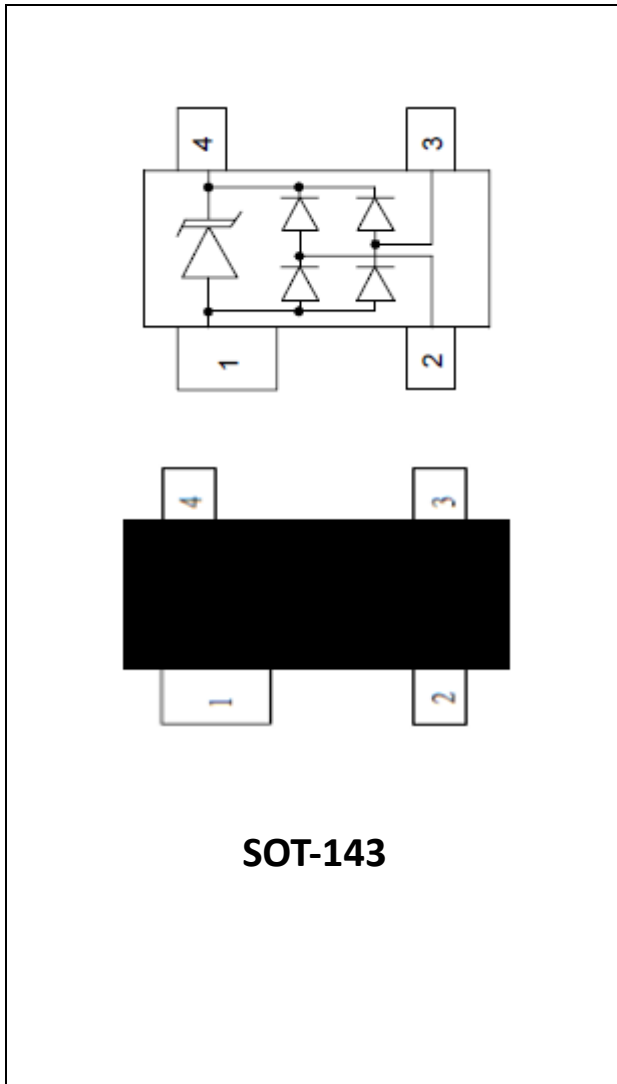


1- Line, Uni-directional, Transient Voltage Suppressor



Features

- Stand-off voltage: 5V Max
- Transient protection for each line according to
IEC61000-4-2(ESD): $\pm 30\text{kV}$ (contact)
IEC61000-4-5(surge): 20A (8/20 μs)
- Low leakage current
- Ultra-low capacitance: $C_J = 3\text{ pF}$ typ
- Low clamping voltage
- RoHS Compliant

Applications

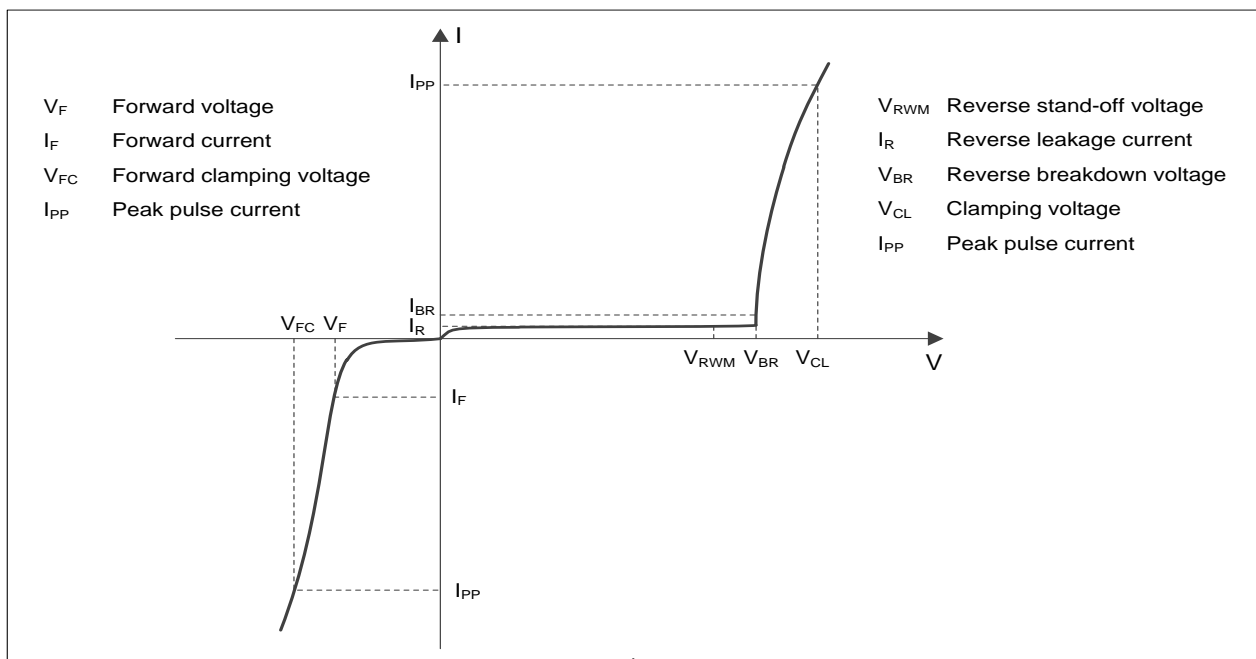
- Video Line Protection
- Wireless Systems
- Ethernet 10BaseT
- I2C Bus Protection
- Portable Instrumentation
- LAN/WAN equipment
- High-Speed Data Lines
- Multi-Protocol Serial Transceivers
- ISDN S/T Interface

