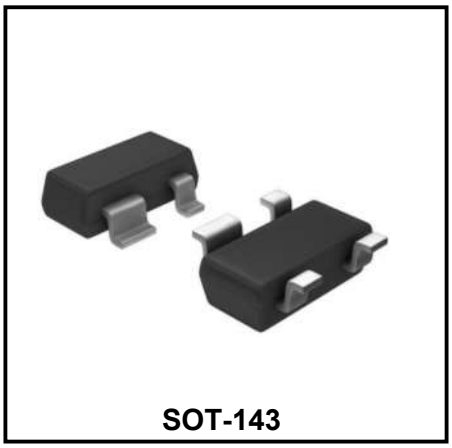
Low Capacitance TVS Diode Array



SOT-143

Marking Code	
SR70	R70

FEATURES

- 350W peak pulse power(8/20μs)
- Operating voltage：70V
- Low capacitance for high-speed data line
- Low clamping voltage
- Complies with following standards:
  - – IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±15kV
    - Contact discharge: ±8kV
  - – IEC61000-4-5 (Lightning) 21A (8/20μs)
- RoHS Compliant

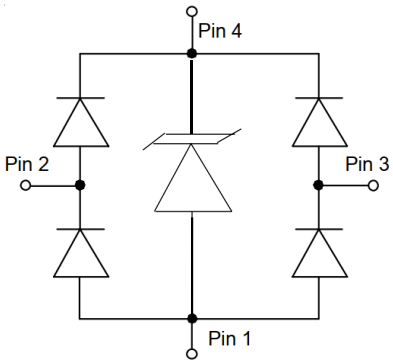
Applications

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

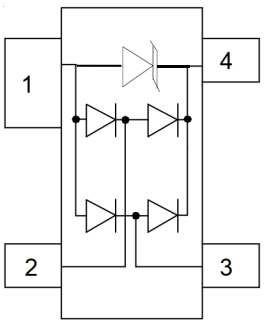
Mechanical Characteristics

- Package: SOT-143
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020

Dimensions and Pin Configuration



Circuit Diagram



Pin Schematic

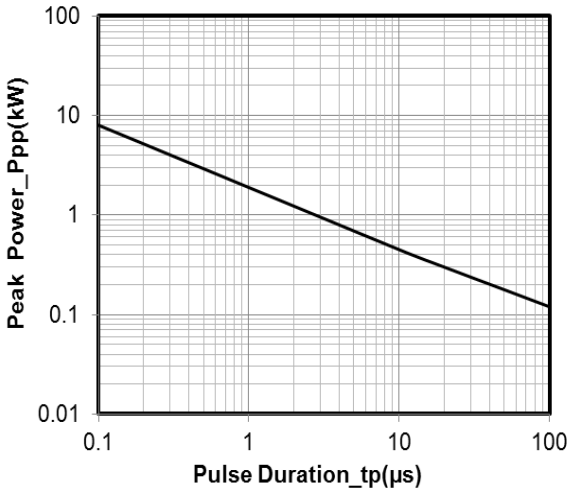
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power(8/20μs)	P_{pk}	350	W
Peak Pulse Current(8/20μs)	I_{PP}	21	A
Rectifier Repetitive Peak Reverse Voltage	V_{RRM}	70	V
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±15 ±8	kV
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	T_{STG}	−55 to +150	°C

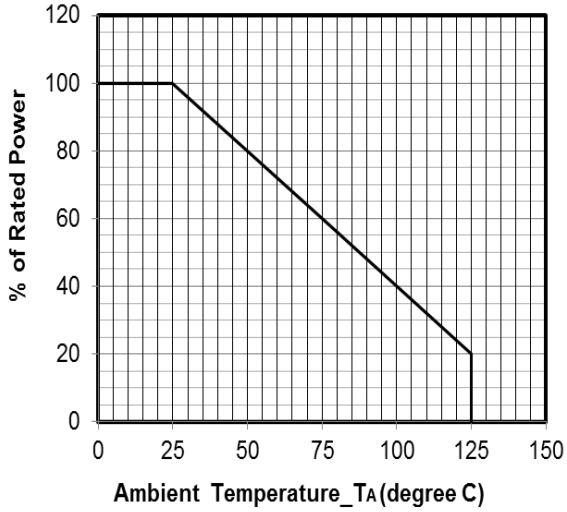
Electrical Characteristics (T_A=25°C unless otherwise specified)

Characteristics	Test Condition	Symbol	Min	Typ	Max	Unit
Reverse Working Voltage		V_{RWM}	-	-	70	V
Punch-Through Voltage	I_T = 50μA	V_{BR}	85	-	-	V
Reverse Leakage Current	V_{RWM} = 70V	I_R	-	-	0.5	μA
Clamping Voltage	I_{PP} = 1A (8 x 20μs pulse),	V_C	-	-	3.0	V
Clamping Voltage	I_{PP} = 10A (8 x 20μs pulse)	V_C	-	-	10	V
Clamping Voltage	I_{PP} = 21A (8 x 20μs pulse)	V_C	-	-	16	V
Junction Capacitance	V_R=0, f=1MHz, between I/O pins and Ground	C_J	-	2.0	3.0	pF
Junction Capacitance	V_R=0, f=1MHz, between I/O pins	C_J	-	1.0	-	pF

