

4-Line Ultra Low Capacitance TVS 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: $\pm 25\text{kV}$
 - Contact discharge: $\pm 25\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 15A (8/20 μs)
- RoHS Compliant

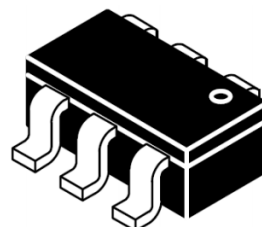
Applications

- USB 2.0 Power and Data lines protection
- Digital Visual Interface (DVI)
- Monitors and Flat Panel Displays
- Video Graphic Cards
- Notebook and PC Computers

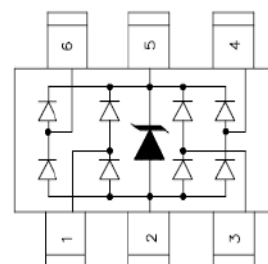
Mechanical Characteristics

- Package: SOT-26
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel: 3,000 pcs
- Reel Size: 7 inch
- Device Marking: 54SC

Dimensions SOT-26



Pin Configuration



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

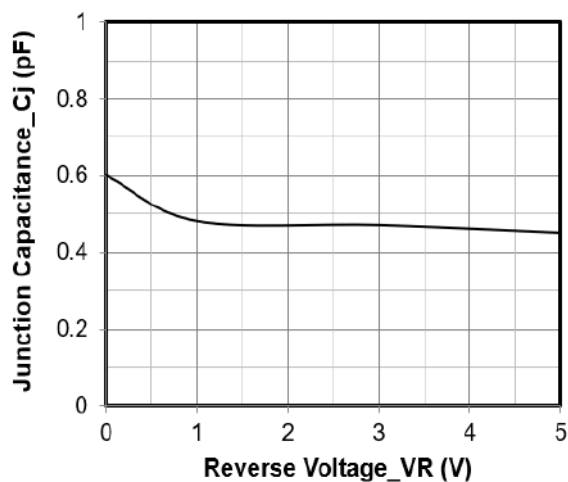
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pk}	600	W
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 25	kV
ESD per IEC 61000-4-2 (Contact)		± 25	
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

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

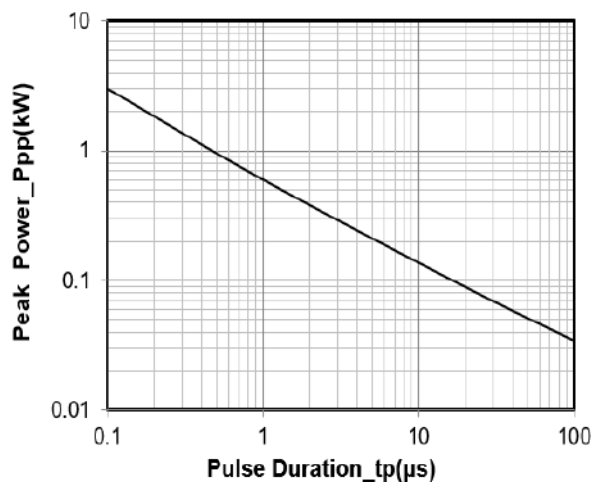
Symbol	Parameter	Test Condition	Min	Typ	Max	Unit
VRWM	Reverse Working Voltage	Any I/O pin to ground			5	V
VBR	Breakdown Voltage	IT = 1mA, any I/O pin to ground	6			V
IR	Reverse Leakage Current	VRWM = 5V, any I/O pin to ground			0.5	μA
VC	Clamping Voltage	I _{PP} = 6A (8 x 20μs pulse), any I/O pin to ground		13	15	V
VC	Clamping Voltage	I _{PP} = 15A (8 x 20μs pulse), VCC pin to ground		14		V
CJ	Junction Capacitance	VR = 0V, f = 1MHz, between I/O pins		0.3		pF
CJ	Junction Capacitance	VR = 0V, f = 1MHz, any I/O pin to ground		0.6		pF

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

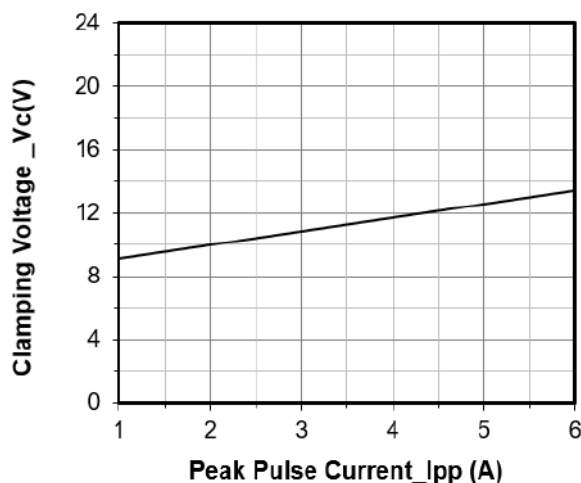
Typical Performance Characteristics (TA=25°C unless otherwise specified)



