

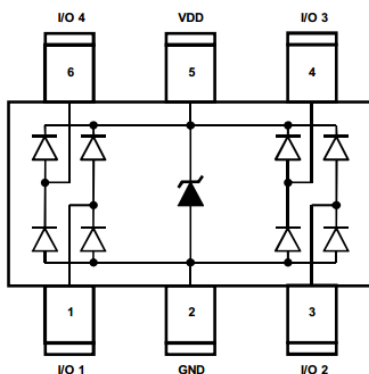
Description

The DL3354S2 is a low capacitance TVS array, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive high-speed data lines. The DL3354S2 complies with the IEC 61000-4-2 (ESD) standard with $\pm 30\text{kV}$ air and $\pm 30\text{kV}$ contact discharge. It is assembled into a 5-lead SOT23-6 lead-free package. The leads are finished with lead-free matte tin. Each device will protect up to four high-speed lines. The combination of small size, low capacitance, and high surge capability makes them ideal for use in applications such as 10/100/1000 Ethernet, and LVDS interfaces.

Mechanical Characteristics

- ◆ Package: SOT23-6L
- ◆ Lead Finish: Matte Tin
- ◆ Case Material: "Green" Molding Compound
- ◆ Moisture Sensitivity: Level 3 per J-STD-020
- ◆ Terminal Connections: See Diagram Below
- ◆ Marking Information: See Below

Dimensions and Pin Configuration



Circuit and Pin Schematic

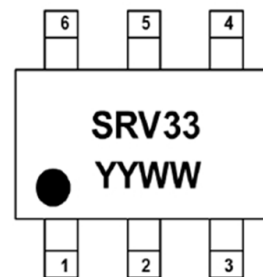
Features

- ◆ Low capacitance: 1.5pF typical (I/O to I/O)
- ◆ Ultra low leakage: nA level
- ◆ Operating voltage: 3.3V
- ◆ Low clamping voltage
- ◆ Up to four I/O lines
- ◆ 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) : 22A(8/20 μs)
- ◆ ROHS Compliant

Applications

- ◆ 10/100/1000 Ethernet
- ◆ Central Office Equipment
- ◆ LVDS interfaces
- ◆ MagJacks/Integrated Magnetics
- ◆ Notebook/Desktops/Service

Marking Information



SRV33 YYWW = Device Marking Code
Dot denotes Pin1

Ordering Information

Part Number	Marking	Packaging	Reel Size
DL3354S2	SRV33 YYWW	3000/Tape & Reel	7 inch

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

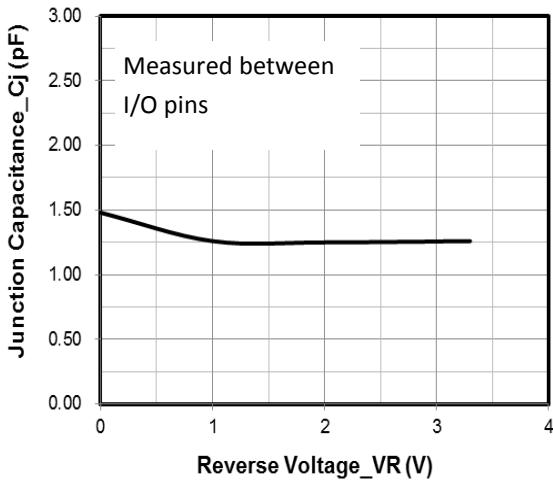
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	300	W
Peak Pulse Current (8/20 μs)	I _{PP}	22	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	T _J	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T _{stg}	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

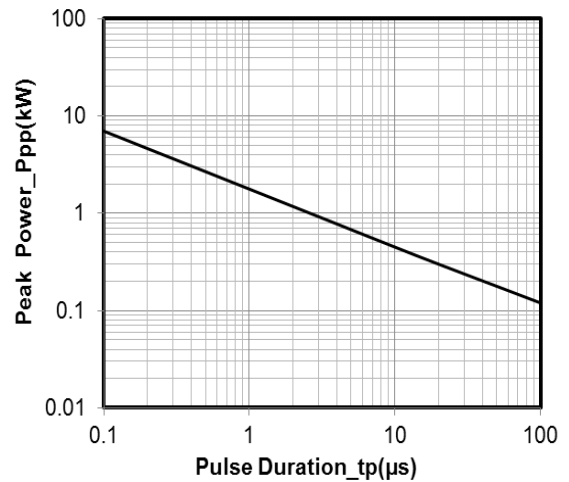
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}			3.3	V	Any I/O pin to ground
Breakdown Voltage	V _{PT}	3.5			V	I _T = 2 μA , any I/O pin to ground
Snap-Back Voltage	V _{SB}	2.8			V	I _T = 50mA, any I/O pin to ground
Reverse Leakage Current	I _R			0.5	μA	V _{RWM} = 3.3V, any I/O pin to ground
Clamping Voltage	V _C			6	V	I _{PP} = 1A (8 x 20 μs pulse), any I/O pin to ground
Clamping Voltage	V _C			14	V	I _{PP} = 22A (8 x 20 μs pulse), any I/O pin to ground
Junction Capacitance	C _J		1.5		pF	V _R = 0V, f = 1MHz, between I/O pins
Junction Capacitance	C _J		3	5	pF	V _R = 0V, f = 1MHz, any I/O pin to ground

