

Features

- Ultra low leakage: nA level
- Low operating voltage: 1.5V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 15\text{kV}$
Contact discharge: $\pm 12\text{kV}$
 - IEC61000-4-5 (Lightning) 4A (8/20 μs)
- RoHS Compliant

Applications

- USB Ports
- SIM Ports
- Smart Phones
- Wireless Systems
- Set-top box and digital TV
- Digital video interface (DVI)
- Ethernet 10/100/1000 Base T

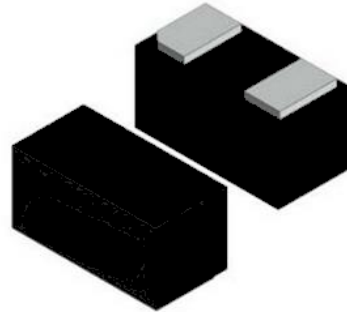
Mechanical Characteristics

- Package: DFN0603
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel: 10,000pcs
- Reel Size: 7 inch
- Device Marking: 1S

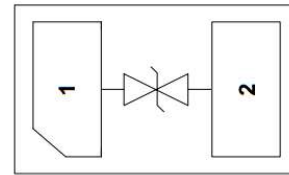
Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pp}	14	W
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 15	kV
ESD per IEC 61000-4-2 (Contact)		± 12	
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STJ}	-55 to +150	°C

Dimensions DFN0603



Pin Configuration

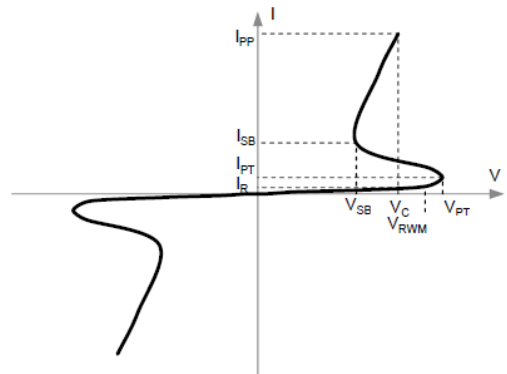


Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				1.5	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	4.5	6.0		V
Reverse Leakage Current	I_R	$V_{RWM} = 1.5\text{V}$			0.1	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse)		1.75		V
Clamping Voltage	V_C	$I_{PP} = 4\text{A}$ (8 x 20 μs pulse)		2.9	3.5	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		0.2	0.3	pF

Electrical Parameters (TA=25°C unless otherwise specified)

Symbol	Definition
I_{PP}	Peak Pulse Current
V_C	Clamping Voltage
V_{RWM}	Reverse Working Voltage
I_R	Reverse Leakage Current
V_{BR}	Breakdown Voltage
I_T	Test Current
V_{PT}	Punch-Through Voltage
I_{PT}	Punch-Through Current



Typical Performance Characteristics (TA=25°C unless otherwise specified)