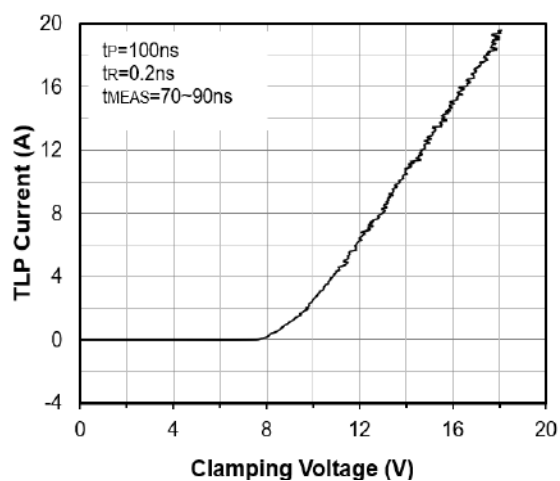
Junction Capacitance vs. Reverse Voltage



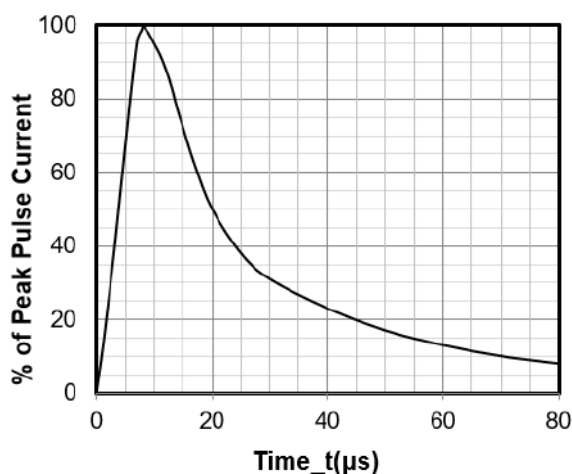
Peak Pulse Power vs. Pulse Time



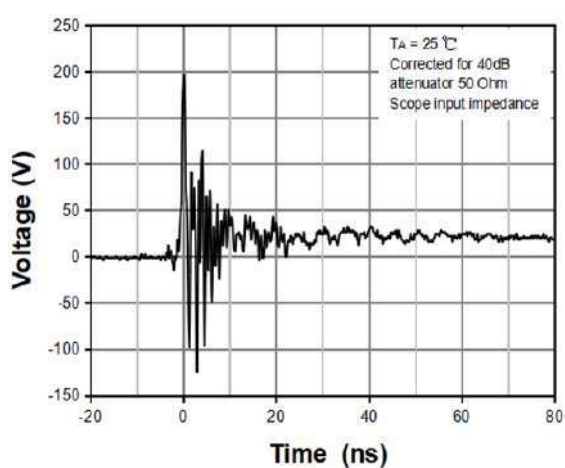
Clamping Voltage vs. Peak Pulse Current (tp = 8/20 μs)



TLP Measurement



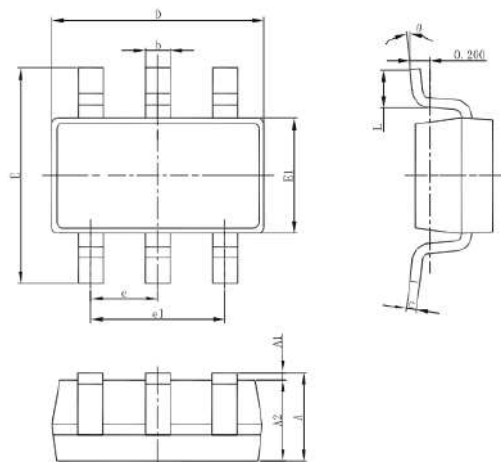
8 X 20 μs Pulse Waveform



ESD Clamping Voltage

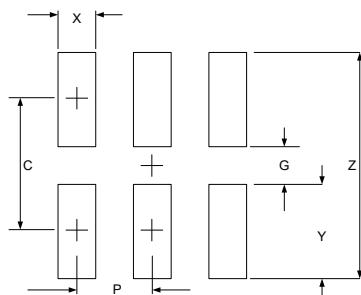
8 kV Contact per IEC61000-4-2

SOT-26 Package Outline Drawing



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
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