Code
Pin1 is ground

■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

■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power (t_p = 8/20μs)	P_{pk}	75	W
Peak pulse current (t_p = 8/20μs)	I_{PP}	5	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±25	KV
ESD according to IEC61000-4-2 contact discharge		±20	
Junction temperature	T_J	-55~125	°C
Storage temperature	T_{STG}	-55~150	°C

■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				5
Reverse leakage current	I_R	uA	V_{RWM} = 5V,			0.5
Reverse breakdown voltage	$V_{(BR)}$	V	I_T = 1mA,	6		
Clamping voltage	V_{CL}	V	I_{PP} = 1A, t_p = 8/20μs			10
		V	I_{PP} = 5A, t_p = 8/20μs			15
Junction capacitance	CJ	pF	VR = 0V, f = 1MHz,between I/O pins		0.3	0.4
		pF	VR = 0V, f = 1MHz,any I/O pin to ground			0.8

Notes:

(1). TLP parameter: Z0 = 50Ω, tp = 100ns, tr = 2ns, averaging window from 60ns to 80ns. RDYN is calculated from 4A to 16A.

(2). Contact discharge mode, according to IEC61000-4-2.

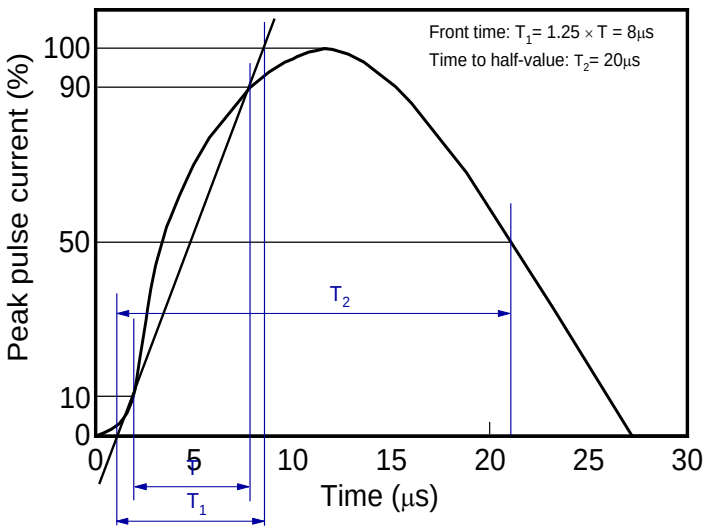
(3). Non-repetitive current pulse, according to IEC61000-4-5

■Ordering Information (Example)

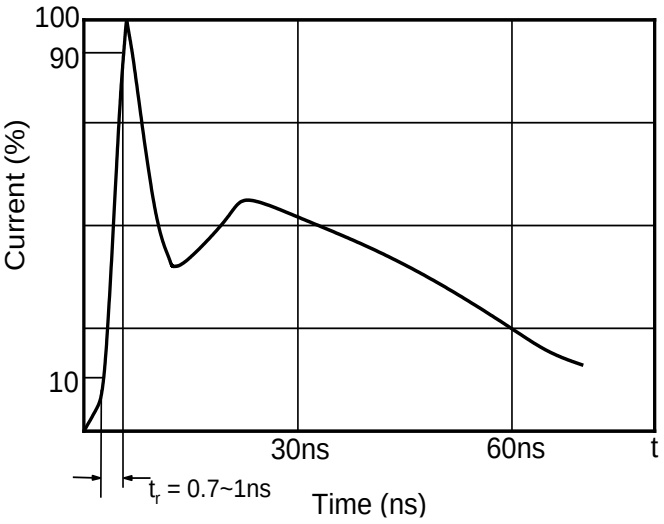
PREFERED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESDSLC0502S1	F1	Approximate 0.9	3000	30000	120000	7 reel

■ Characteristics (Typical)

