

DWSUC0521NSG ESD Protection Diode

Feature

- Bi-directional ESD protection of one line
- 44Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 5V
- Junction Capacitance: 0.45pF(Typ)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 $\pm 20kV$ contact $\pm 22kV$ air
- IEC 61000-4-5 (Lightning) 4A (8/20 μs)

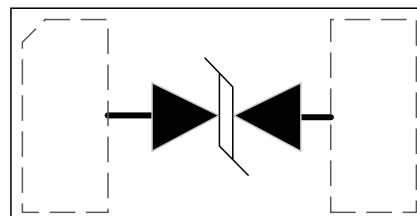
Application

- Ultra-high-speed data line
- Sensitive interfaces lines
- High Definition Multi-media Interface(HDMI)
- Notebooks,Desktops,and Servers
- Digital visual interface(DVI)

Mechanical Data

- Package: DFN0603-2L
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	Packing	Reel Size
DWSUC0521NSG	DFN0603-2L	UY	10000 Tape & Reel	7 inches

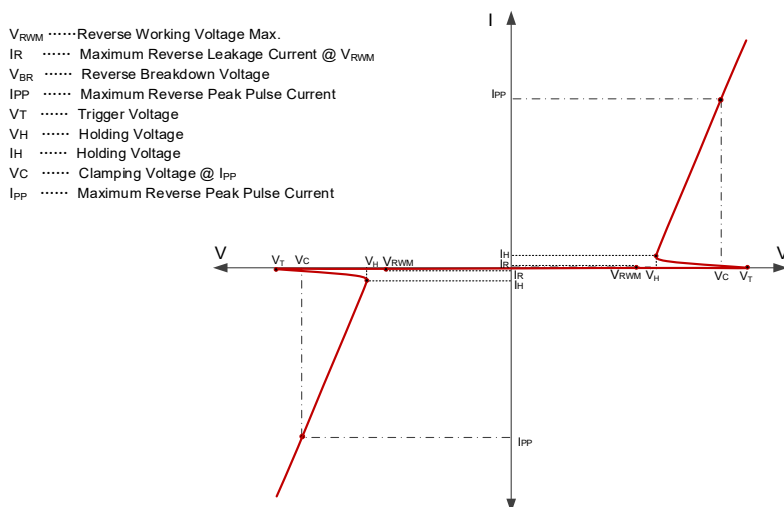
Absolute Maximum Rating ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Units
Peak Pulse Current ($t_p = 8/20\mu\text{s}$) (Note1)	I_{pp}	4	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	22 20	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	$V_{RWM}=5\text{V}, T=25^\circ\text{C}$			100	nA
Breakdown Voltage	V_{BR}	$I_T=10\text{mA}$	5			V
Clamping Voltage	V_C	$I_{PP}=4\text{A}, t_p=8/20\mu\text{s}$			11	V
Junction Capacitance	C_j	$V_R = 0\text{V}, f = 1\text{MHz}$		0.45	0.55	pF

Electrical Parameters



Note1: 8/20 μs pulse waveform.



