



DWC2425NS-Q ESD Protection Diode

Feature

- Bi-directional ESD protection of one line
- 50Watts peak pulse power ($t_p=8/20\mu s$)
- Working voltage: 22V
- Junction Capacitance: 0.45pF(Typ)
- Low clamping voltage
- Low leakage current
- AEC-Q101 qualified
- IEC 61000-4-2 $\pm 15kV$ contact $\pm 20kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 7A (8/20 μs)

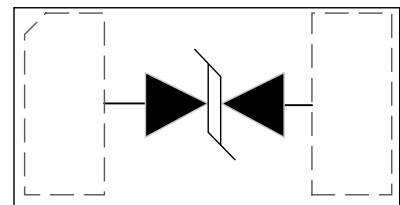
Application

- Handsets and Accessories
- Ultra-high-speed data lines
- Very sensitive interface lines
- 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
DWC2425NS-Q	DFN0603-2L	C4	10000 Tape & Reel	7 inches



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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	50	W
Peak Pulse Current (8/20 μs)	I _{PP}	7	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	20	kV
ESD per IEC 61000-4-2 (Contact)		15	
Lead Soldering Temperature	T _L	260 (10sec.)	°C
Junction Temperature	T _J	-55 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +125	°C

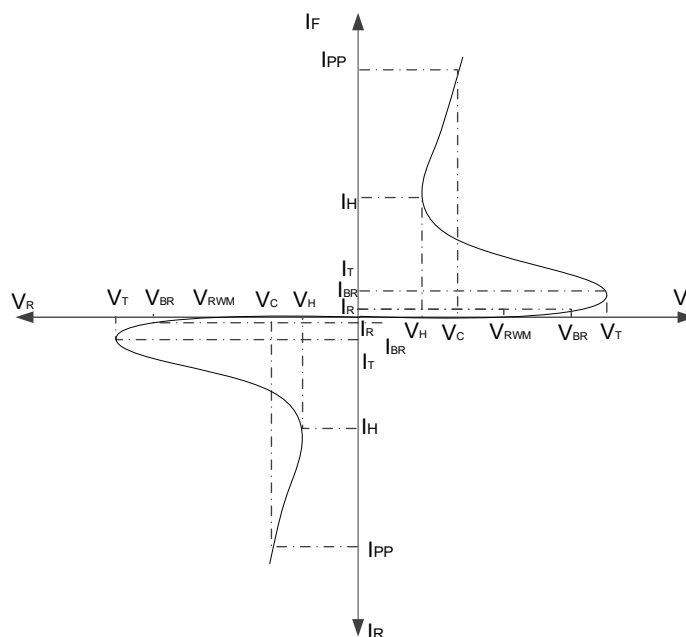
Electrical Characteristics ($T_A = 25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V _{RWM}				22	V
Breakdown Voltage	V _{BR}	I _T = 1mA	23.1	24		V
Reverse Leakage Current	I _R	V _{RWM} = 22V			0.5	nA
Holding Voltage	V _H	I _H = 60mA	2.0	2.5		V
Clamping Voltage	V _C	I _{PP} = 7A (8 x 20 μs pulse)			7	V
Junction Capacitance	C _J	V _R = 0V, f = 1MHz		0.45	0.65	pF



Electrical Parameters

- V_{RWM} Reverse Working Voltage Max.
 I_R Maximum Reverse Leakage Current @ V_{RWM}
 V_T Trigger Voltage
 V_H Holding Voltage
 I_H Holding Current
 V_{BR} Reverse Breakdown Voltage
 I_{PP} Maximum Reverse Peak Current
 V_C Clamping Voltage @ I_{PP}



Note1: 8/20 μ s pulse waveform.

Tested under the condition of series 15 Ω resistance.

