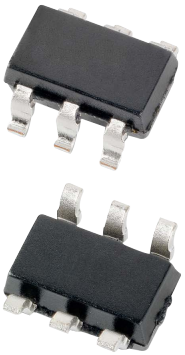
HJKE
WWW.HJKEIC.COM

ESDA6V1BC6

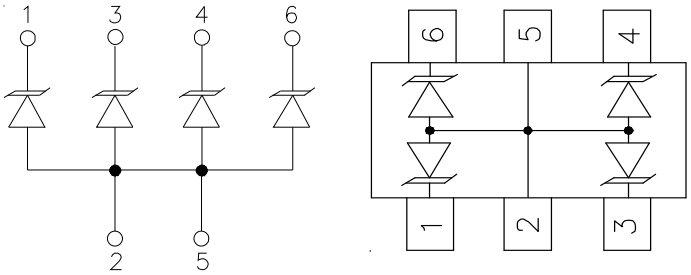
4-Line Unidirection TVS Diode Array

Features

- Protects up to 4 lines
- Low leakage: nA level
- Low clamping voltage
- Excellent surge protection (300W at 8/20μs)
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
    - Air discharge: ±30kV
    - Contact discharge: ±30kV
  - IEC61000-4-5 (Lightning) 23A (8/20μs)
- RoHS Compliant



SOT-23-6



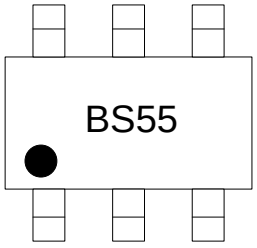
Circuit diagram

Mechanical Characteristics

- Package: SOT23-6
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound
- Terminal Connections: See Diagram Below
- Marking Information: See Below

Applications

- Audio Players
- Peripherals
- Printers
- Desktops PC , Laptops and Servers
- Microprocessor Based Equipment
- Cell Phone Handsets and Accessories
- Set Top Box



BS55 = Device Marking Code

Dot denotes Pin1

Marking (Top View)

Ordering Information

Part Number	Packaging	Reel Size
ESDA6V1BC6	3000/Tape & Reel	7 inch

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

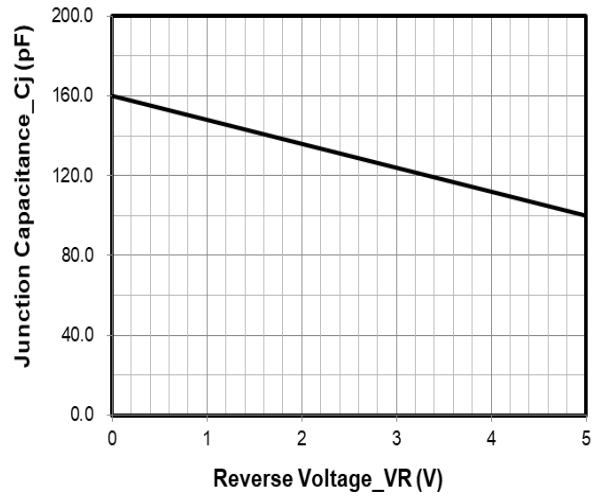
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	300	W
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±30 ±30	kV
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

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

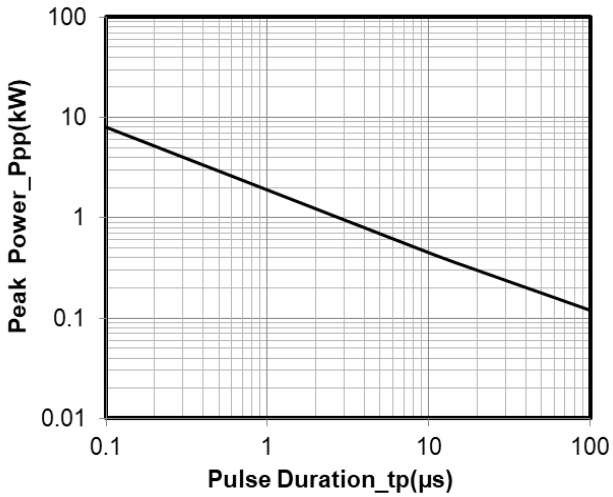
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5	V	
Breakdown Voltage	V_{BR}	6			V	I_T = 1mA
Reverse Leakage Current	I_R			0.5	μA	V_{RWM} = 5V
Forward Voltage	V_F			1.2	V	I_F = 10mA
Clamping Voltage	V_C			8	V	I_{PP} = 1A (8 x 20μs pulse), any I/O pin to ground
Clamping Voltage	V_C			13	V	I_{PP} = 23A (8 x 20μs pulse), any I/O pin to ground
Junction Capacitance	C_J		160		pF	VR = 0V, f = 1MHz, any I/O pin to ground

Note 1: I/O pins are Pin 1, 3, 4 and 6

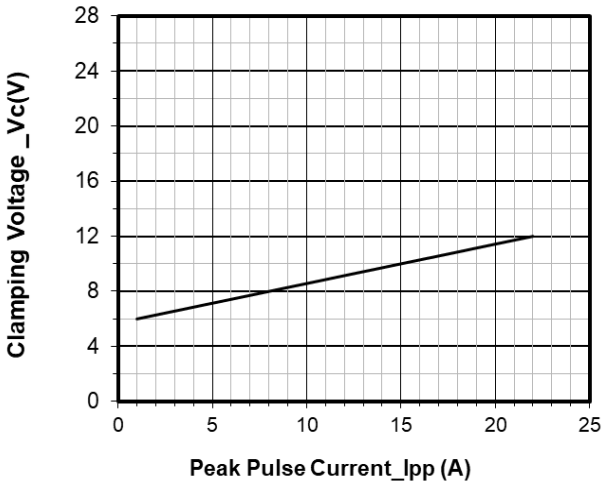
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



