BORN SEMICONDUCTOR

BNPESD0603VxxR Series

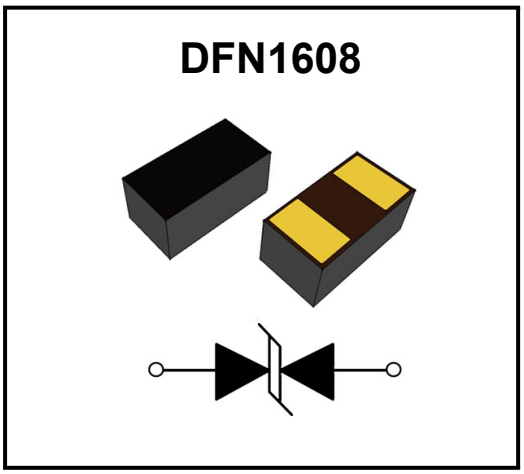
ESD Protection Diode

Features

- The best ESD protection for high speed,low voltage ap-plications
- RoHS compliant and halogen free
- Ultra low capacitance, 0.05 pF (typ.)
- Low leakage current (<100nA)
- Fast response time (<1ns)
- Bi-directional, single line protection
- Surface mount

Package

DFN1608



Applications

- Smart Phone/Mobile Internet Device
- Laptop/Desktop Computer
- Antennas
- High Speed Ethernet
- USB 2.0 and USB 3.0
- Lightning and Thunder Bolt Interface

Mechanical Data

- Surface mount
- RoHS Compliant
- Halogen Free

Ordering information

Order code	Package	Base qty	Delivery mode
BNPESD0603VxxR Series	DFN1608	5k	Tape and reel

Absolute Maximum Rating

Rating	Symber	Value	Units
ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	V_{ESD}	±15 ±25	KV
Lead Soldering Temperature	T_L	260(10seconds)	°C
Operating Temperature	T_O	-55 to + 125	°C
Storage Temperature	T_{stg}	-55 to + 125	°C

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Specifications are subject to change without notice.
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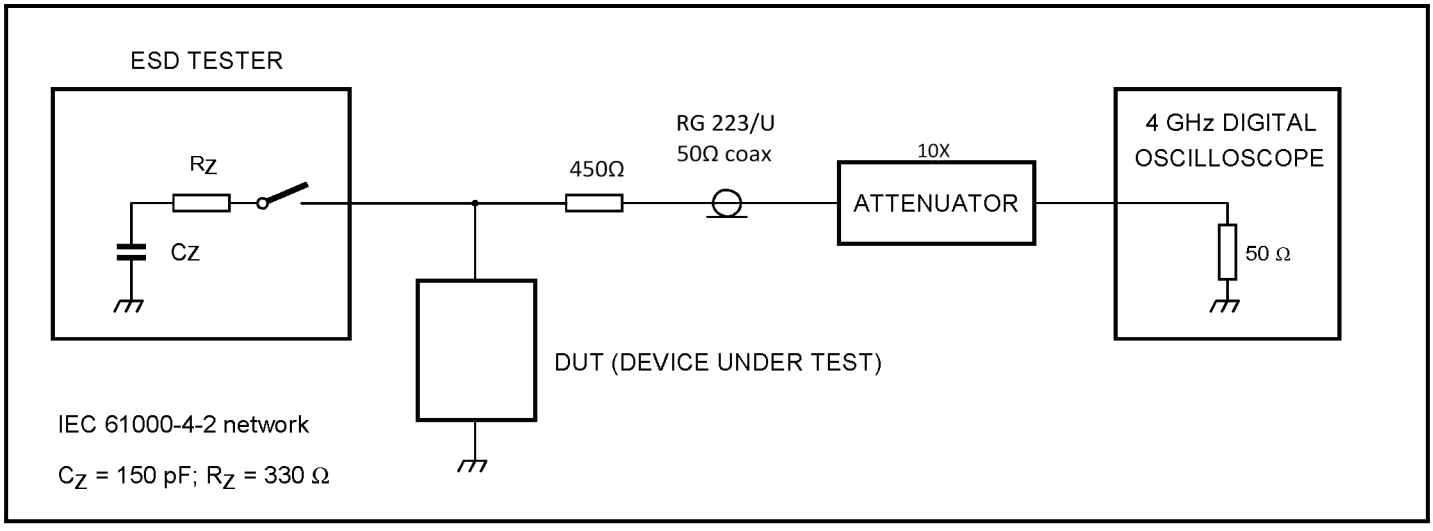
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ESD Protection Diode

