



DWC0825NS-Q ESD Protection Diode

Feature

- Bi-directional ESD protection of one line
- Working voltage: 2.8V
- Junction Capacitance: 0.45pF(Typ)
- Low clamping voltage
- Low leakage current
- AEC-Q101 qualified
- IEC 61000-4-2 $\pm 10\text{kV}$ contact $\pm 15\text{kV}$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 5A (8/20 μs)

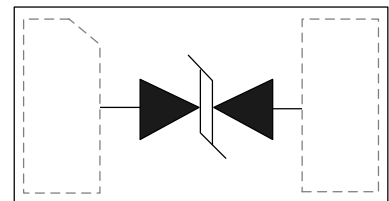
Application

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation

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
DWC0825NS-Q	DFN0603-2L	C8	10000 Tape & Reel	7 inches



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

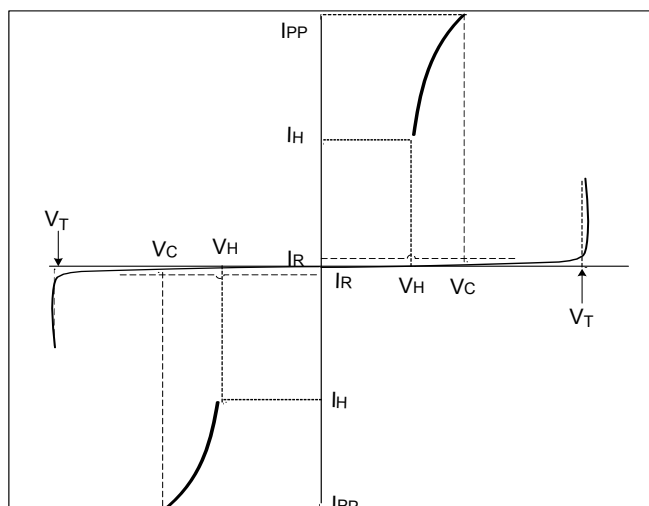
Parameter	Symbol	Value	Unit
Peak Pulse Current ($t_p=8/20\mu\text{s}$)	I_{pp}	5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 15 ± 10	kV
Lead Soldering Temperature	T_L	260 (10seconds)	$^{\circ}\text{C}$
Junction Temperature	T_J	-55 to + 125	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 to + 125	$^{\circ}\text{C}$

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

Parameter	Symbol	Conditions	Min	Typical	Max	Unit
Reverse Stand-Off Voltage	V_{RWM}		-2.8		2.8	V
Trigger Voltage	V_T	$I_T=0.1\text{mA}$	7	9	14	V
Holding Voltage	V_H	$I_T=I_H$	2		5	V
Holding Current	I_H		15			mA
Reverse Leakage Current	I_R	$V_{RWM}=2.8\text{V}, T=25^{\circ}\text{C}$			500	nA
Clamping Voltage	V_C	$I_{PP}=5\text{A}, t_p=8/20\mu\text{s}$		7	9	V
Dynamic resistance	R_{dyn}	$I_T=10\text{A}, t_p=TLP$		0.4		Ω
Junction Capacitance	C_j	$V_R = 0\text{V}, f = 1\text{MHz}$		0.45	0.60	pF

Electrical Parameters

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_T	Trigger voltage
I_T	Test Current
V_H	Holding voltage
I_H	Holding Current