Typical Characteristics

Figure1: Power Derating Curve

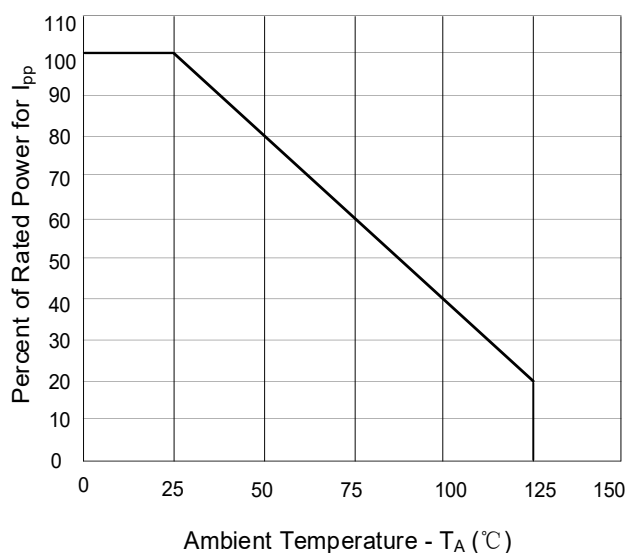


Figure2: Reverse Clamping Voltage vs. Peak Pulse Current

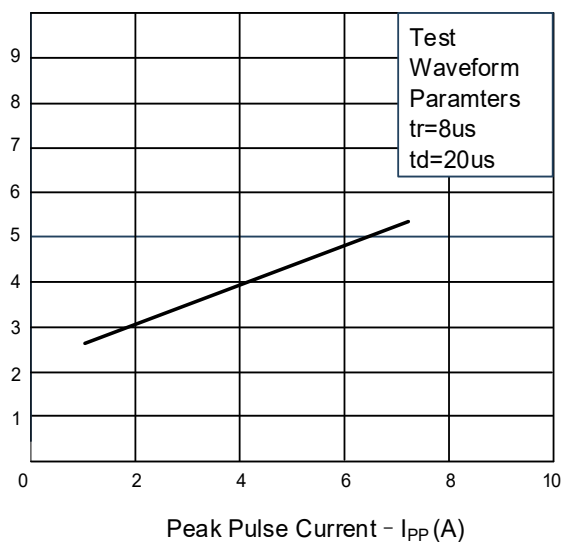




Figure3: Positive Clamping voltage (TLP)

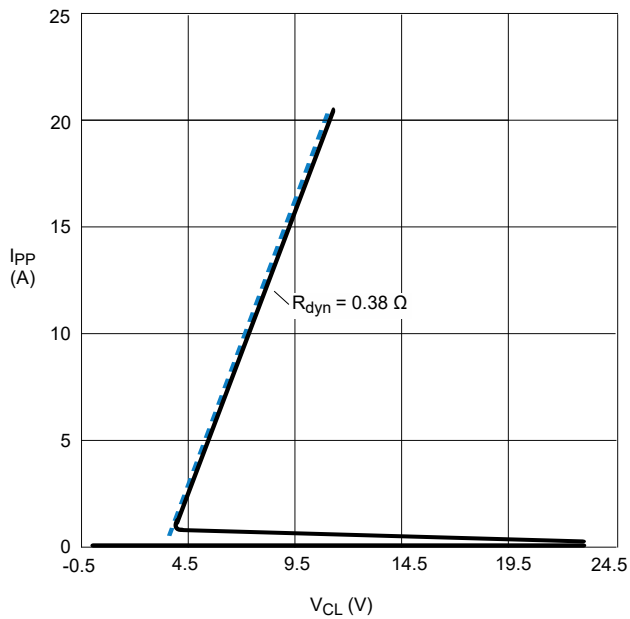
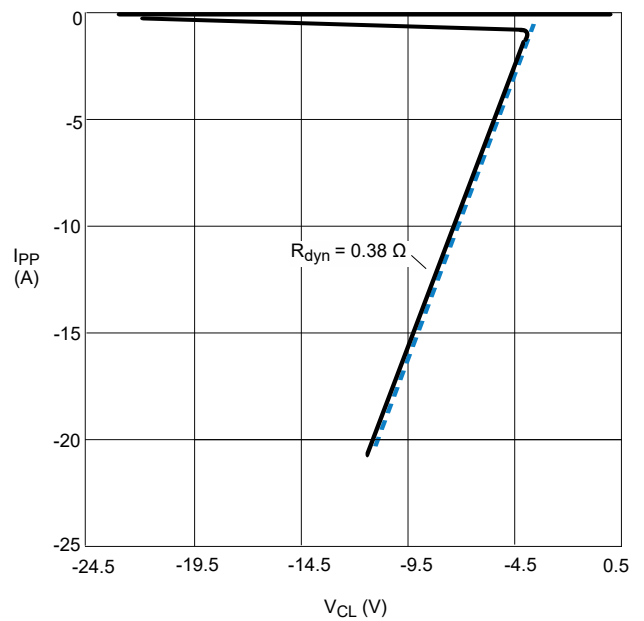
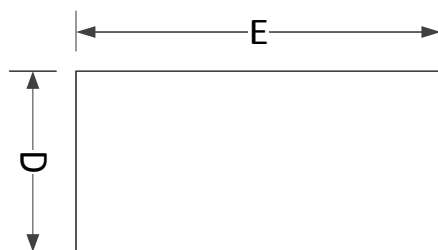


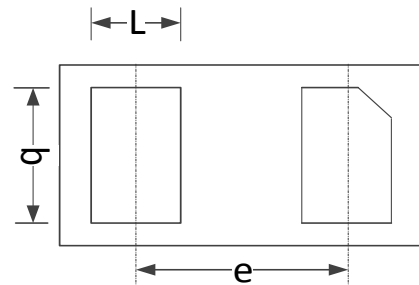
Figure4: Negative Clamping voltage (TLP)



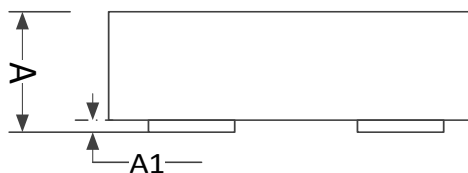
Outline Drawing – DFN0603-2L



TOP VIEW



BOTTOM VIEW



SIDE VIEW

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	0.35BSC		
D	0.25	0.30	0.35
E	0.55	0.60	0.65