



DWSUC0514T5 ESD Protection Diode

Feature

- Uni-directional ESD protection of four lines
- 90Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 5V
- Junction Capacitance: 0.25pF(Typ Between I/O pins)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 $\pm 15kV$ contact $\pm 20kV$ air
- IEC 61000-4-5 (Lightning) 6A (8/20 μs)
- IEC61000-4-4(EFT) 40A (5/50ns)

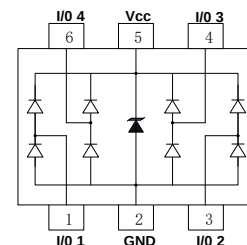
Application

- USB2.0 data line and power line protection
- LVDS
- Digital Video Interface(DVI) and HDMI
- Monitors
- Notebook Computers

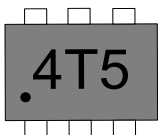
Mechanical Data

- Package: SOT-563
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	QTY per Reel	Reel Size
DWSUC0514T5	SOT-563		3000 pcs	7 inches



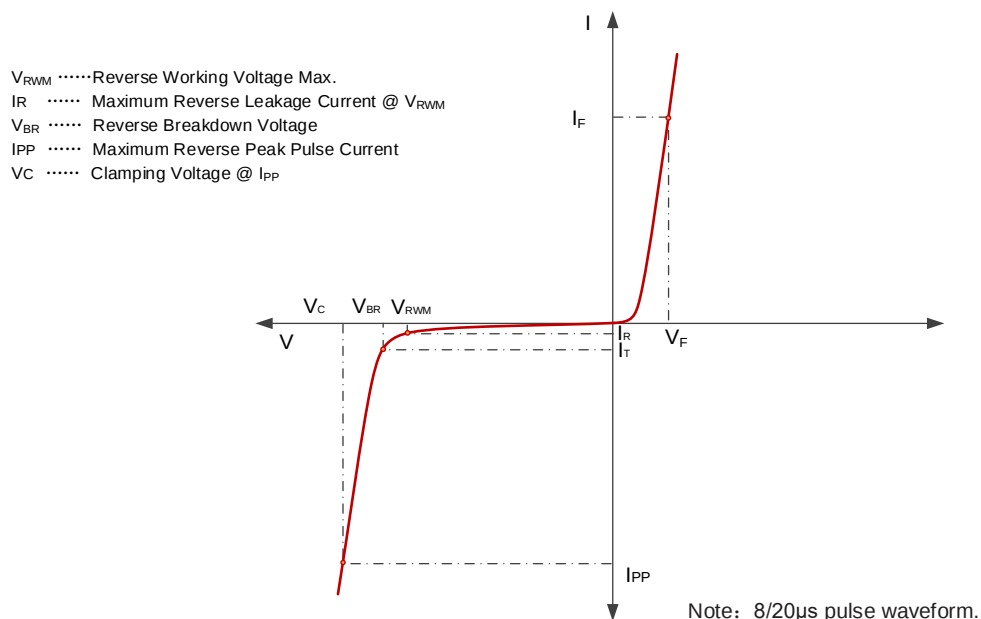
Absolute Maximum Rating ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Units
Maximum Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{pp}	6	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 20 ± 15	kV
Lead Soldering Temperature	T_L	260 (10seconds)	$^\circ\text{C}$
Junction Temperature	T_J	-55 to + 125	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to + 125	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Leakage Current	I_R	$V_{RWM}=5\text{V}$			0.5	μA
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	6	7.4		V
Clamping Voltage	V_C	$I_{PP}=6\text{A}, t_p=8/20\mu\text{s}$ pin I/O to GND		12	15	V
Junction Capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz},$ Between I/O pins		0.25	0.35	pF
		$V_R = 0\text{V}, f = 1\text{MHz},$ pin I/O to GND		0.55	0.70	pF