Mechanical Data

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



■Definitions of electrical characteristics





■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	400	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	20	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				5
Reverse breakdown voltage	$V_{(BR)}$	V	$I_T = 1mA$,	6		
Reverse leakage current	I_R	μA	$V_{RWM} = 5V$,			0.5
Clamping voltage	V_{CL}	V	$I_{PP} = 1A$, $t_p = 8/20\mu s$			10
		V	$I_{PP} = 20A$, $t_p = 8/20\mu s$			20
Junction capacitance	CJ	pF	$V_R = 0V$, $f = 1MHz$, between I/O pins			3
		pF	$V_R = 0V$, $f = 1MHz$, any I/O pin to ground		3	6

Notes:

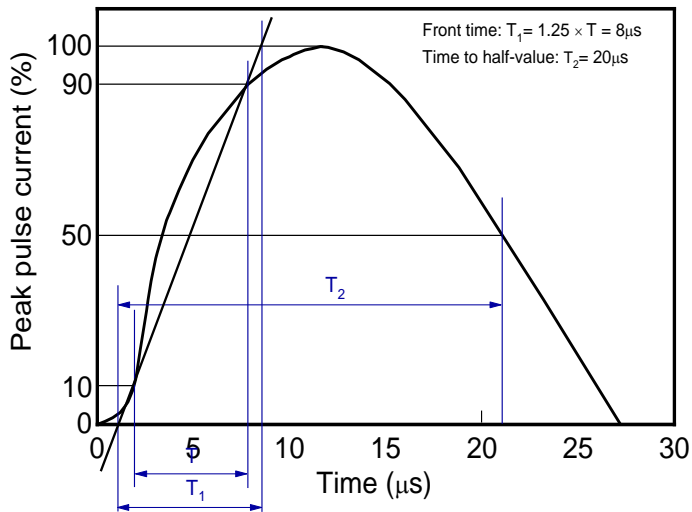
- (1). TLP parameter: $Z_0 = 50\Omega$, $t_p = 100ns$, $t_r = 2ns$, averaging window from 60ns to 80ns. RDYN is calculated from 4A to 16A.
 (2). Contact discharge mode, according to IEC61000-4-2.
 (3). Non-repetitive current pulse, according to IEC61000-4-5

■Ordering Information (Example)

