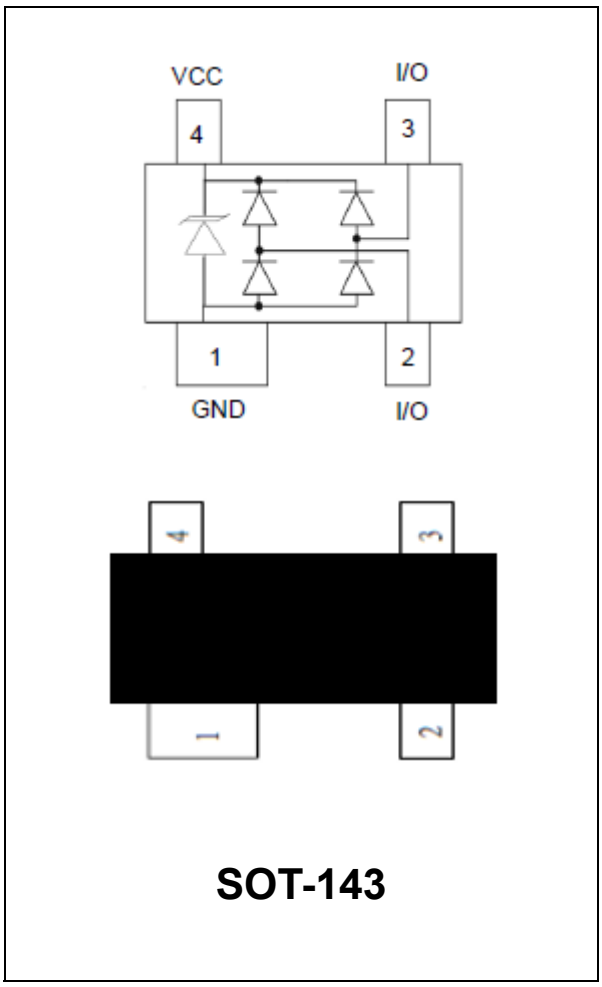
2-Line, Uni-directional, Transient Voltage Suppressor



SOT-143

Features

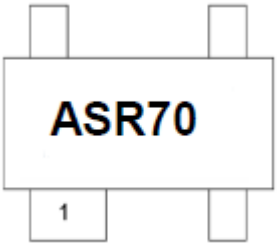
- Stand-off voltage: 70V Max
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±30kV (contact)
  IEC61000-4-5(surge): 25A (8/20μs)
- Low leakage current
- Ultra-low capacitance: CJ = 5 pF typ
- Low clamping voltage
- RoHS Compliant

Applications

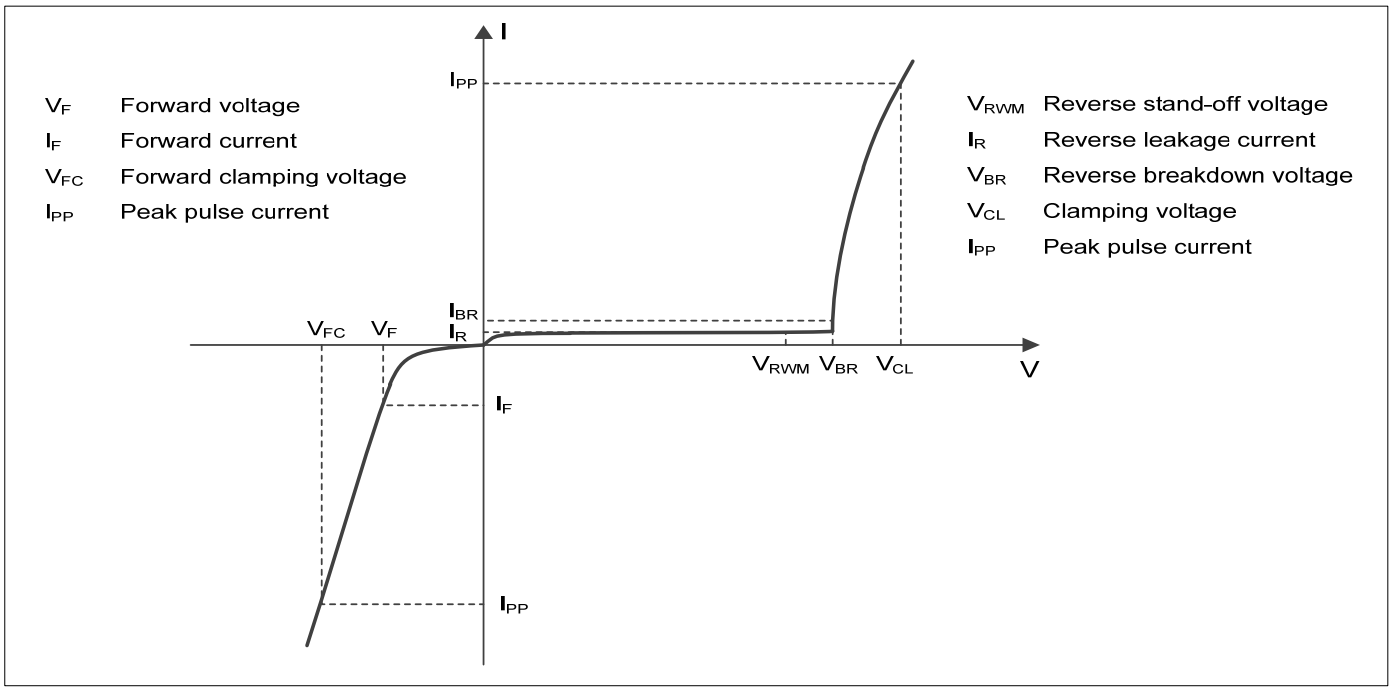
- ADSL Lines
- Video Line Protection
- I2C Bus Protection
- LAN/WAN equipment
- Portable Electronics
- ISDN S/T Interface