Fig.1 - Dynamic resistance with positive clamping voltage

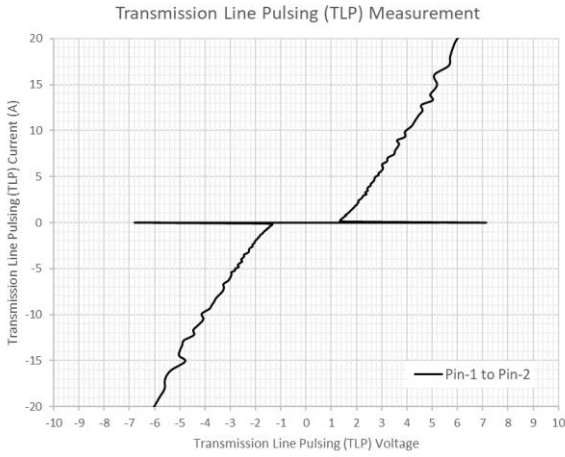


Fig.2 - Typical Variation of C_{in} vs. V_{in}

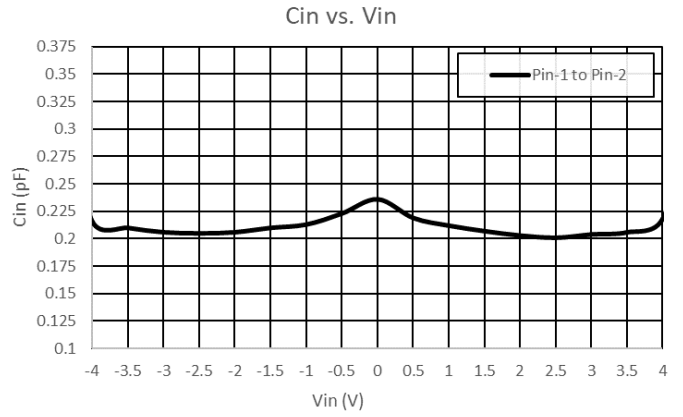


Fig.3 – Insertion loss

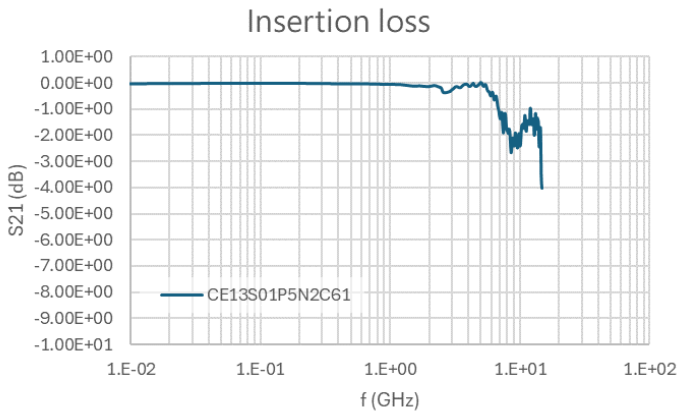
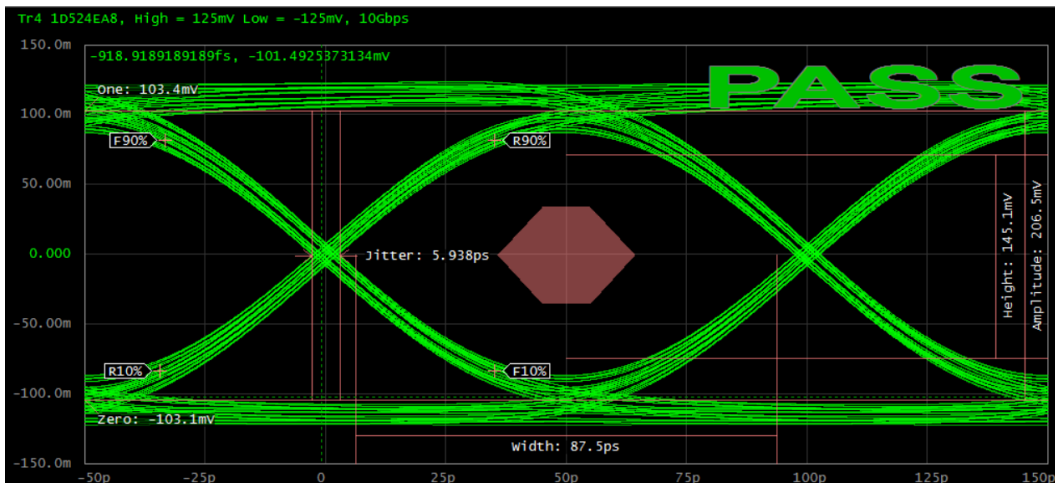
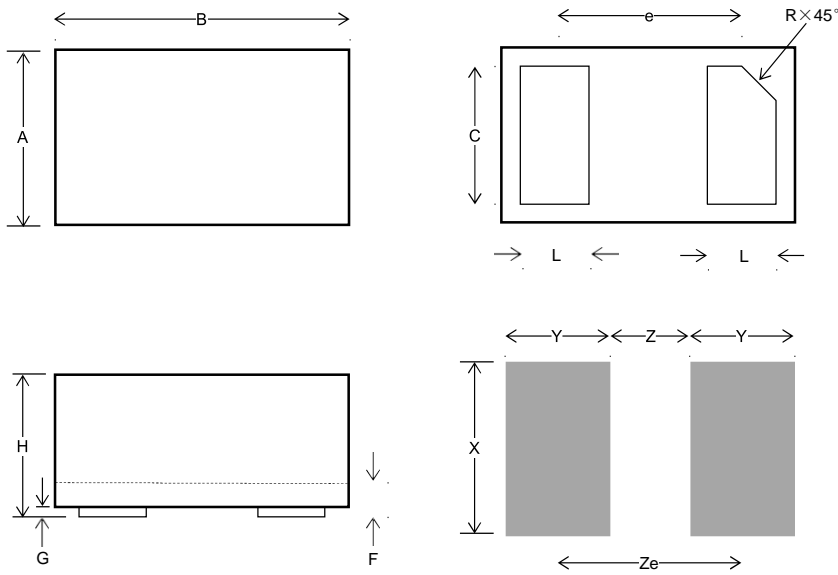


Fig.4 – USB 3.1 Gen 2 Eye Diagram with Device (Data rate : 10Gbps)



DFN0603 Package Outline Drawing



DFN0603			
SYMBOL	Millimeters		
	MIN	NOM	MAX
A	0.29	0.32	0.34
B	0.58	0.62	0.65
C	0.2	0.25	0.3
G	-	0.02	0.05
H	0.28	0.3	0.34
L	0.14	0.19	0.24
e	0.34	0.35	0.37
R	-	0.05	0.1
X	-	0.27	-
Y	-	0.19	-
Z	-	0.19	-
Ze	-	0.38	-

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