Electrical Parameters





Typical Characteristic

Figure 1: Peak Pulse Power vs. Pulse Time

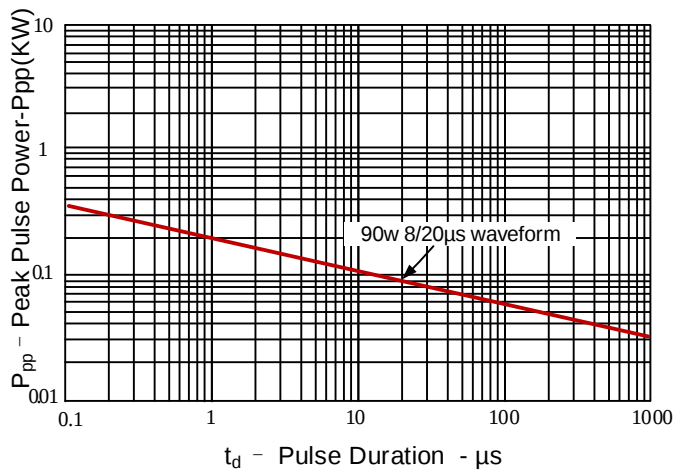


Figure 2: Power Derating Curve

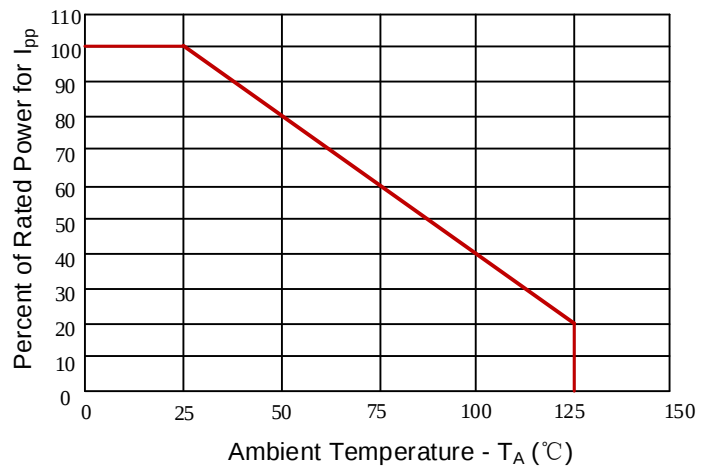


Figure3: 8/20 μs Pulse Waveform

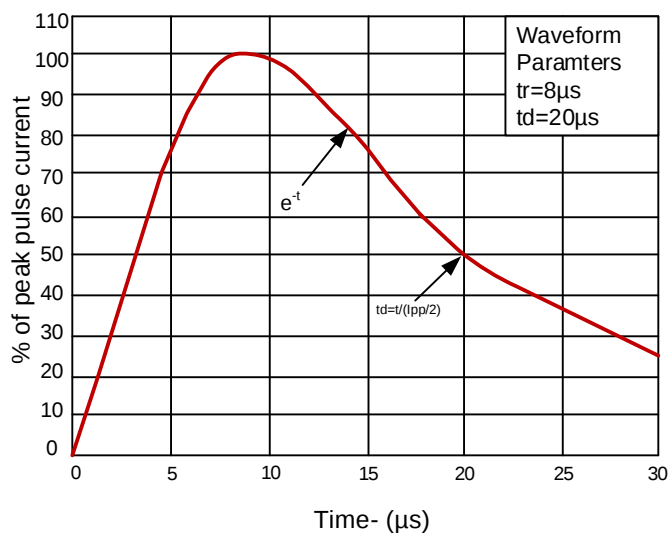
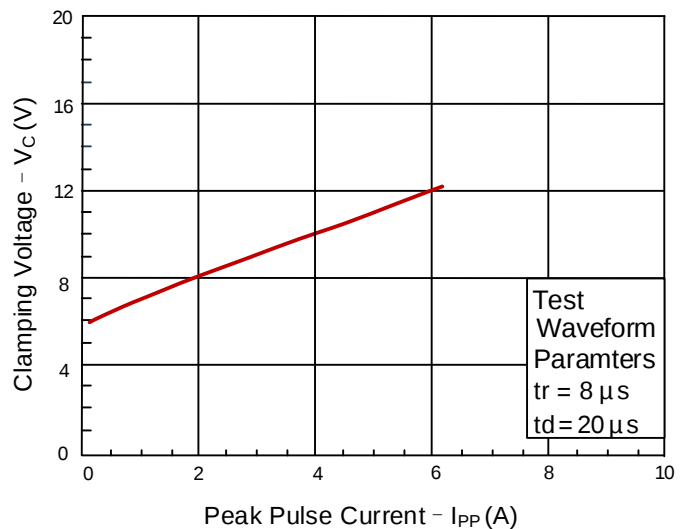
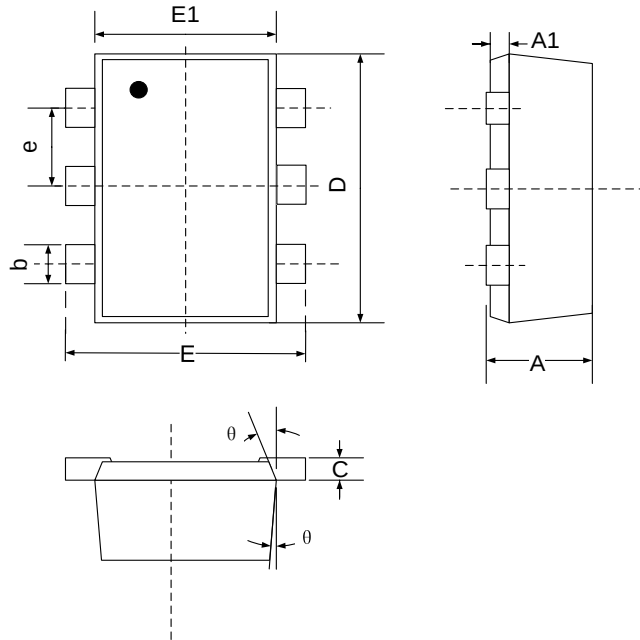


Figure 4: Clamping Voltage vs. I_{pp}





SOT-563 Outline Drawing



Common Dimension				
Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	0.525	0.600	0.021	0.024
A1	0.000	0.050	0.000	0.002
e	0.450	0.550	0.014	0.022
c	0.090	0.160	0.004	0.006
D	1.500	1.700	0.059	0.067
b	0.170	0.270	0.007	0.011
E1	1.100	1.300	0.043	0.051
E	1.500	1.700	0.059	0.067
L	0.100	0.300	0.004	0.012
θ	7°REF		7°REF	