



## Features

- Solid-state silicon-avalanche technology
- 250 Watts Peak Pulse Power per Line ( $t_p=8/20\mu s$ )
- Low operating and clamping voltage
- Up to four I/O Lines of Protection
- Low Leakage
- Low operating voltage:3.3V

## IEC Compatibility (EN61000-4)

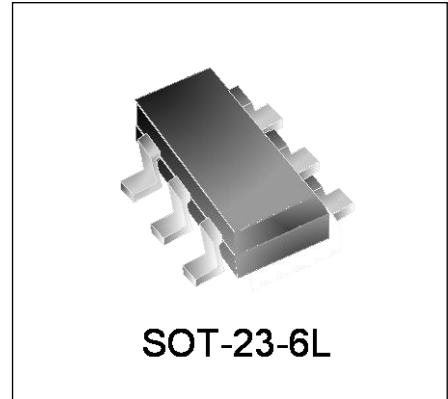
- IEC 61000-4-2 (ESD)  $\pm 30kV$  (air),  $\pm 30kV$  (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 14A (8/20 $\mu s$ )

## Mechanical Characteristics

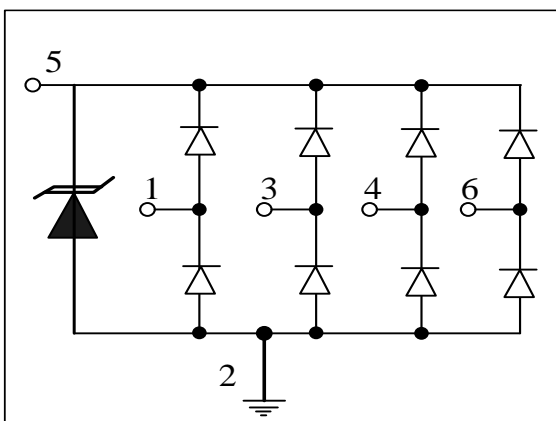
- SOT-23-6L package
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel
- RoHS Compliant

## Applications

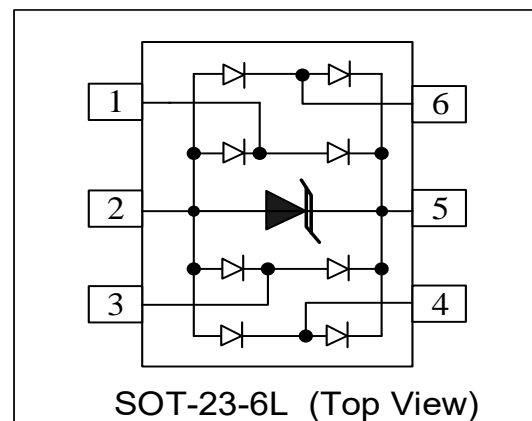
- Video/Graphics Card
- Handheld & Portable Electronics
- PC/Notebook USB2.0/IEEE1394 ports
- 10/100/1000 Ethernet
- DVI interfaces
- Wireless data (WAN/LAN) systems



## Circuit Diagram



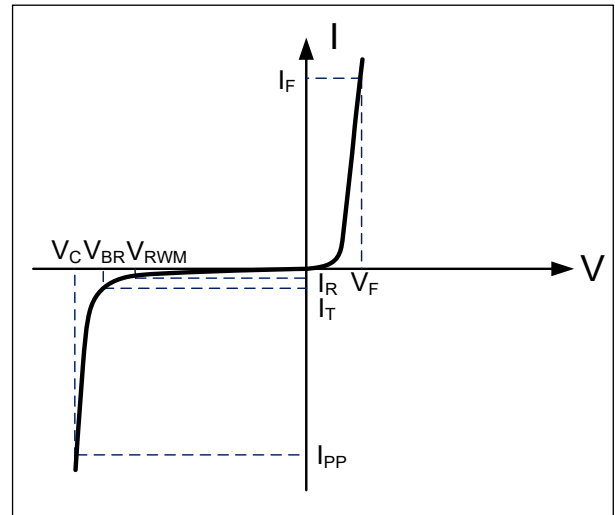
## Schematic & PIN Configuration



<b>Absolute Maximum Rating</b>			
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu s$ )	$P_{PP}$	250	Watts
Peak Pulse Current ( $t_p = 8/20\mu s$ )	$I_{pp}$	14	A
Operating Temperature	$T_J$	-55 to + 125	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}C$