Electrical Characteristics

Part NO.	Working Voltage	Typical ESD Trigger Voltage	Typical ESD Clamping Voltage at 60ns	Leakage Current (at Initial State)	Cap. Value @10MHz
Symbol	$V_{DC(max.)}$	$V_{trigger(typ.)}$	$V_{C(typ.)}$	I_{LDC}	C(Typ.)
Unit	V	V	V	μA	pF
BNPESD0603V05R	5	300	35	<0.1	0.05
BNPESD0603V09R	9	300	35	<0.1	0.05
BNPESD0603V12R	12	300	35	<0.1	0.05
BNPESD0603V14R	14	300	35	<0.1	0.05
BNPESD0603V15R	15	300	35	<0.1	0.05
BNPESD0603V18R	18	300	35	<0.1	0.05
BNPESD0603V24R	24	300	35	<0.1	0.05
BNPESD0603V30R	30	300	35	<0.1	0.05
BNPESD0603V36R	36	300	35	<0.1	0.05

ESD Clamping Test



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Figure 1: ESD Clamping Test Waveform

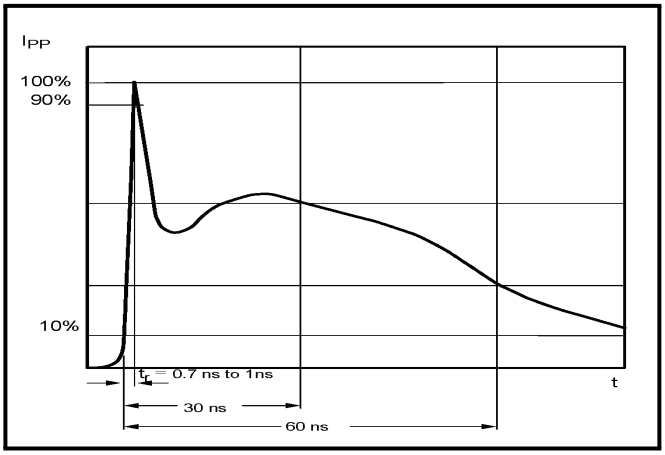


Figure 2:ESD Waveform after Clamping

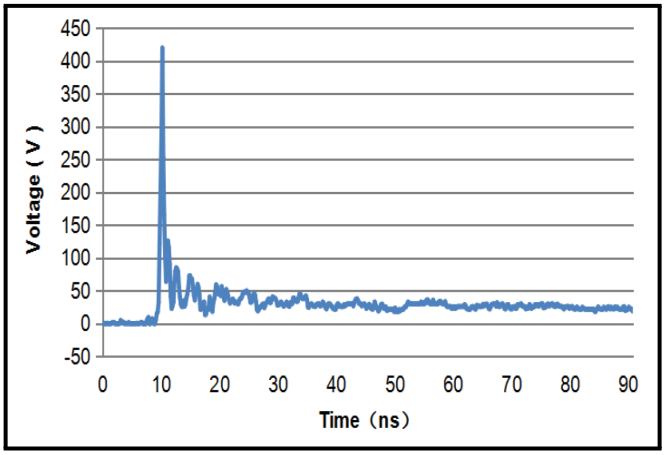
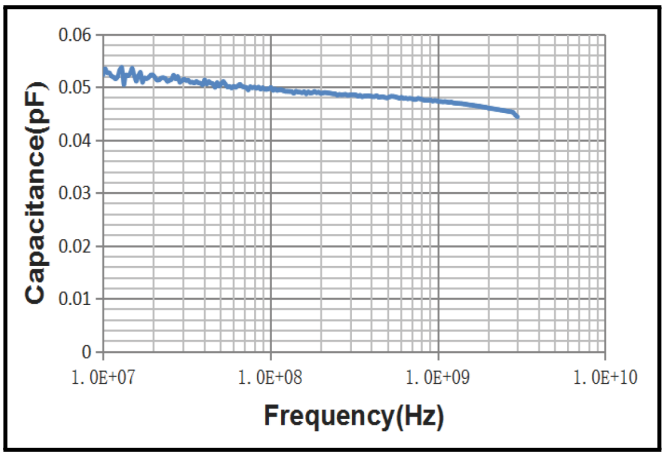
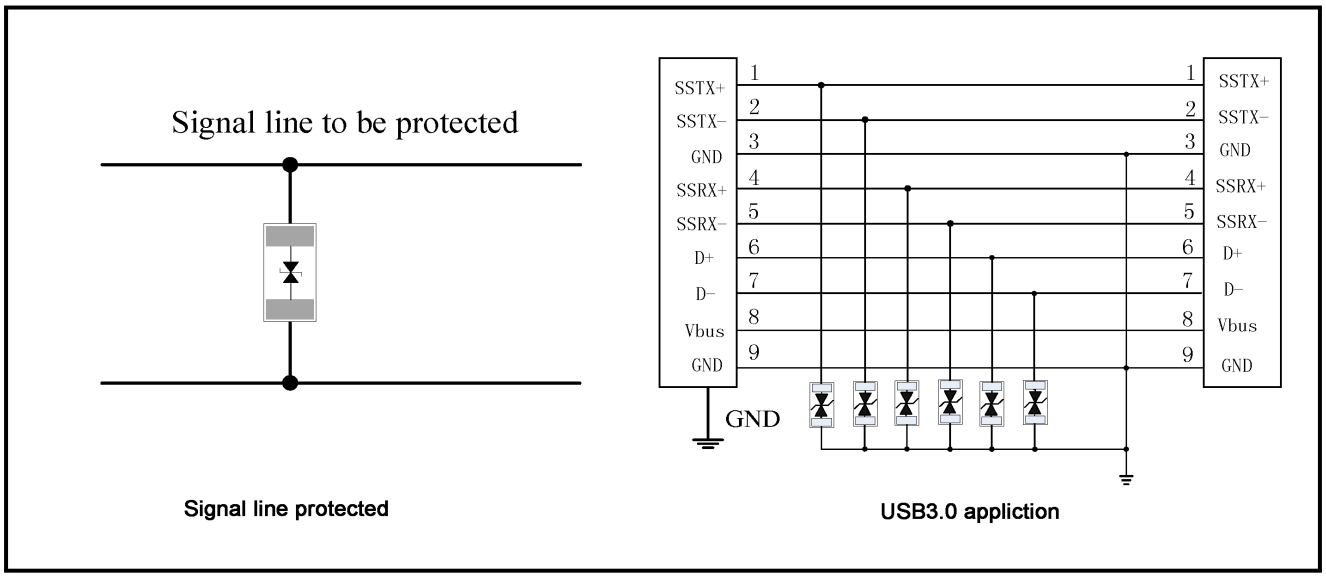


Figure 3:Capacitance VS Frequency



Use of circuit

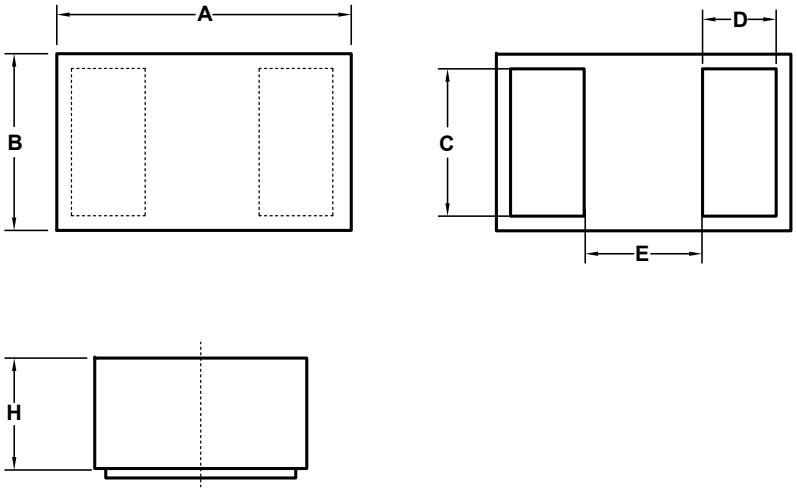


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ESD Protection Diode

Outline Drawing – DFN1608-2L



SYMBOL	MILLIMETER		
	MIN.	Typ.	MAX.
A	1.50	1.60	1.70
B	0.70	0.80	0.90
C	0.715	0.735	0.755
D	0.345	0.365	0.385
E	0.78	0.80	0.82
H	0.32	0.36	0.40

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