

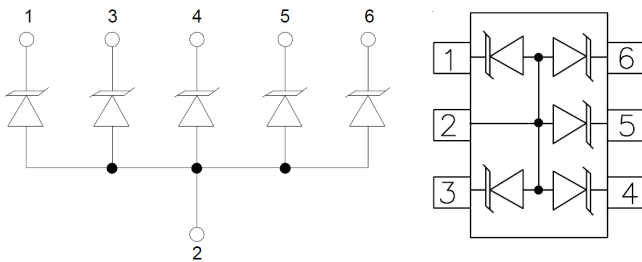
Description

The DC2405S2L is a TVS array, utilizing leading monolith-ic silicon technology to provide fast response time and ultra low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive portable electronics. The DC2405S2L complies with the IEC 61000-4-2 (ESD) with $\pm 30\text{kV}$ air and $\pm 30\text{kV}$ contact discharge. It is assembled into a 6-lead SOT23-6 lead-free package. The leads are finished with lead-free matte tin. Each de-vice will protect up to 5 lines.

Mechanical Characteristics

- ◆ Package: SOT-23 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

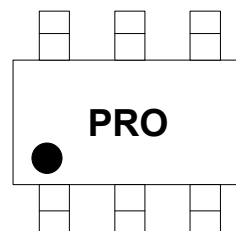
Features

- ◆ Protects up to 5 lines
- ◆ Low leakage: nA level
- ◆ Low clamping voltage
- ◆ Excellent surge protection(180W at 8/20 μs)
- ◆ Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 25\text{kV}$
 - Contact discharge: $\pm 20\text{kV}$
 - IEC 61000-4-5 (Lightning) 3A(8/20 μs)
- ◆ RoHS Compliant

Applications

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

Marking Information



PRO = Device Marking

Ordering Information

Part Number	Marking	Packaging	Reel Size
DC2405S2L	PRO	3000/Tape & Reel	7 inch

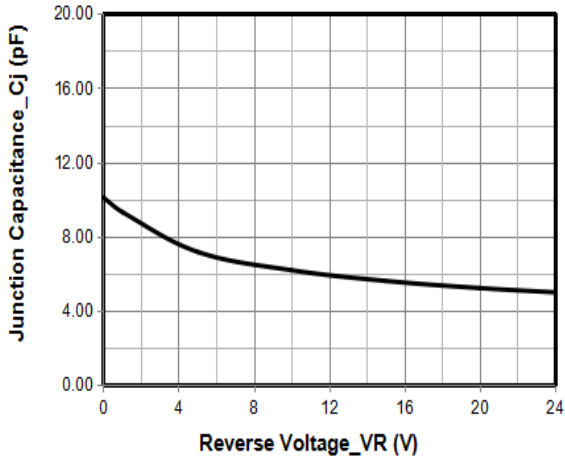
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	180	W
Peak Pulse Current (8/20 μs)	Ipp	3	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	VESD	± 25 ± 20	kV
Operating Temperature Range	TJ	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	Tstg	-55 to +150	$^{\circ}\text{C}$

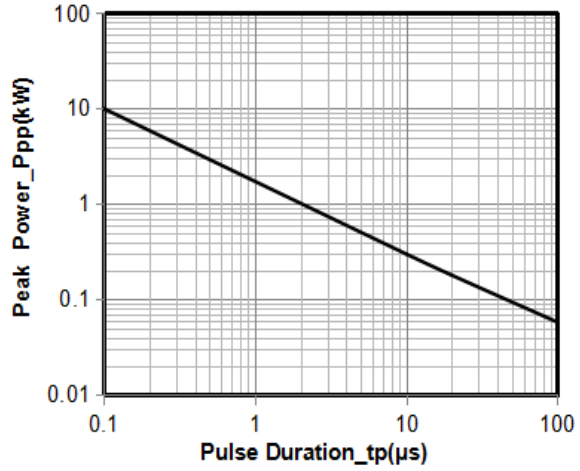
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			24	V	
Breakdown Voltage	VBR	27			V	$I_T = 1\text{mA}$
Reverse Leakage Current	I _R			0.2	μA	VRWM = 24V
Clamping Voltage	VC		42	60	V	I _{PP} = 3A (8 x 20 μs pulse)
Junction Capacitance	CJ		10		pF	VR = 0V, f = 1MHz