### Electrical Parameters (T=25 $^{\circ}C$ )

Symbol	Parameter
$I_{PP}$	Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$



### Electrical Characteristics

<b>DW03-4R2S-S</b>						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	$V_{RWM}$				3.3	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	3.7			V
Reverse Leakage Current	$I_R$	$V_{RWM}=3.3V, T=25^{\circ}C$			0.5	$\mu A$
Forward Voltage	$V_F$	$I_T=1mA$			1.5	V
Clamping Voltage	$V_C$	$I_{PP}=14A, t_p=8/20\mu s$ Any I/O pin to GND		14	16	V
Junction Capacitance	$C_j$	$V_R = 0V, f = 1MHz$ I/O pin to GND		1.5	2.0	pF
		$V_R = 0V, f = 1MHz$ Between I/O pins		0.75	1.0	pF

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### Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

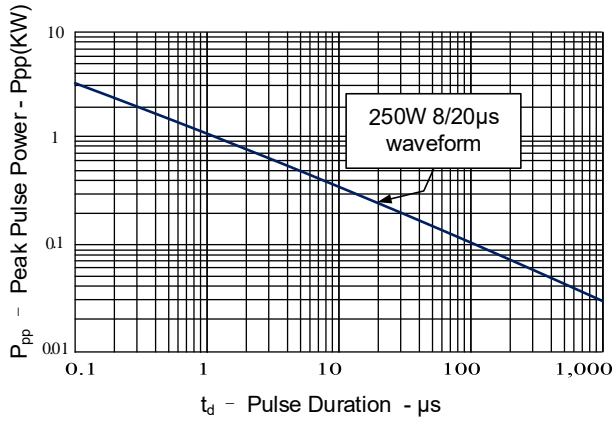


Figure 2: Power Derating Curve

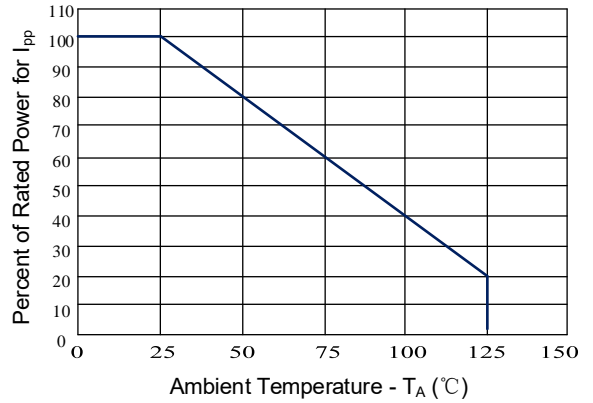


Figure 3: Pulse Waveform

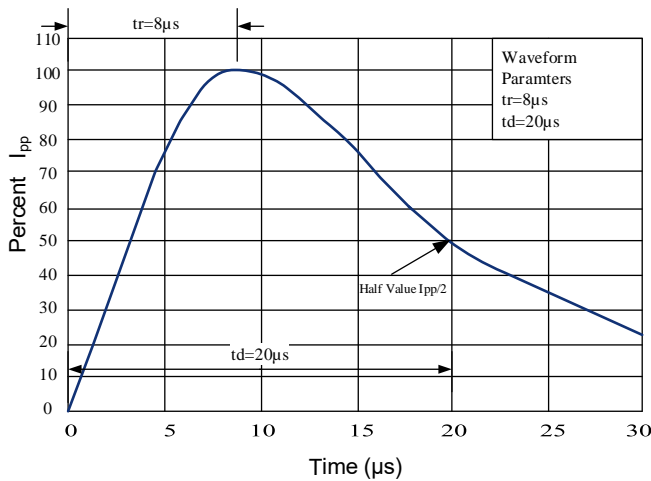


Figure 4: Clamping Voltage vs. Peak Pulse Current

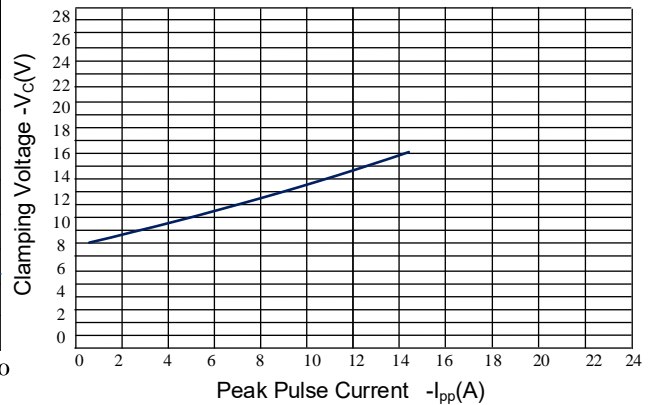
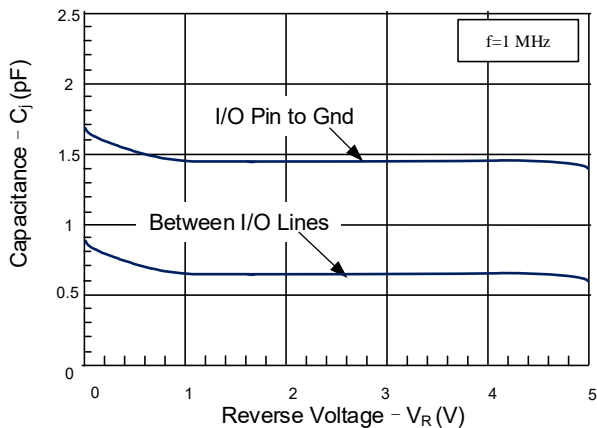
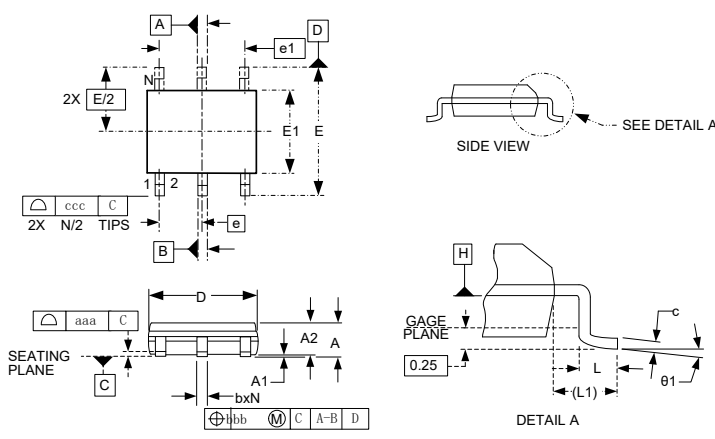


Figure 5: Capacitance vs. Reverse Voltage



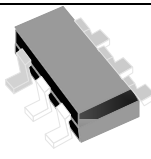
