



DWC2640NS ESD Protection Diode

Feature

- Bi-directional ESD protection of one line
- 40Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 26V
- Junction Capacitance: 0.38pF(Typ)
- Low leakage current
- Low clamping voltage
- IEC 61000-4-2 $\pm 10kV$ contact $\pm 15kV$ air
- IEC 61000-4-5 (Lightning) 5.5A (8/20 μs)
- IEC61000-4-4(EFT) 40A (5/50ns)

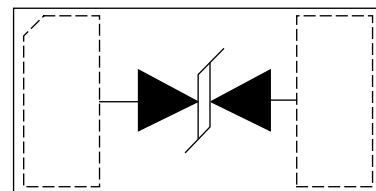
Application

- Ultra-high speed data lines protection
- Near Field Communication(NFC) lines
- Hand Held Portable Applications
- Antenna ESD Protection

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
DWC2640NS	DFN0603-2L	CN	10000 Tape & Reel	7 inches

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

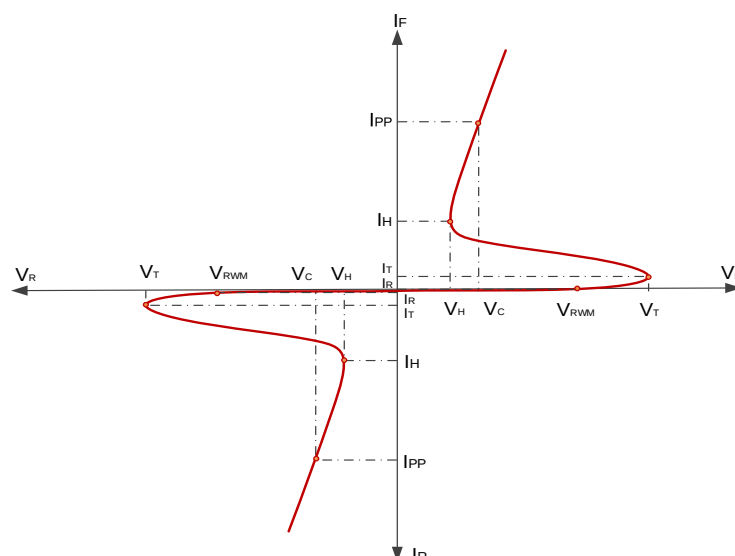
Rating	Symbol	Value	Units
Peak Pulse Current ($t_p=8/20\mu\text{s}$)	P_{PP}	40	Watts
Maximum Peak Pulse Current ($t_p=8/20\mu\text{s}$)	I_{pp}	5.5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	15 10	kV
Lead Soldering Temperature	T_L	260(10sec.)	$^{\circ}\text{C}$
Junction Temperature	T_J	-55 to + 125	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 to + 150	$^{\circ}\text{C}$

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}				26	V
Reverse Leakage Current	I_R	$V_{RWM}=26\text{V}$			0.5	μA
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	28.5			V
Holding Voltage	V_H	$I_T=I_H$		3.5		V
Clamping Voltage	V_C	$I_{PP}=5.5\text{A}, t_p=8/20\mu\text{s}$			8	V
Junction Capacitance	C_j	$V_R = 2\text{V}, f = 1\text{MHz}$		0.38	0.45	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 Pulse Current
 V_C Clamping Voltage @ I_{PP}





