

## Features

- Ultra low capacitance: 3pF typical
- Ultra low leakage: nA level
- Protects Two I/O lines
- Low clamping voltage
- Complies with following standards:
  - – IEC 61000-4-2 (ESD) immunity test
    - Air discharge:  $\pm 30\text{kV}$
    - Contact discharge:  $\pm 30\text{kV}$
  - – IEC61000-4-5 (Lightning)24A (8/20 $\mu\text{s}$ )
- RoHS Compliant

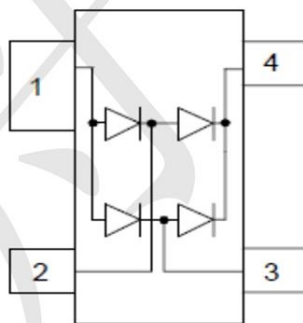
## Mechanical Characteristics

- Package: SOT143
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Shipping Qty : 3000pcs/7Inch Tape & Reel

## Applications

- Portable Electronics
- T1/E1 secondary IC Side Protection
- WAN/LAN Equipment
- ISDN S/T Interface
- Digital Cameras

## Dimensions and Pin Configuration



**Marking: R70**

**Absolute Maximum Ratings** (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Current (8/20μs)	Ipp	24	A
ESD per IEC 61000-4-2 (Air)	VESD	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

**Electrical Characteristics** (TA=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			70	V	
Breakdown Voltage	VBR	85			V	IT = 50uA
Reverse Leakage Current	IR			1	uA	VRWM = 5V
Clamping Voltage	VC			1.5	V	Ipp=1A(8x 20us pulse)
Clamping Voltage	VC			7	V	Ipp=24A(8x 20us pulse)
Junction Capacitance	CJ		3		pF	VR = 0V, f = 1MHz, IO to IO

**Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)**

Fig1. 8/20 $\mu\text{s}$  Pulse Waveform

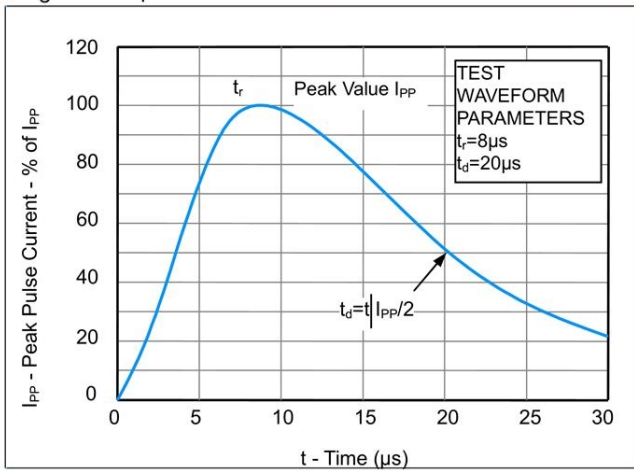


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

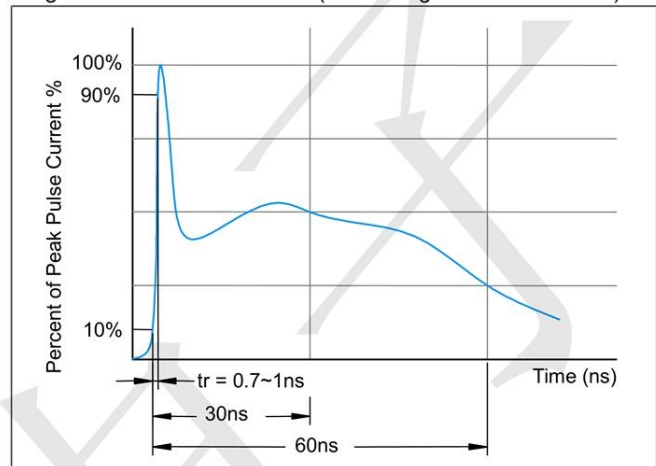
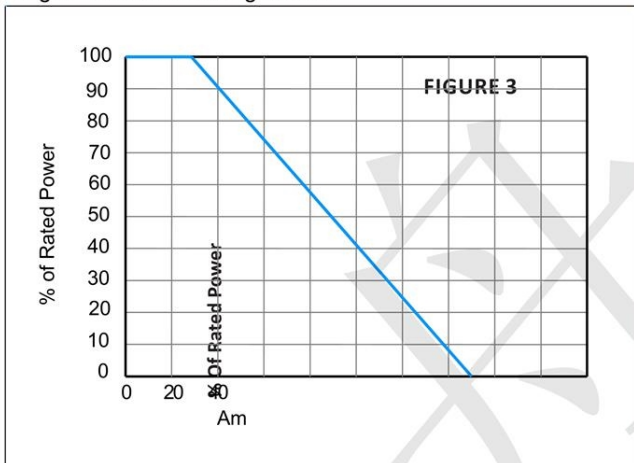
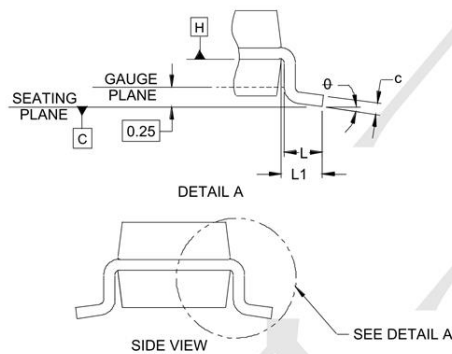
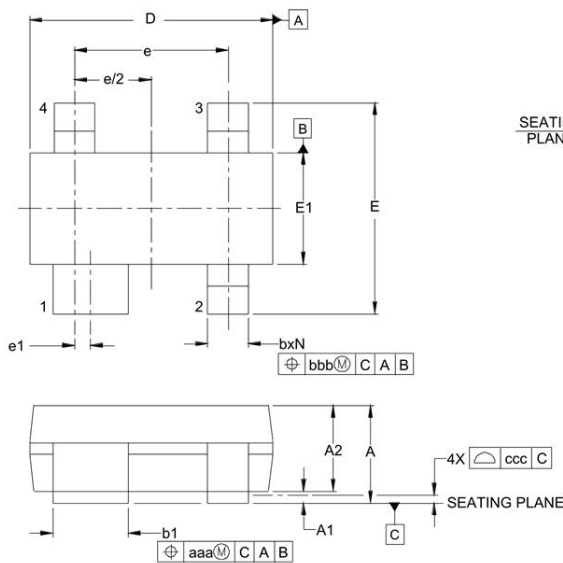


Fig3. Power Derating Curve

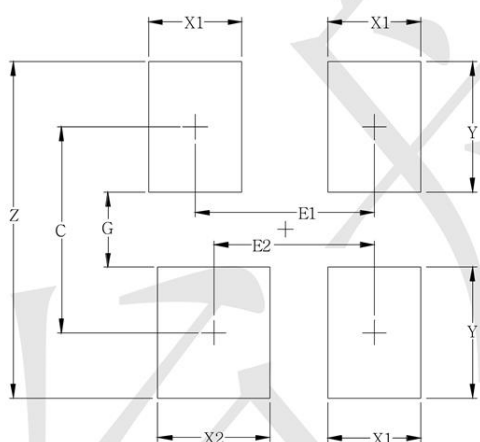


### Outline Drawing - SOT-143



DIM	INCHES		MILLIMETERS	
	MIN	NOM MAX	MIN	NOM MAX
A	.031	-.048	0.80	- 1.22
A1	.000	-.006	0.013	- 0.15
A2	.029	.035	0.42	0.75 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	2.80	2.90 3.04
E	.082	.093	2.10	2.37 2.64
E1	.047	.051	1.20	1.30 1.40
e	.075		1.92 BSC	
e1	.008		0.20 BSC	
L	.015	.020	0.40	0.50 0.60
L1	(.021)		(0.54)	
N	4		4	
$\phi$	0°	8°	0°	8°
aaa	.006		0.15	
bbb	.008		0.20	
ccc	.004		0.10	

### Land Pattern -SOT-143



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

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