### Outline Drawing – SOT-23-6L

#### PACKAGE OUTLINE



**NOTES:**

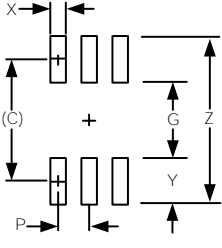
- Controlling Dimensions are In Millimeters (Angles In Degrees).
- Datums **A** And **B** To Be Determined At Datum Plane **H**.
- Dimensions "E1" And "D" Do Not Include Mold Flash, Protrusions Or Gate Burrs.



SOT-23-6L

#### DIMENSIONS

DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.035	-	.057	0.90	-	1.45
A1	.000	-	.006	0.00	-	0.15
A2	.035	.045	.051	0.90	1.15	1.30
b	.010	-	.020	0.25	-	0.50
c	.003	-	.009	0.08	-	0.22
D	.110	.114	.122	2.80	2.90	3.10
E1	.060	.063	.069	1.50	1.60	1.75
E	.110BSC			2.80 BSC		
e	.037 BSC			0.95 BSC		
e1	.075BSC			1.90 BSC		
L	.012	.018	.024	0.30	0.45	0.60
L1	(.024)			(0.60)		
θ 1	0°	-	10°	0°	-	10°
N	6			6		
aaa	.004			0.10		
bbb	.008			0.20		
ccc	.008			0.20		



DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	(.098)	(2.50)
G	.055	1.40
P	.037	0.95
X	.024	0.60
Y	.043	1.10
Z	.141	3.60

**Notes**

THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY. CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR COMPANY'S MANUFACTURING GUIDELINES ARE MET.

### Marking Codes

Part Number	DW03-4R2S-S
Marking Code	34RS

### Package Information

Qty: 3k/Reel