Typical Characteristics

Figure 1: Pulse Waveform

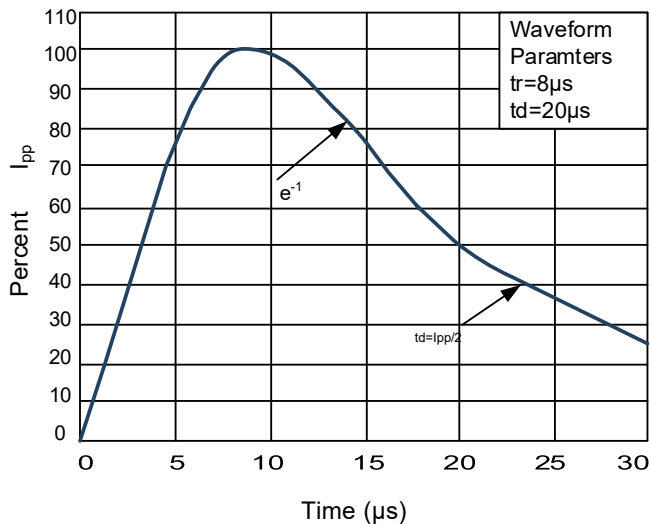


Figure 2: Clamping Voltage vs. I_{pp}

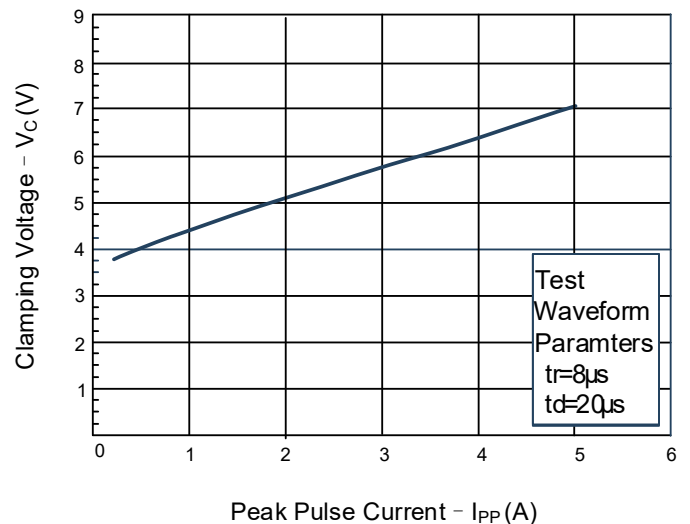


Figure 3: Power Derating Curve

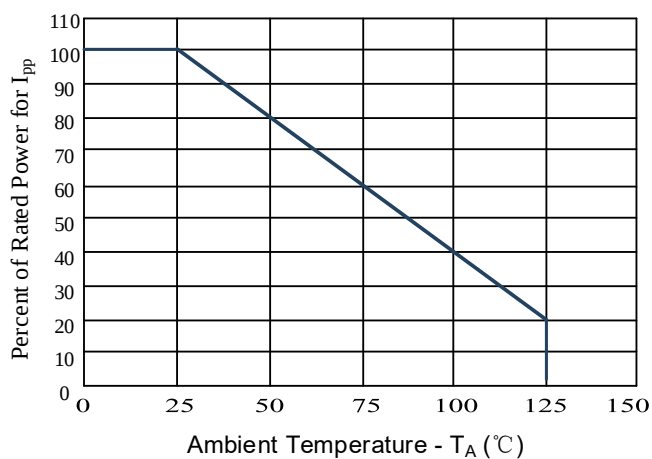


Figure 4: Pulse Waveform-ESD

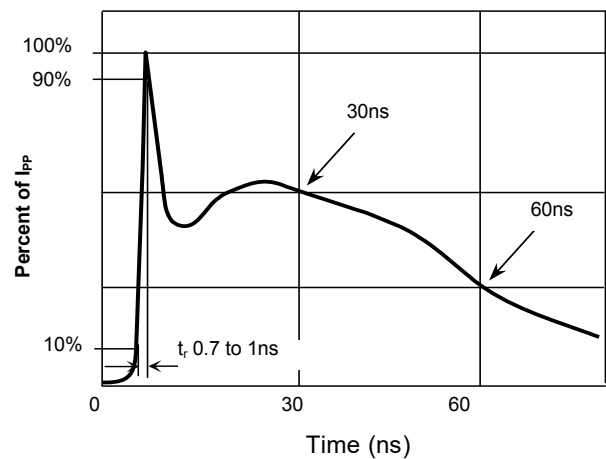


Figure 5: Positive clamping voltage (TLP)