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 = 8/20μs)，any I/O pin to ground	P_{pk}	250	W
Peak pulse current (t_p = 8/20μs)，any I/O pin to ground	I_{PP}	25	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	℃
Storage temperature	T_{STG}	-55~150	℃

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

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V	Any I/O Pin to ground			70
Reverse breakdown voltage	$V_{(BR)}$	V	I_T = 50uA	85		
Reverse leakage current	I_R	uA	V_{RWM} = 70V			5
Clamping voltage	V_{CL}	V	I_{PP} = 1A, t_p = 8/20μs，any I/O pin to ground		.	1.5
		V	I_{PP} = 25A, t_p = 8/20μs any I/O pin to ground			10
Junction capacitance	CJ	pF	VR = 0V, f = 1MHz, any I/O pin to ground		5	10
			VR = 0V, f = 1MHz, between I/O pins		3	

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
ASR70	F1	Approximate 12	3000	30000	120000	7 reel

■ Characteristics (Typical)

Fig1. 8/20μs waveform per IEC61000-4-5

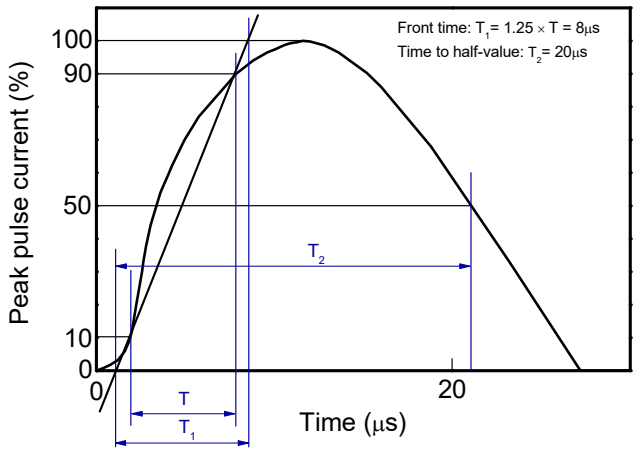


Fig2. Contact discharge current waveform per IEC61000-4-2

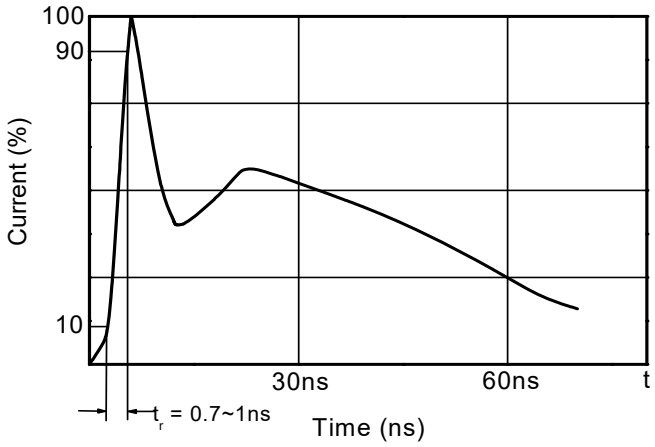


Fig3. Clamping voltage vs. Peak pulse current

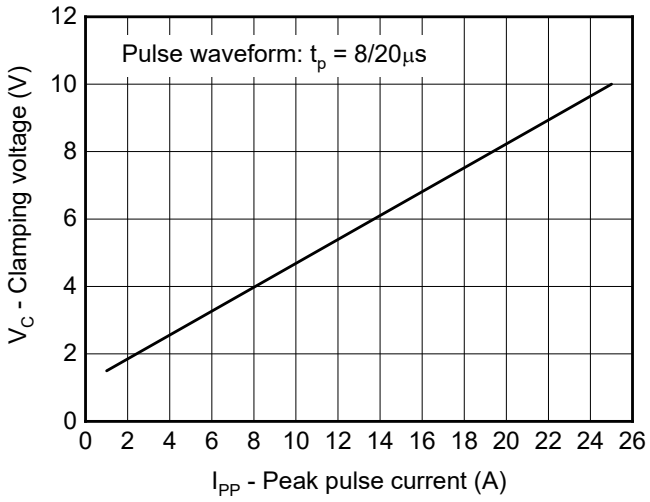


Fig4. Capacitance vs. Reverse voltage

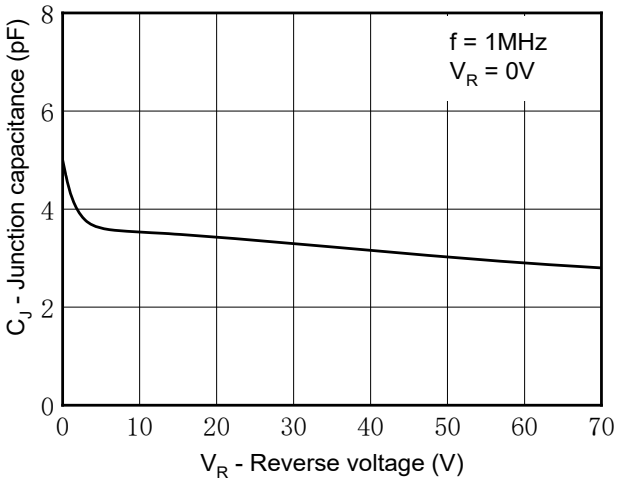


