



DWC0525NS-Q ESD Protection Diode

Feature

- Bi-directional ESD protection of one line
- Working voltage: 5V
- 50W Peak pulse Power (8/20us)
- Junction Capacitance: 0.85pF(Typ)
- Low clamping voltage
- Low leakage current
- AEC-Q101 qualified
- IEC 61000-4-2 ± 8 kV contact ± 15 kV air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 7A (8/20 μ s)

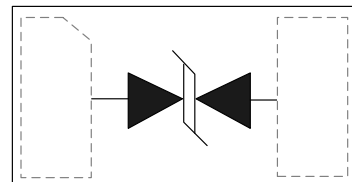
Application

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

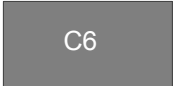
Mechanical Data

- 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
DWC0525NS-Q	DFN0603-2L	 C6	10000 Tape & Reel	7 inches



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

Parameter	Symbol	Min.	Max.	Unit
Peak pulse power ($t_p=8/20\mu\text{s}$)@ 25°C	Ppk	-	50	W
Peak pulse current ($t_p=8/20\mu\text{s}$)@ 25°C	I _{PP}		7	A
ESD (IEC61000-4-2 air discharge) @ 25°C	V _{ESD}	-	15	kV
ESD (IEC61000-4-2 contact discharge) @ 25°C	V _{ESD}	-	8	kV
Junction temperature	T _J	-55	125	$^{\circ}\text{C}$
Storage temperature	T _{STG}	-55	125	$^{\circ}\text{C}$
Lead temperature	T _L	-	260	$^{\circ}\text{C}$

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Stand-Off Voltage	V _{RWM}				5.0	V
Holding Voltage	V _H	I _T =I _H	2.0		5.0	V
Holding Current	I _H		15			mA
Reverse Leakage Current	I _R	V _{RWM} =5V, T=25 $^{\circ}\text{C}$			500	nA
Clamping Voltage	V _C	I _{PP} =7A, t _p =8/20 μs		6	8	V
Trigger Voltage	V _T		8		15	V
Junction Capacitance	C _J	V _R = 0V, f = 1MHz		0.85		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

