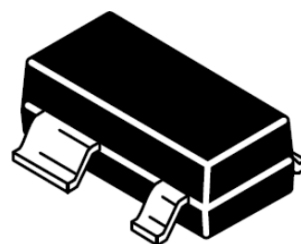


Low Capacitance TVS Diode Array

Features:

- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 20A (8/20 μs)
- RoHS Compliant

Dimensions SOT-143



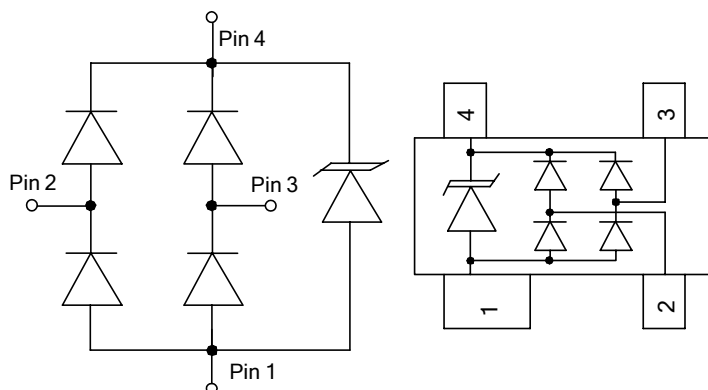
Applications:

- USB 2.0 power and data line
- Set-top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100 Ethernet

Mechanical Characteristics

- Package: SOT-143
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel: 3,000pcs
- Reel Size: 7 inch
- Device Marking: ASR05

Pin Configuration



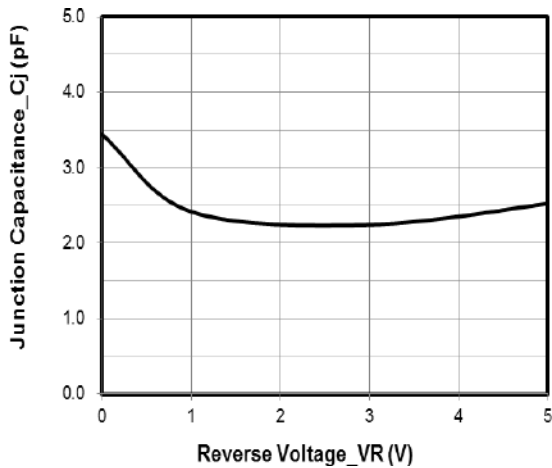
Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pk}	300	W
Peak Pulse Current (8/20 μs)	I _{PP}	20	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

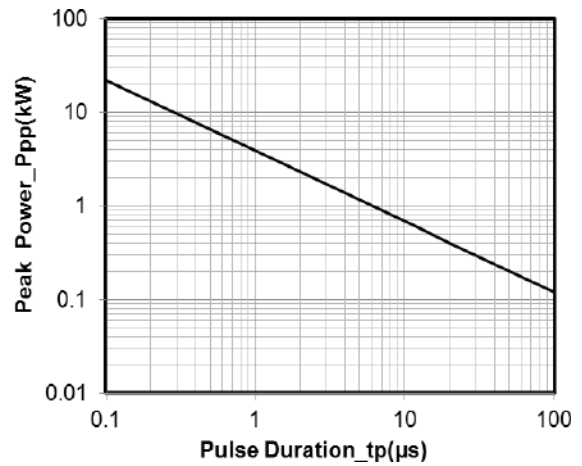
Electrical Characteristics(TA=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	$I_T = 1mA$	6			V
Reverse Leakage Current	I_R	$V_{RWM} = 5V$			0.5	μA
Clamping Voltage	V_C	$I_{PP} = 1A$ (8 x 20 μs pulse)			10	V
Clamping Voltage	V_C	$I_{PP} = 20A$ (8 x 20 μs pulse)			15	V
Junction Capacitance	C_J	between pin2 3 4 to pin1		3	5	pF

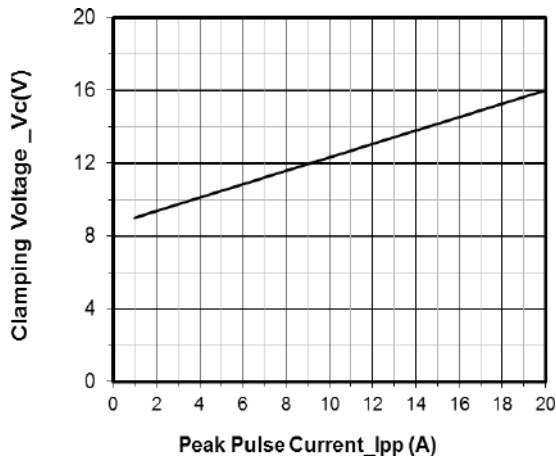
Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)



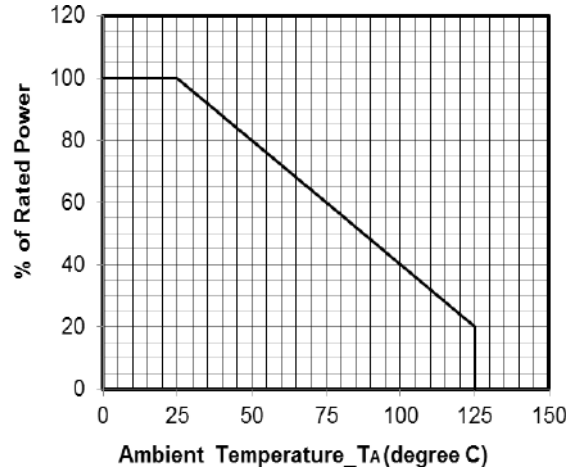
Junction Capacitance vs. Reverse Voltage