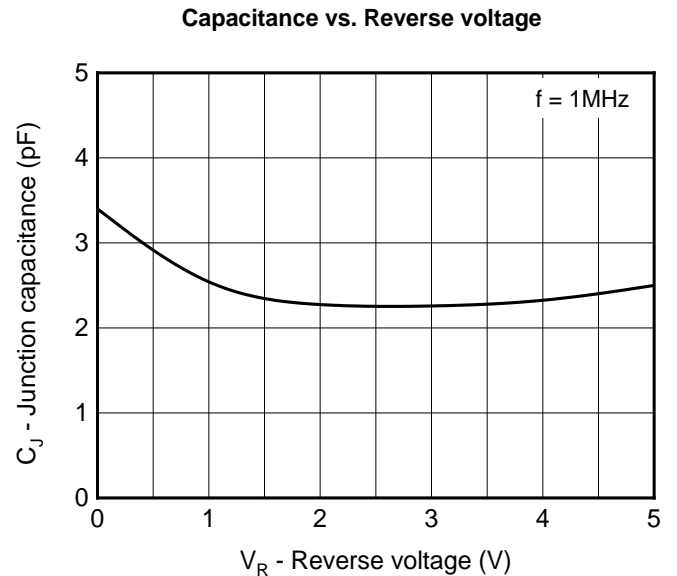
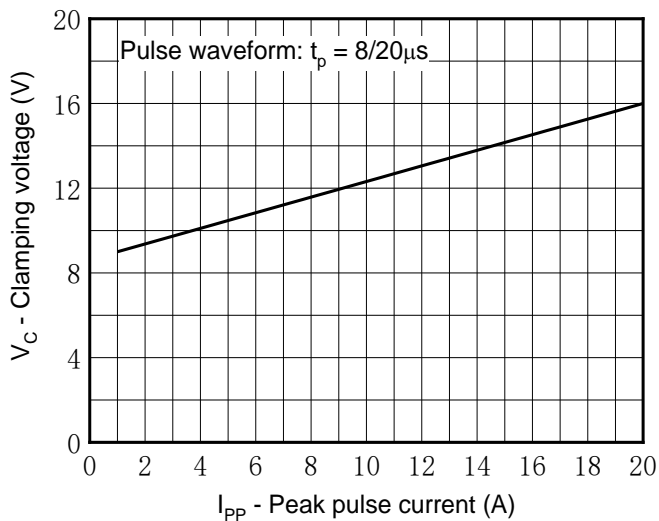
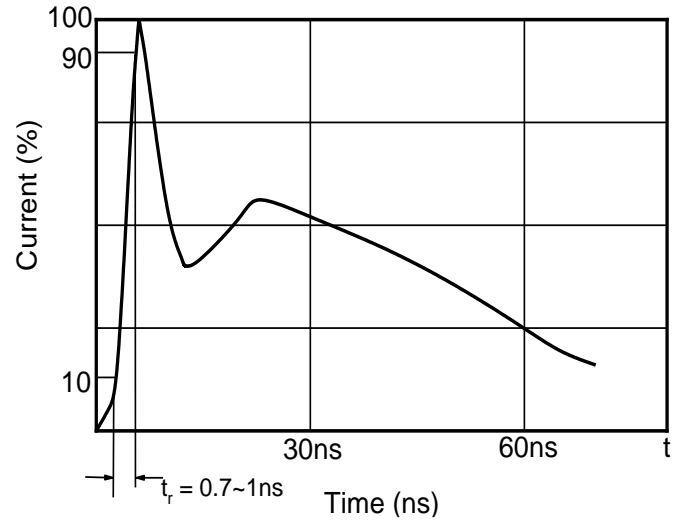
PREFERED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SR05	F1	Approximate 12	3000	30000	120000	7 reel

■ Characteristics (Typical)

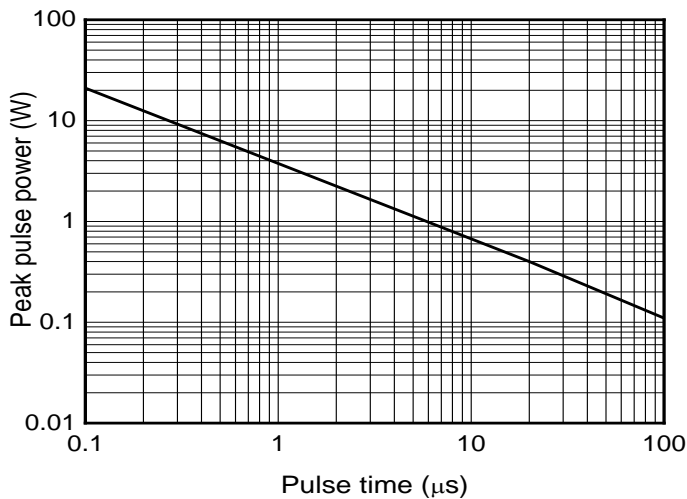
8/20μs waveform per IEC61000-4-5



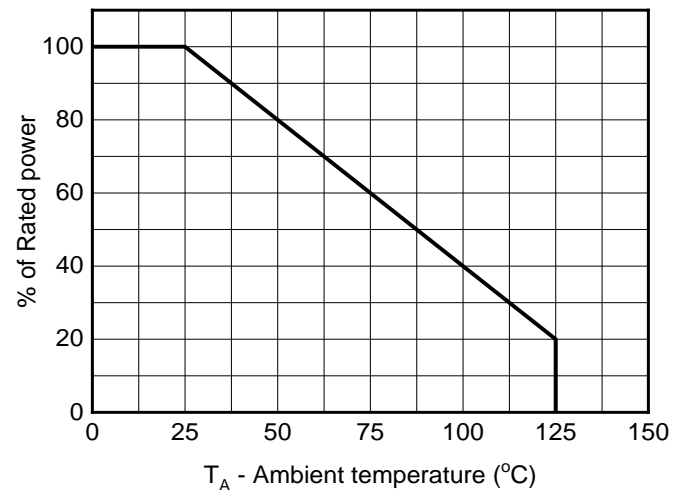
Contact discharge current waveform per IEC61000-4-2