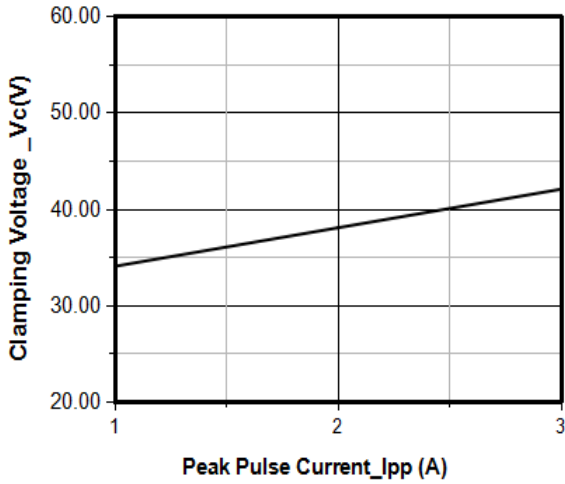
Typical Performance Characteristics (TA=25°C unless otherwise Specified)



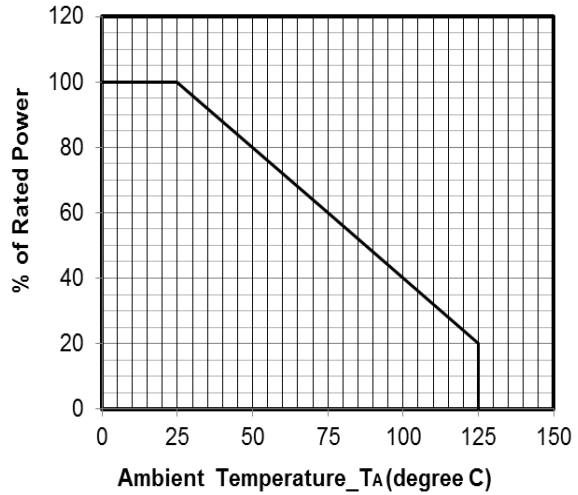
Junction Capacitance vs. Reverse Voltage



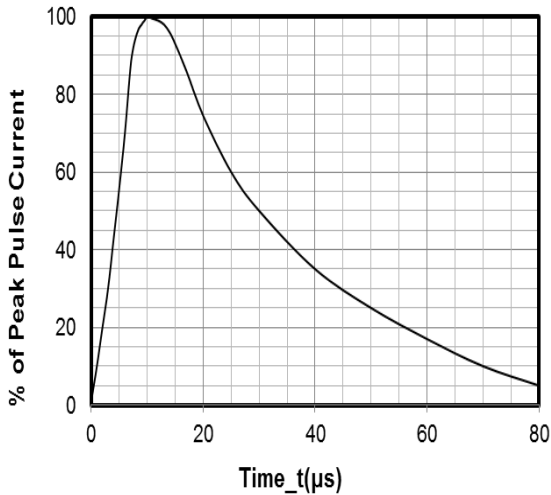
Peak Pulse Power vs. Pulse Time



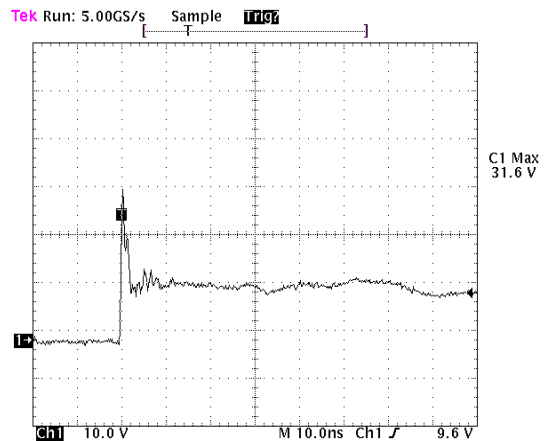
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve

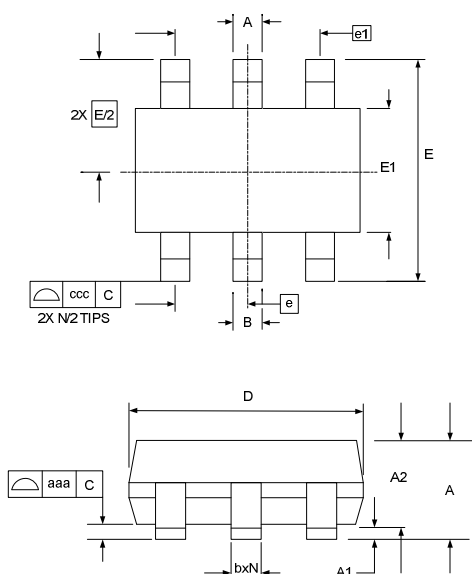


8 X 20μs Pulse Waveform



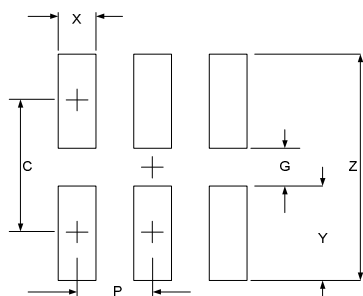
Note: Data is taken with a 10x attenuator
ESD Clamping Voltage
8 kV Contact per IEC61000-4-2

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