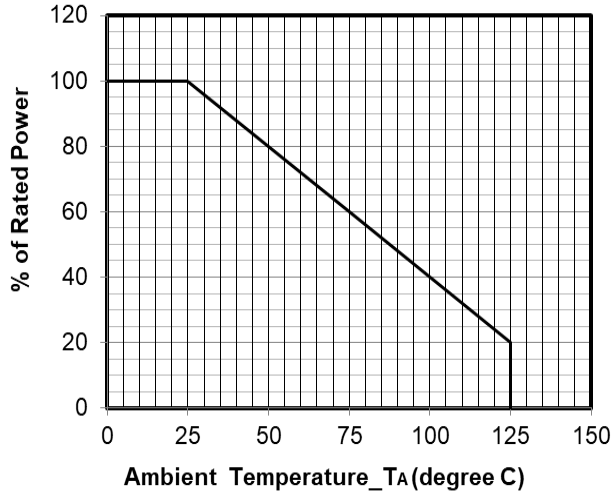
Junction Capacitance vs. Reverse Voltage



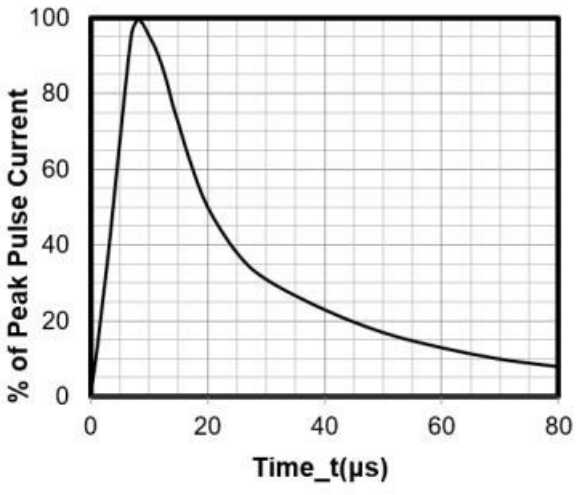
Peak Pulse Power vs. Pulse Time



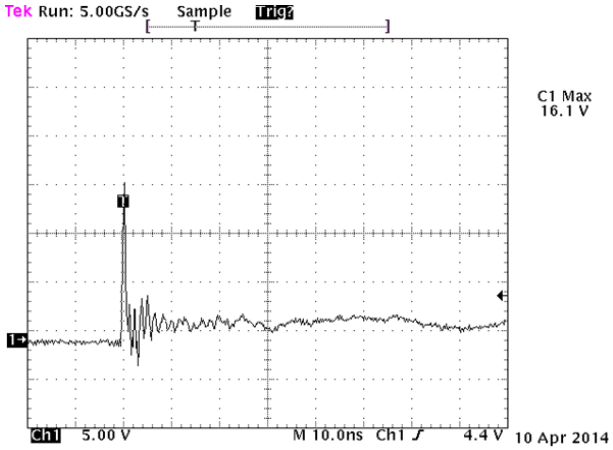
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20μs Pulse Waveform

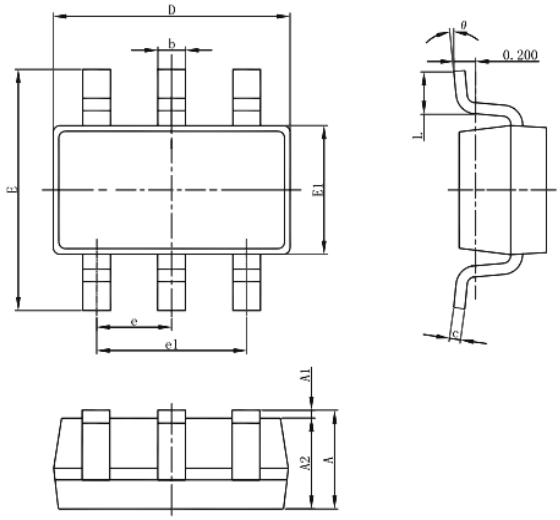


Note：Data is taken with a 10x attenuator

ESD Clamping Voltage

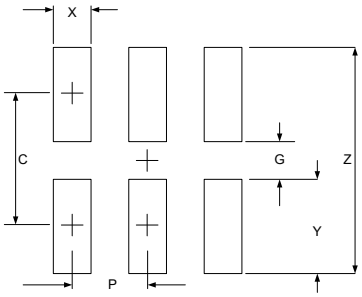
8 kV Contact per IEC61000−4−2

SOT23-6 Package Outline Drawing



SYM	DIMENSIONS			
	MILLIMETERS		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	0.090	1.450	0.0035	0.057
A1	0.000	0.150	0.000	0.006
A2	0.090	1.300	0.035	0.051
b	0.250	0.500	0.010	0.020
c	0.100	0.200	0.004	0.008
D	2.800	3.100	0.110	0.122
E1	1.500	1.750	0.060	0.069
E	2.650	3.000	0.104	0.120
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
C	2.50	0.098
G	1.40	0.055
P	0.95	0.037
X	0.60	0.024
Y	1.10	0.043
Z	3.60	0.141