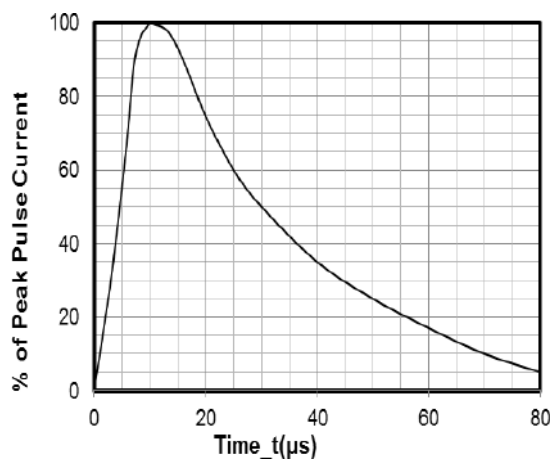
Peak Pulse Power vs. Pulse Time



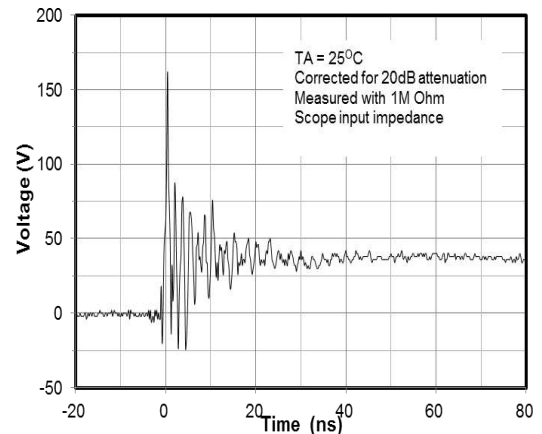
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve

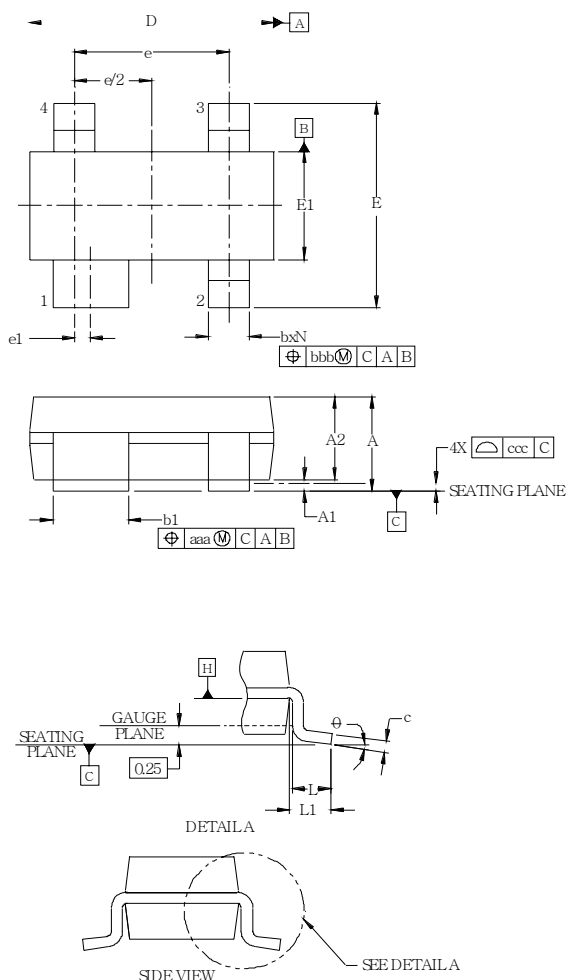


8 X 20 μs Pulse Waveform



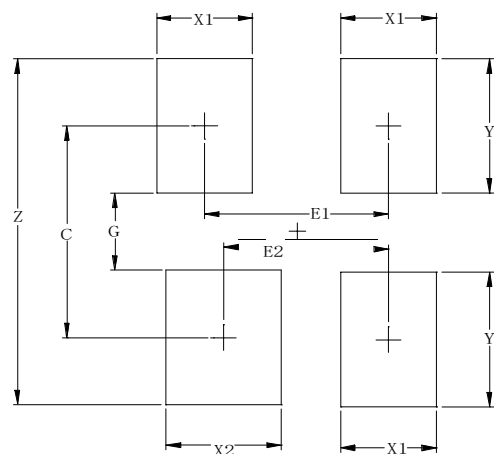
ESD Clamping Voltage
8 kV Contact per IEC61000-4-2

SOT-143 Package Outline Drawing



DIM	DIMENSIONS					
	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	.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			1.92BSC		
e1	.008			0.20BSC		
L	.015	.020	.024	0.40	0.50	0.60
L1	(.021)			(0.54)		
N	4			4		
θ	0°	—	8°	0°	—	8°
aaa	.006			0.15		
bbb	.008			0.20		
ccc	.004			0.10		

Suggested Land Pattern



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