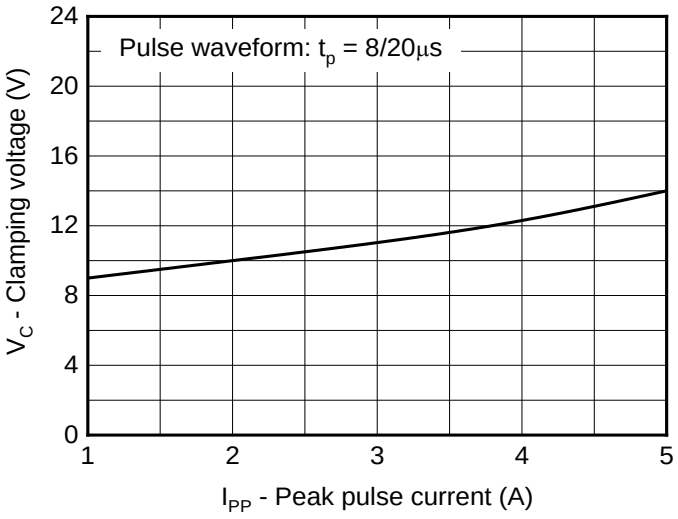
8/20μs waveform per IEC61000-4-5



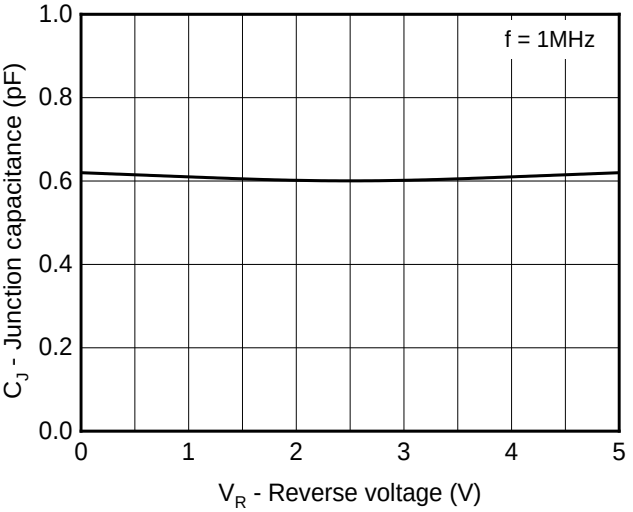
Contact discharge current waveform per IEC61000-4-2