Typical Characteristics

Figure1: 8/20 μ s pulse waveform according to IEC61000-4-5

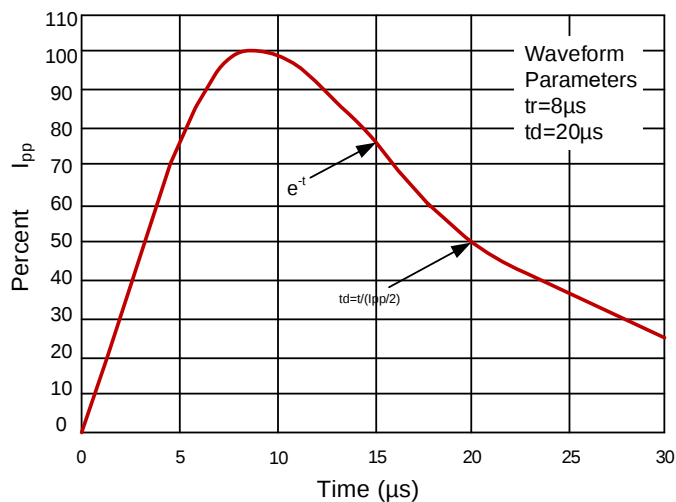


Figure2: ESD pulse waveform according to IEC 61000-4-2

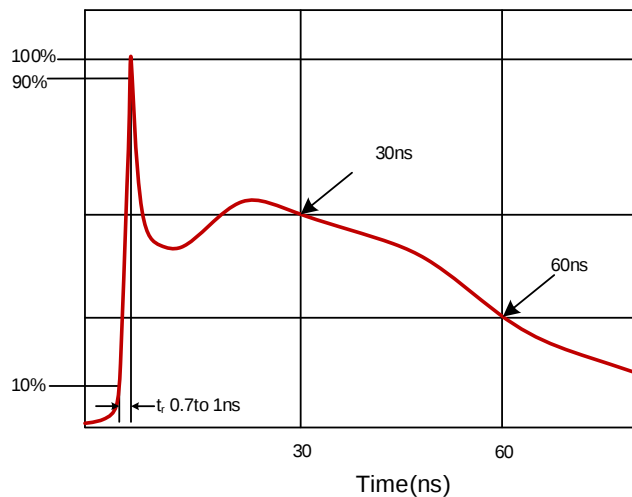


Figure3: Power Derating Curve

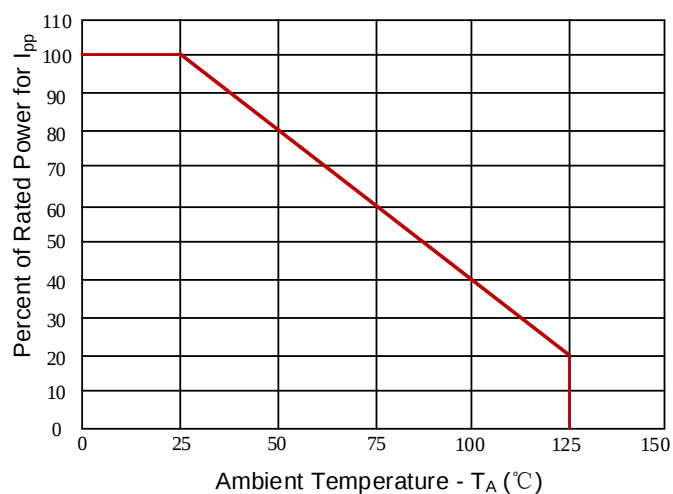
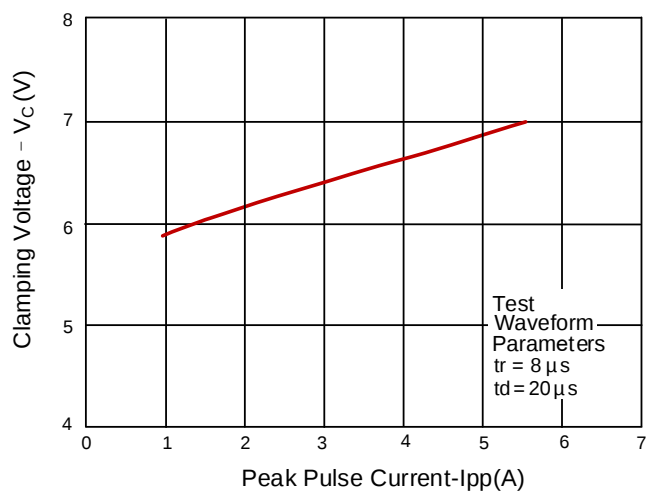
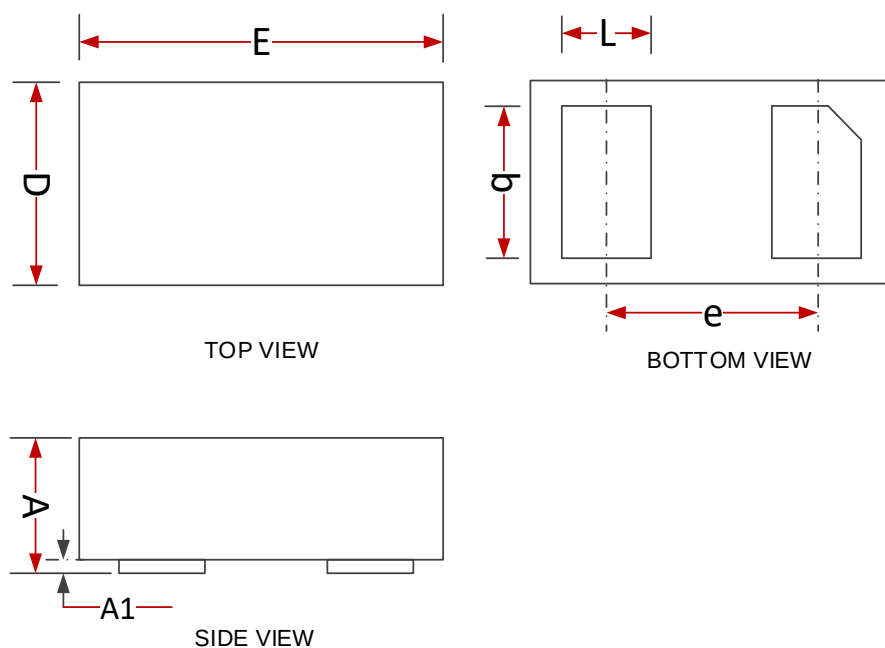


Figure 4: Clamping Voltage vs. I_{pp}



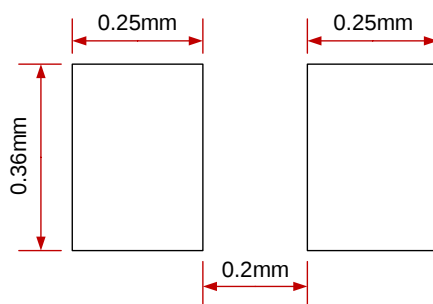


DFN0603-2L Outline Drawing



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

Land Pattern *



* This land pattern is for reference purposes only