



DWSUC0532T-Q ESD Protection Diode

Feature

- Uni-directional ESD protection of two lines
- 70Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 5V
- Junction Capacitance: 0.8pF(Typ)
- Low clamping voltage
- Low leakage current
- AEC-Q101 qualified
- IEC 61000-4-2 $\pm 25kV$ contact $\pm 25kV$ air
- IEC 61000-4-5 (Lightning) 6A (8/20 μs)

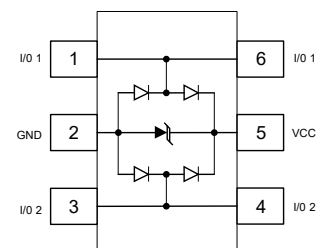
Application

- Handheld & Portable Electronics
- USB2.0 power and data lines protection
- 10/100/1000 ethernet
- Notebooks, Desktops, and Servers

Mechanical Data

- Package: SOT-23-6L
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	QTY per Reel	Reel Size
DWSUC0532T-Q	SOT-23-6L		3000 pcs	7 inches



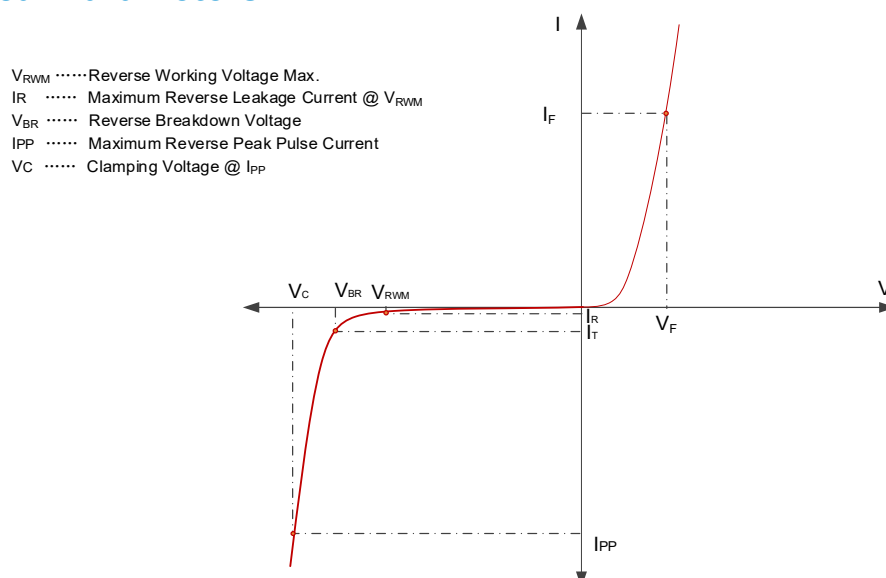
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P_{PK}	70	W
Peak Pulse Current (8/20 μs)	I_{PP}	6	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 25 ± 25	kV
Lead Soldering Temperature	T_L	260 (10seconds)	$^{\circ}\text{C}$
Junction Temperature	T_J	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 to +125	$^{\circ}\text{C}$

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}	I/O pin to GND			5.0	V
Reverse Leakage Current	I_R	$V_{RWM}=5.0\text{V}, T=25^{\circ}\text{C}$			0.5	μA
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$ I/O pin to GND	6.0			V
Forward Voltage	V_F	$I_F=10\text{mA}$			1.2	V
Clamping Voltage	V_C	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$ I/O pin to GND			9	V
Clamping Voltage	V_C	$I_{PP}=6\text{A}, t_p=8/20\mu\text{s}$ I/O pin to GND			12	V
Junction Capacitance	C_J	$V_R=0\text{V}, f=1\text{MHz}$ Between I/O pins		0.45		pF
		$V_R=0\text{V}, f=1\text{MHz}$ I/O pin to GND		0.80		pF