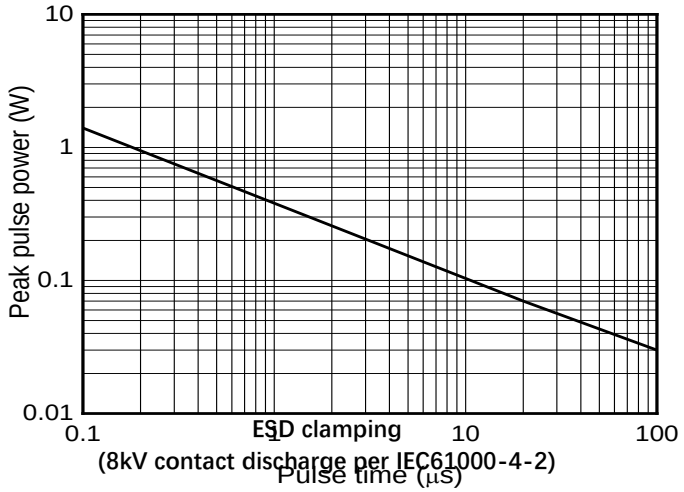
Clamping voltage vs. Peak pulse current



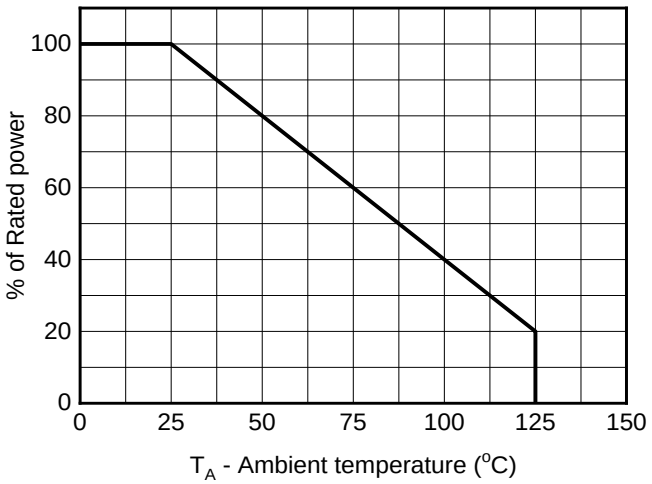
Capacitance vs. Reverse voltage

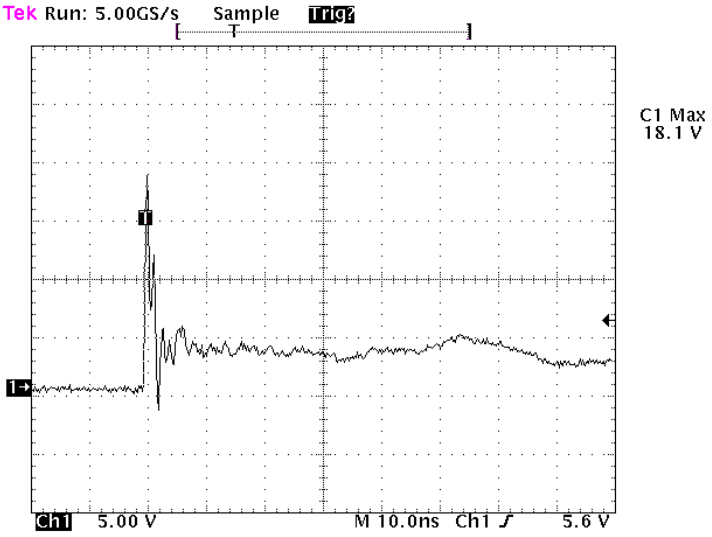


Non-repetitive peak pulse power vs. Pulse time

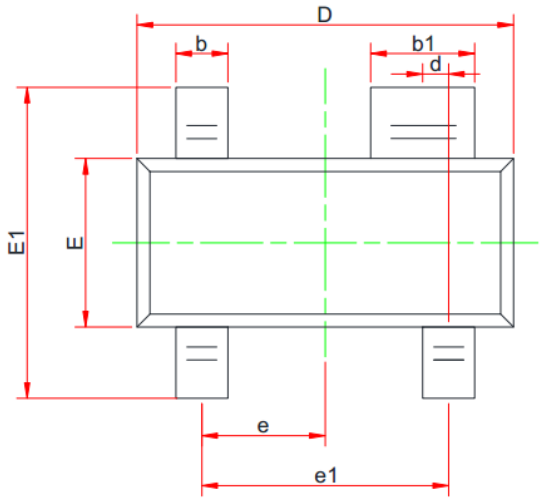


Power derating vs. Ambient temperature

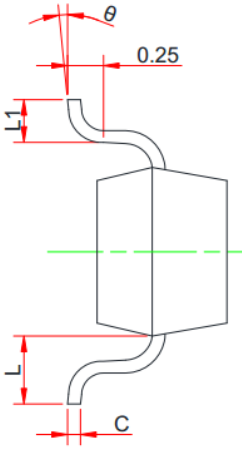



Tek Run: 5.00GS/s Sample Trig?
C1 Max
18.1 V
Ch1 5.00 V
M 10.0ns Ch1 ƒ 5.6 V

■ Outline Dimensions

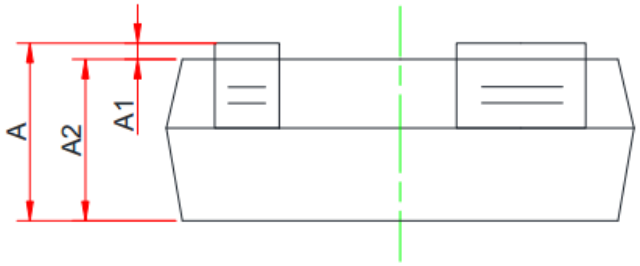


TOP VIEW



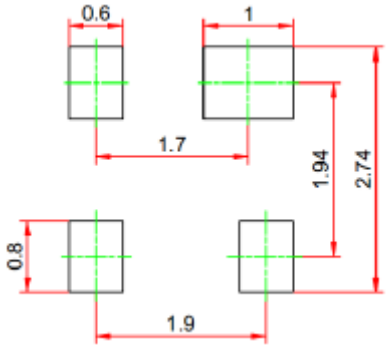
SIDE VIEW

SYS YM	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°



SIDE VIEW

■ Soldering Footprint



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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