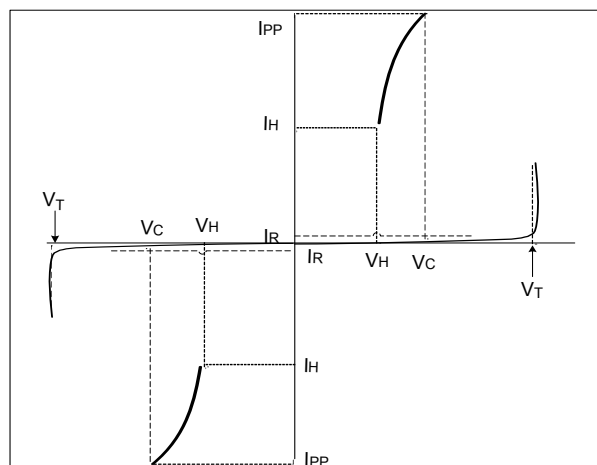


Figure 1: Peak Pulse Power vs. Pulse Time

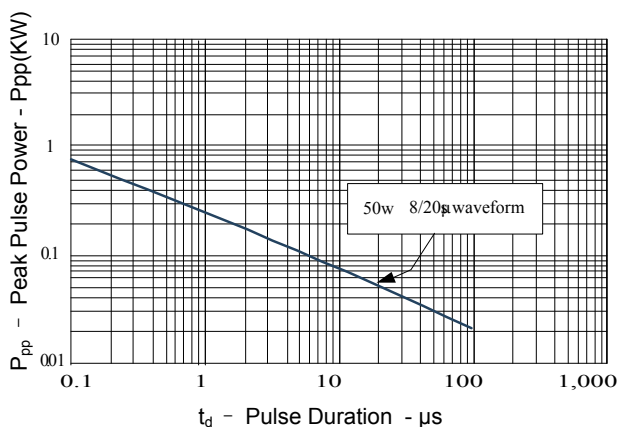


Figure 2: Power Derating Curve

Figure3: Pulse Waveform

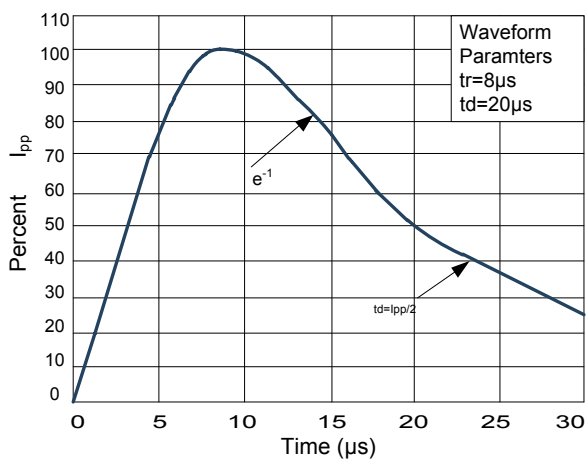


Figure 4: Clamping Voltage vs. Ipp

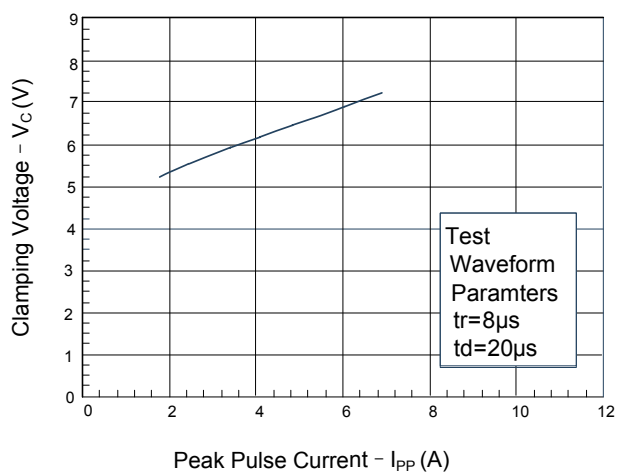




Figure5: ESD clamping
(+8kV contact discharge per IEC61000-4-2)

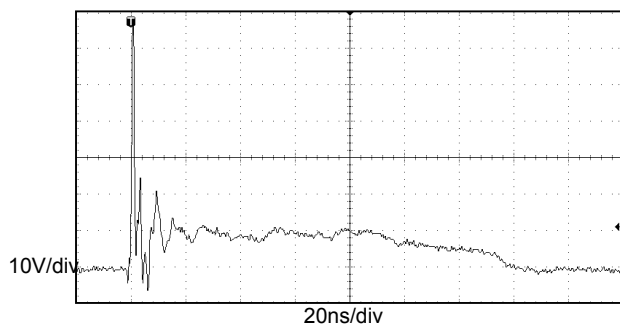
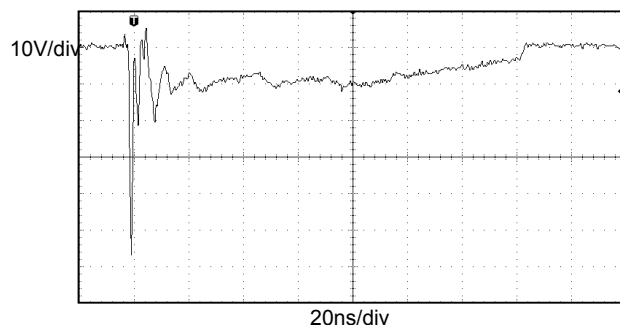
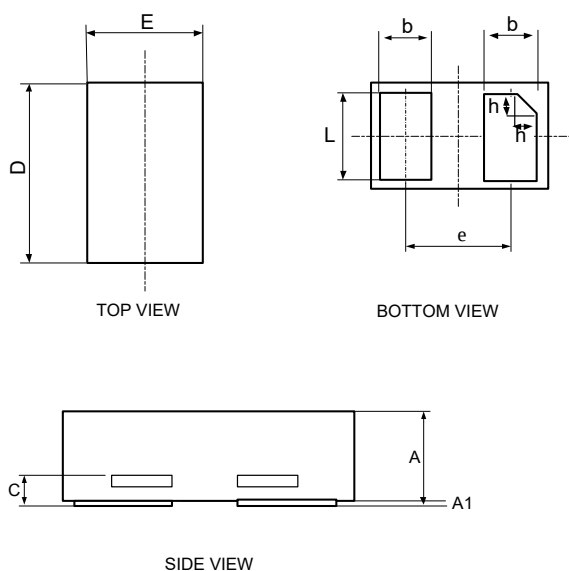


Figure6: ESD clamping
(-8kV contact discharge per IEC61000-4-2)



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