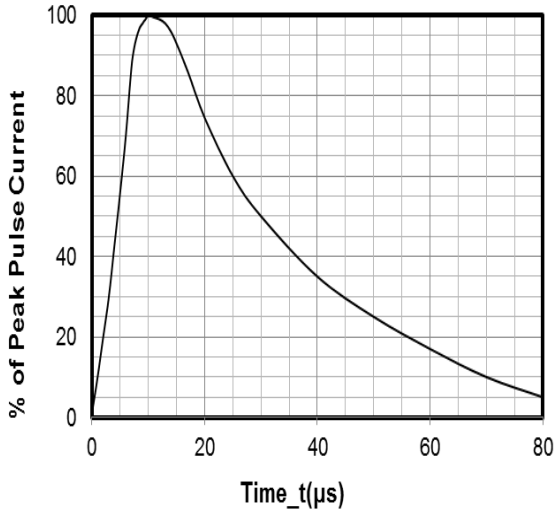
Typical Performance Characteristics (T_A=25℃ unless otherwise Specified)



Peak Pulse Power vs. Pulse Time



Power Derating Curve



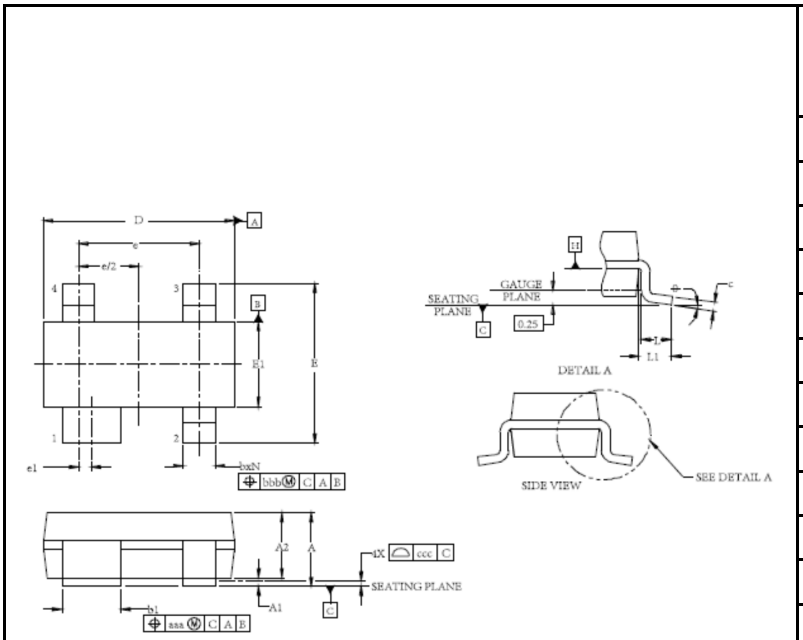
8 X 20μs Pulse Waveform

Ordering information

Package	Packing Description	Packing Quantity
SOT-143	Tape/Reel,7”reel	3000PCS/Reel 120000PCS/Carton

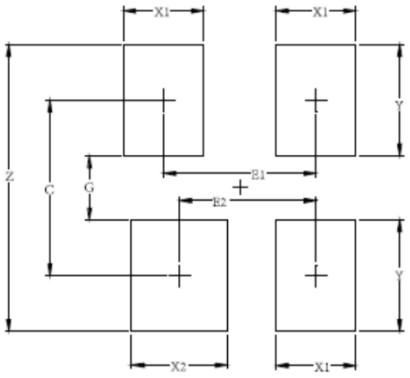
Package Dimensions

SOT-143



Dim.	Millimeter(mm)		Inches	
	Min.	Max.	Min.	Max.
A	0.80	1.22	0.031	0.048
A1	0.013	0.15	0.000	0.006
A2	0.75	1.07	0.029	0.042
b	0.30	0.51	0.011	0.020
b1	0.76	0.94	0.029	0.037
c	0.08	0.20	0.003	0.008
D	2.80	3.04	0.110	0.120
E	2.10	2.64	0.082	0.104
E1	1.20	1.40	0.047	0.055
e	1.92 BSC		0.075	
e1	0.20 BSC		0.008	
L	0.40	0.60	0.015	
L1	TYP0.54		TYP 0.021	
N	4		4	
Φ	0℃	8℃	0℃	8℃
aaa	0.15		0.006	
bbb	0.20		0.008	
ccc	0.10		0.004	

The recommended mounting pad size



Dim.	Millimeter(mm)
	TYP
C	2.20
E1	1.92
E2	1.72
G	0.80
X1	1.00
X2	1.20
Y	1.40
Z	3.60

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