Fig5. Non-repetitive peak pulse power vs. Pulse time

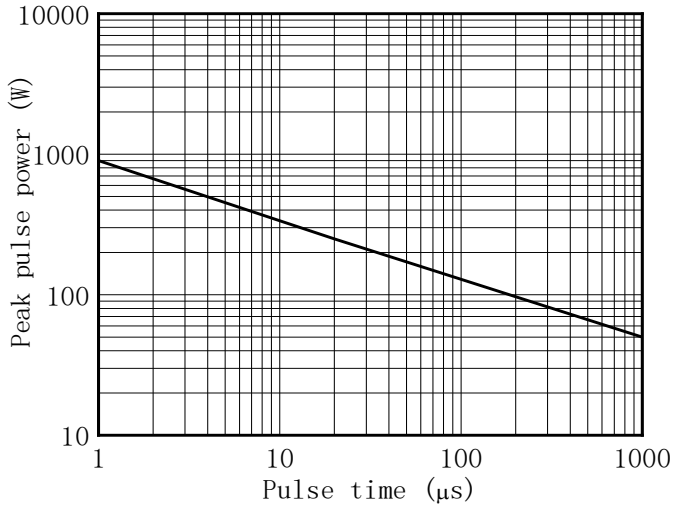


Fig6. Power derating vs. Ambient temperature

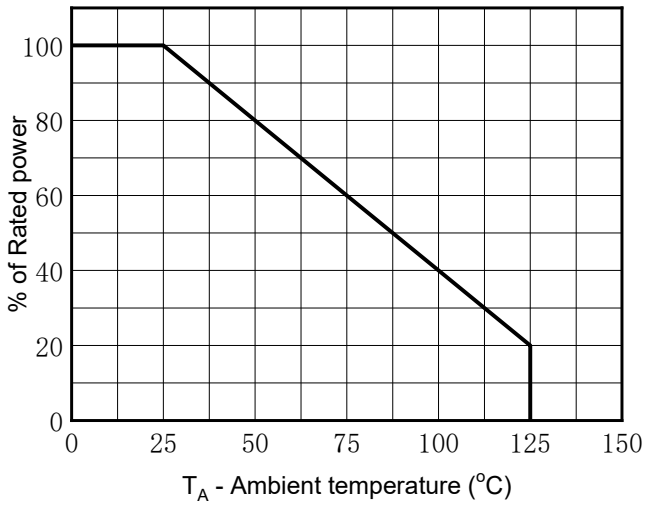
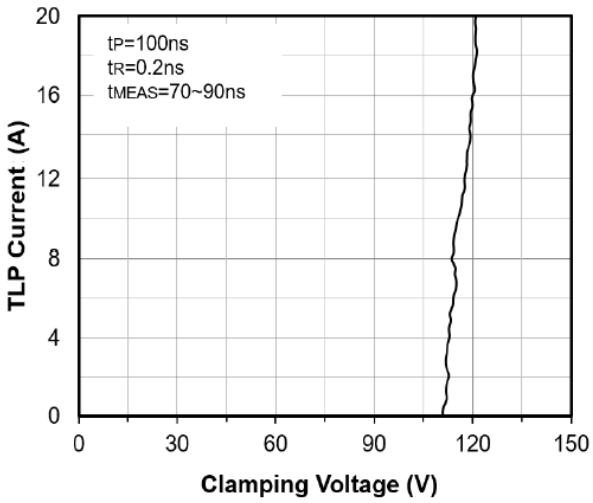
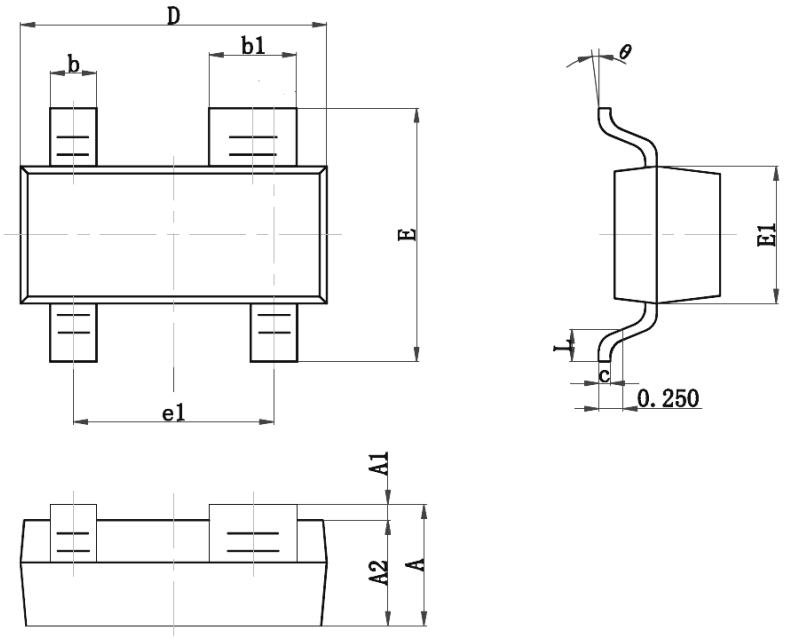


Fig7. TLP Measurement

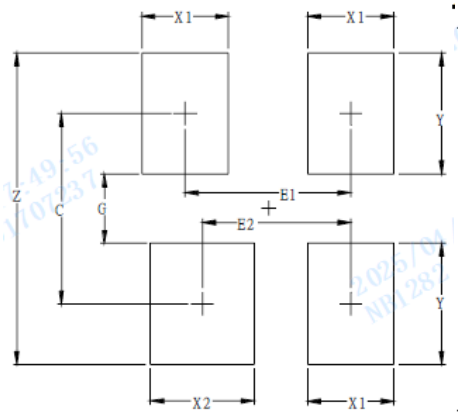


■ Outline Dimensions



SYM	MILLIMETERS	
	Min	Max
A	0.8	1.22
A1	0	0.15
A2	0.75	1.07
b	0.3	0.51
b1	0.75	0.94
c	0.08	0.2
D	2.8	3.04
E	2.1	2.64
E1	1.2	1.4
e1	1.8	2
L	0.3	0.6

■ 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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