Electrical Parameters





Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

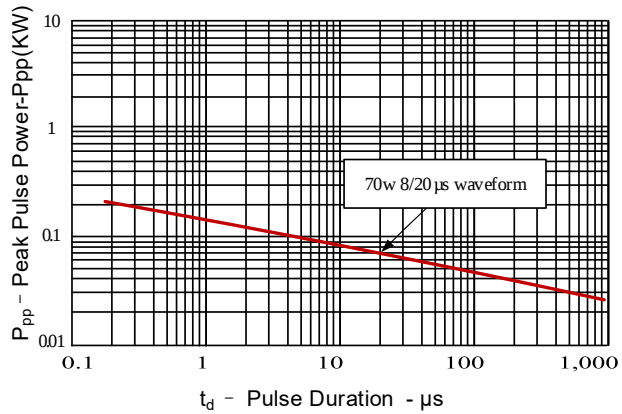


Figure 2: Power Derating Curve

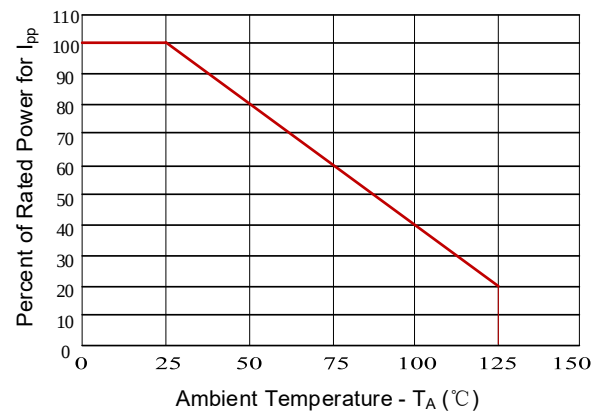


Figure3: 8/20 μs Pulse Waveform

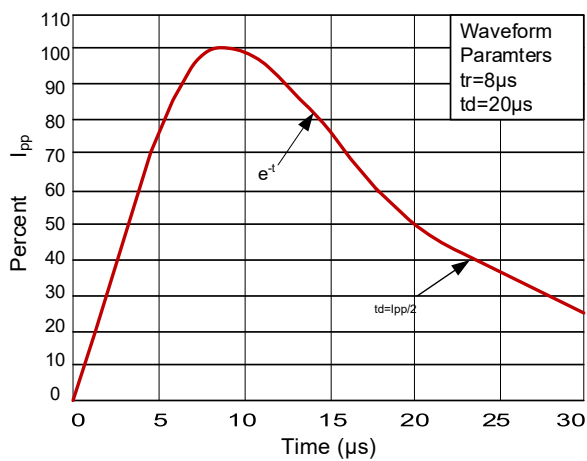
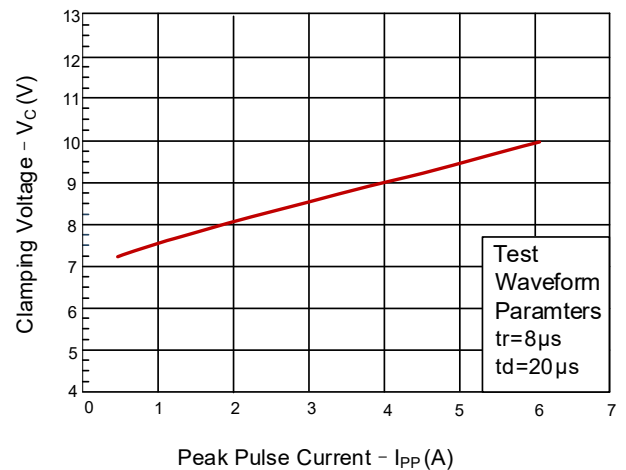
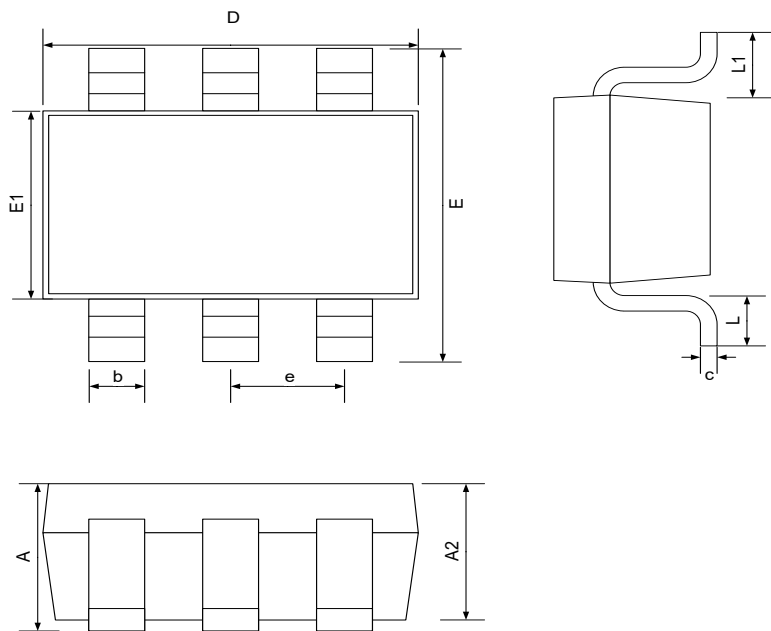


Figure 4: Clamping Voltage vs. Ipp





SOT-23-6L Outline Drawing



COMMON DIMENSION (mm)			
PKG	SOT23-6		
REF.	MIN.	NOM.	MAX.
A	1.050	1.100	1.250
A2	1.000	1.100	1.200
b	0.300	0.450	0.550
c	0.120		0.220
D	2.820	2.920	3.020
E	2.600	2.800	3.000
E1	1.500	1.620	1.720
e	0.950(BSC)		
L	0.300	0.450	0.600
L1		0.590	