Non-repetitive peak pulse power vs. Pulse time



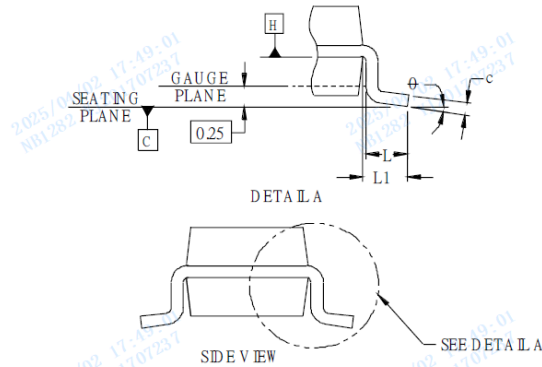
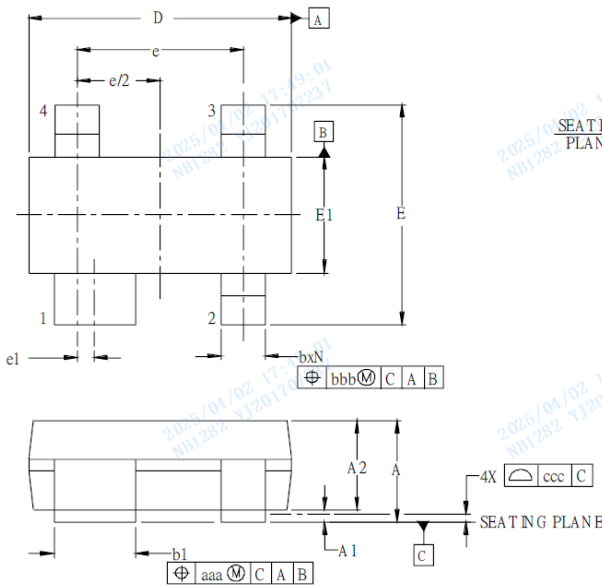
Power derating vs. Ambient temperature





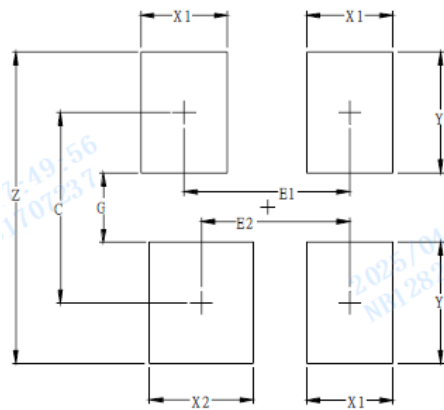
SR05

■ Outline Dimensions



DIM	INCHES				MILLIMETERS			
	M	N	NOM	MAX	M	N	NOM	MAX
A	.031	-	.048	0.80	-	1.22		
A1	.000	-	.006	0.013	-	0.15		
A2	.029	.035	.042	0.75	0.90	1.07		
b	.011	-	.020	0.30	-	0.51		
b1	.029	-	.037	0.76	-	0.94		
c	.003	-	.008	0.08	-	0.20		
D	.110	.114	.120	2.80	2.90	3.04		
E	.082	.093	.104	2.10	2.37	2.64		
E1	.047	.051	.055	1.20	1.30	1.40		
e		.075		1.92	BSC			
e1		.008		0.20	BSC			
L	.015	.020	.024	0.40	0.50	0.60		
L1		.021		(0.54)				
N		4		4				
Φ	0°	-	8°	0°	-	8°		
aaa		.006		0.15				
bbb		.003		0.20				
ccc		.004		0.10				

■ Soldering Footprint



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
C	2.20	0.087
E1	1.92	0.076
E2	1.72	0.068
G	0.80	0.031
X1	1.00	0.039
X2	1.20	0.047
Y	1.40	0.055
Z	3.60	0.141

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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