Typical Characteristic

Figure3: 8/20 μ s pulse waveform according to IEC61000-45

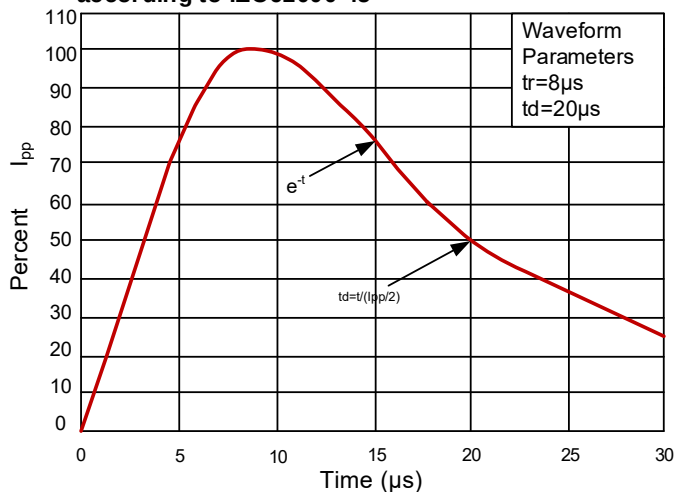


Figure2: ESD pulse waveform according to IEC 61000-4-2

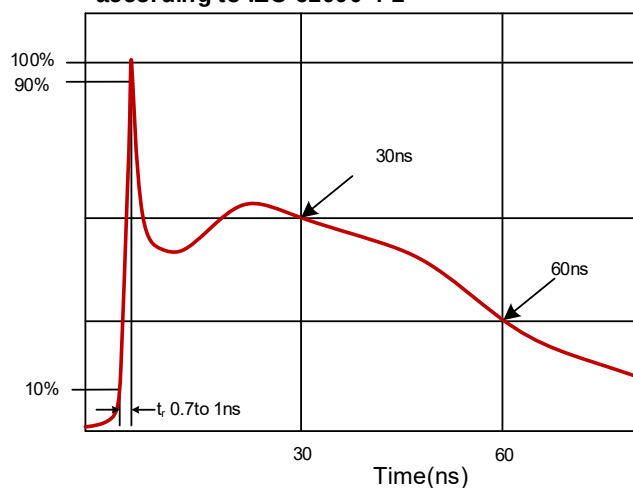


Figure3: Power Derating Curve

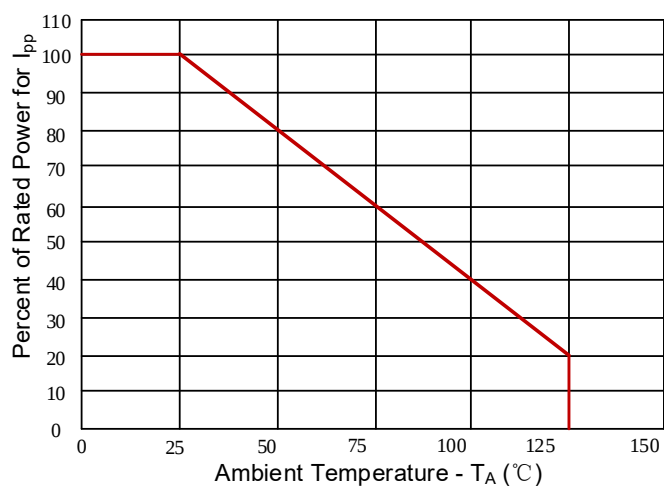
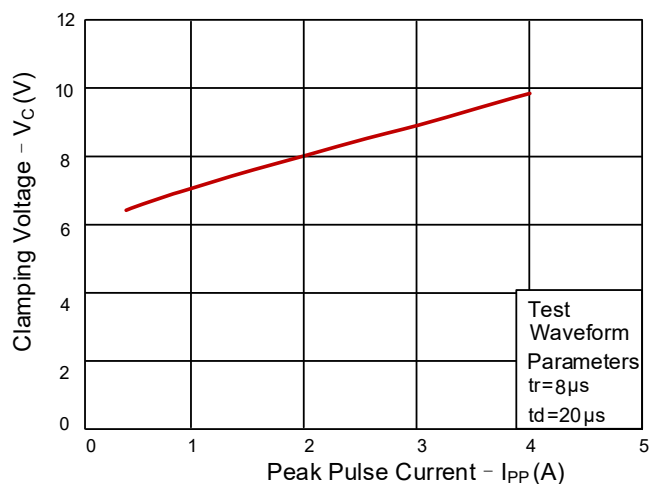
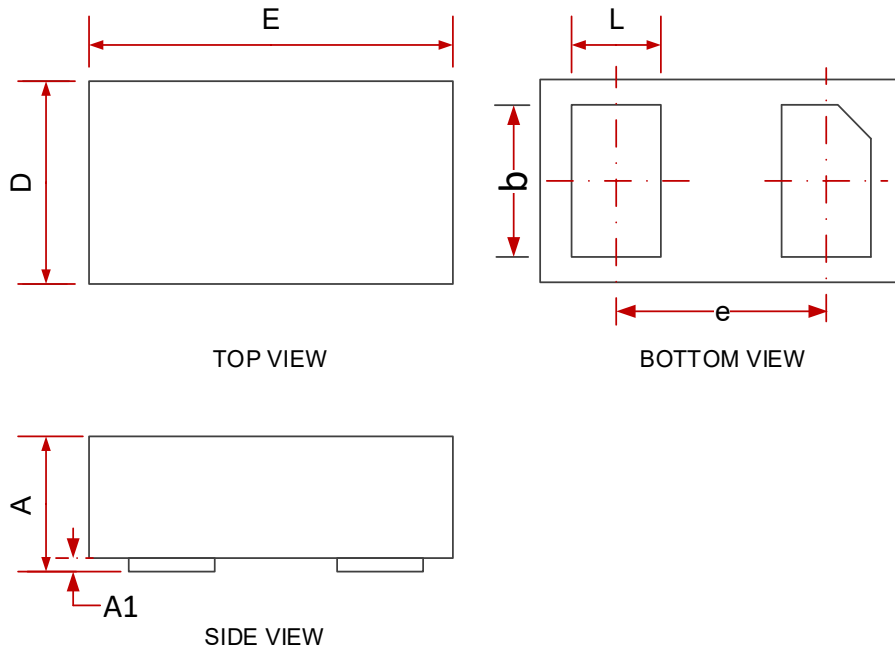


Figure 4: Clamping Voltage vs. I_{pp}





Outline Drawing – DFN0603-2L



Common Dimension(mm)			
PKG	DFN0603		
REF.	MIN.	NOM.	MAX.
A	0.28	0.30	0.34
A1	0.00	0.02	0.05
b	0.21	0.23	0.265
L	0.14		0.24
e	0.40BSC		
D	0.25	0.30	0.35
E	0.55	0.60	0.65