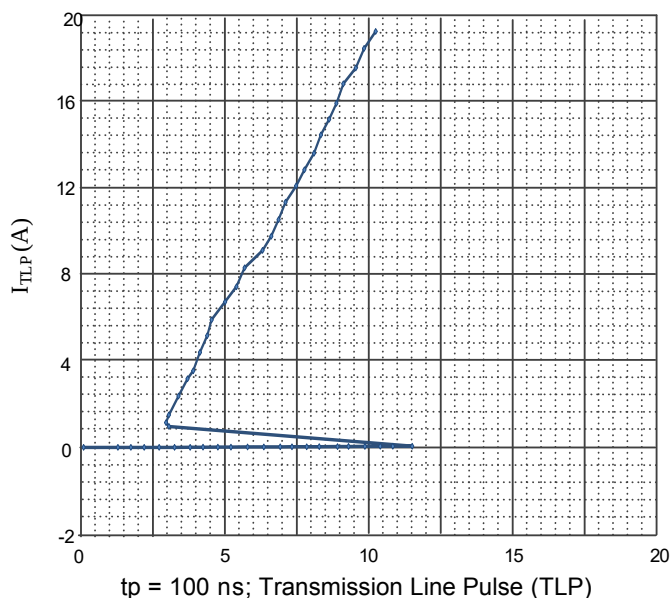
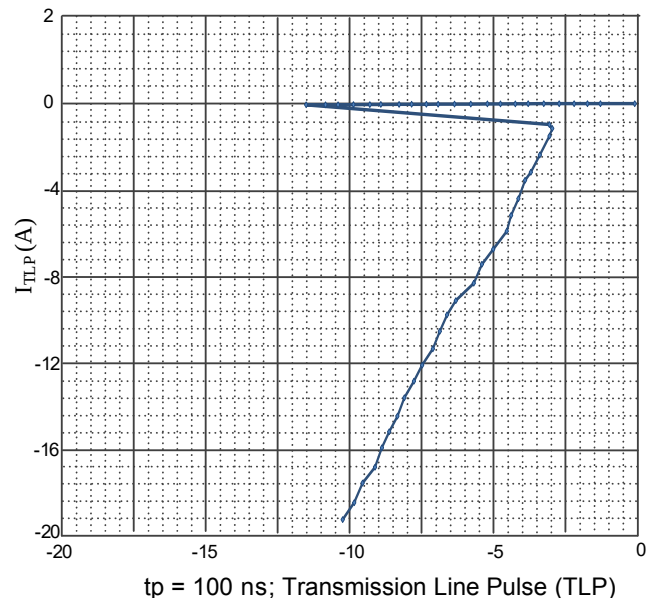
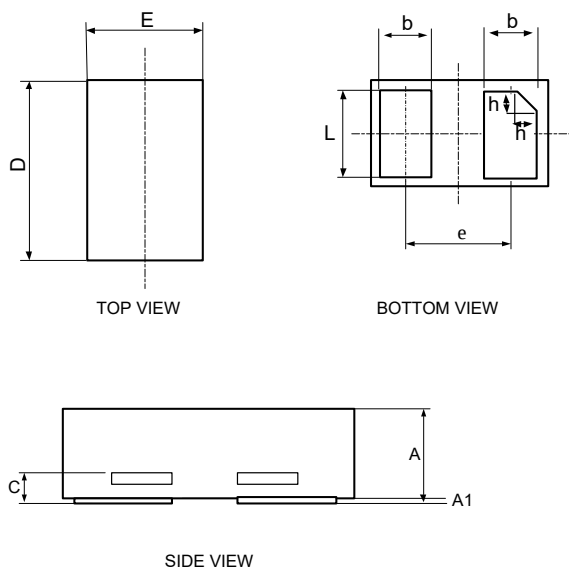


Figure 6: Negative clamping voltage (TLP)





DFN0603-2L Outline Drawing



Symbol	Dimensions in millimeters		
	Min	Nom	Max
A	0.28	0.30	0.34
A1	0.00	0.02	0.05
C	0.05	0.10	0.15
D	0.55	0.60	0.65
E	0.25	0.30	0.35
e	0.40		
b	0.13	0.19	0.24
L	0.20	0.25	0.30
h	0	0.05	0.10