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

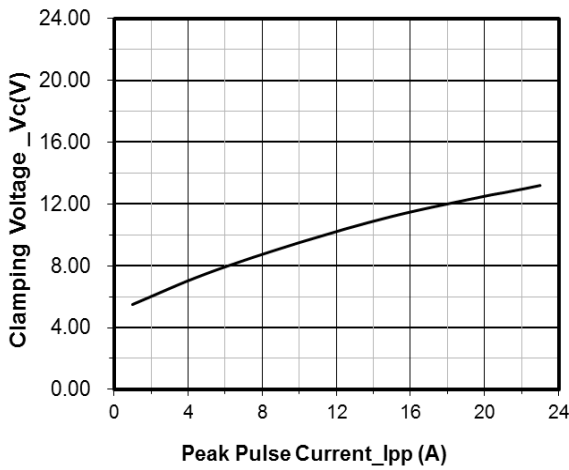
Typical Performance Characteristics (TA=25°C unless otherwise Specified)



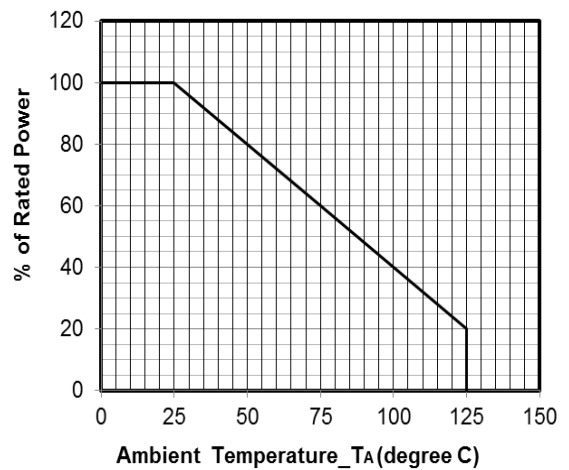
Junction Capacitance vs. Reverse Voltage



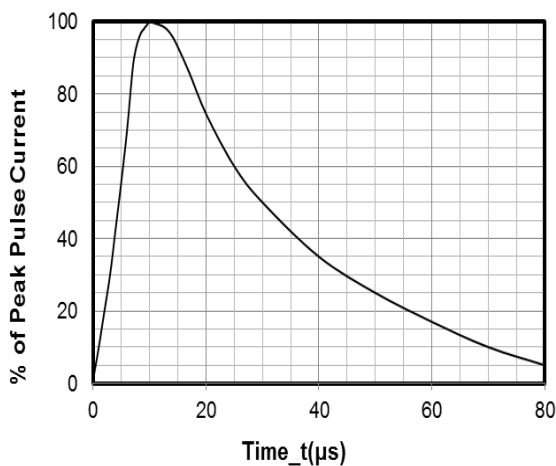
Peak Pulse Power vs. Pulse Time



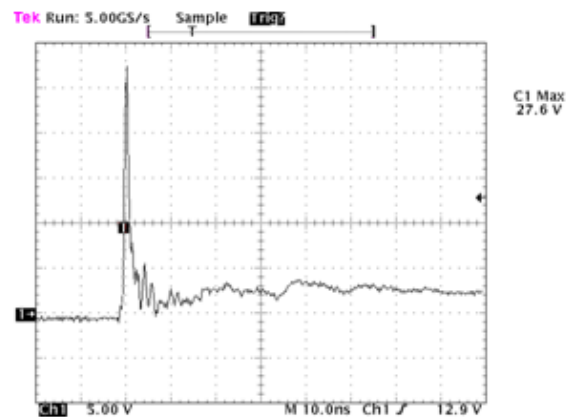
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20μs Pulse Waveform

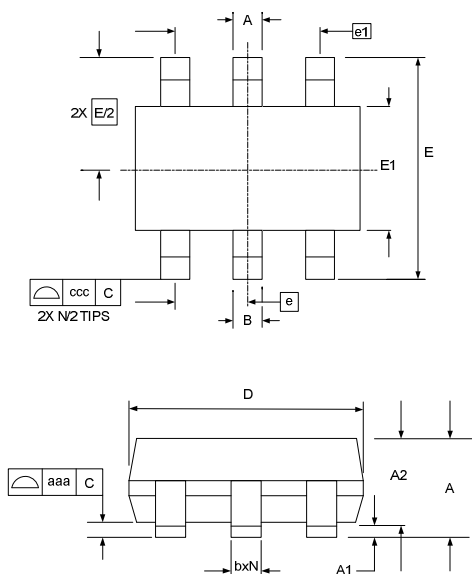


Note: Data is taken with a 10x attenuator

ESD Clamping Voltage

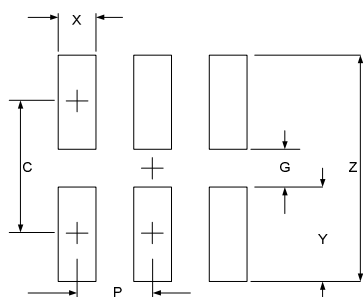
8 kV Contact per IEC61000-4-2

SOT23-6 Package Outline Drawing



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.90		1.45	0.035		0.057
A1	0.00		0.15	0.000		0.006
A2	0.90	1.15	1.30	0.035	0.045	0.051
B	0.25		0.50	0.010		0.020
C	0.08		0.22	0.003		0.009
D	2.80	2.90	3.10	0.110	0.114	0.122
E1	1.50	1.60	1.75	0.060	0.063	0.069
E	2.80 BSC			0.110 BSC		
e	0.95 BSC			0.037 BSC		
e1	1.90 BSC			0.075 BSC		
N	6			6		
aaa	0.10			0.004		
ccc	0.20			0.008		

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

Contact Information

Changzhou D-first Electronics CO.,Ltd.
 www.first-electronic.com
 Email: xhf@first-electronic.cn
 Phone: +86 (0519) -8817 1671