



DFN0603 ESD Protection Diode
Ultra Low Capacitance Bidirectional

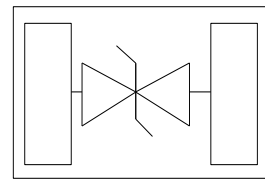


Features

- Stand-off Voltage: 3.3 V
- Low capacitance (<0.25pF) for high-speed interfaces
- No insertion loss to 10.0GHz
- Protects I/O Port
- Low Clamping Voltage
- Low Leakage
- Low Capacitance
- Meets MSL 1 Requirements
- ROHS compliant
- **SCR Process technology**



DFN0603 Package



Main applications

- High Speed Line :USB1.0/2.0/3.0/3.1,VGA,DVI,SDI,
- High Definition Multi-Media Interface (HDMI1.3/1.4/2.0)
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Projection TV
- Cellular handsets and accessories
- Portable instrumentation
- Peripherals

Protection solution to meet

- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC61000-4-5 (Lightning) 4A (8/20µs)

Ordering Information

Device	MARKING	Qty per Reel	Reel Size
YSCLAMP3321PSCR	JD	15,000pcs	7 Inch

DEVICE CHARACTERISTICS

YSCLAMP3321PSCR

Maximum ratings (Ta=25°C Unless Otherwise Specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P _{PPP}	45	Watts
ESD Rating per IEC61000-4-2:	Contact	20	KV
	Air	20	
Lead Soldering Temperature	T _L	260 (10 sec.)	°C
Operating Temperature Range	T _J	-55 ~ 150	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T _L	260	°C

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

*Other voltages may be available upon request.

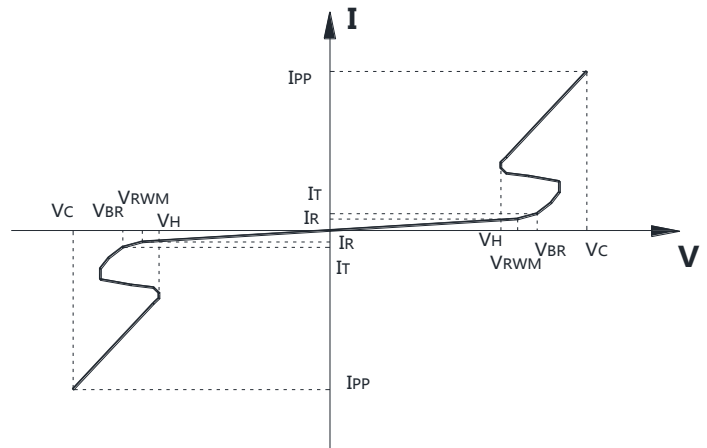
1. Non-repetitive current pulse, per Figure 1.

Electrical characteristics (Ta=25 °C Unless Otherwise Specified)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
V _{RWM}	Reverse Working Voltage				3.3	V
V _{BR}	Reverse Breakdown Voltage	I _T = 0.1mA	4.0			V
V _H	Hold Current Voltage	I _H = 10mA	1.5			V
I _R	Reverse Leakage Current	V _{RWM} = 3.3V		0.001	0.1	μA
V _c	Clamping Voltage	I _{PP} = 1A		4.2	8.9	V
		I _{PP} = 4A			12	V
R _{dyn}	dynamic resistance			0.46		Ω
C _J ⁽²⁾	Junction Capacitance	V _{IN} = 1.0V, f = 1MHz		0.18	0.35	pF
		V _{IN} =1.0V, f = 1GHz		0.16	0.28	pF

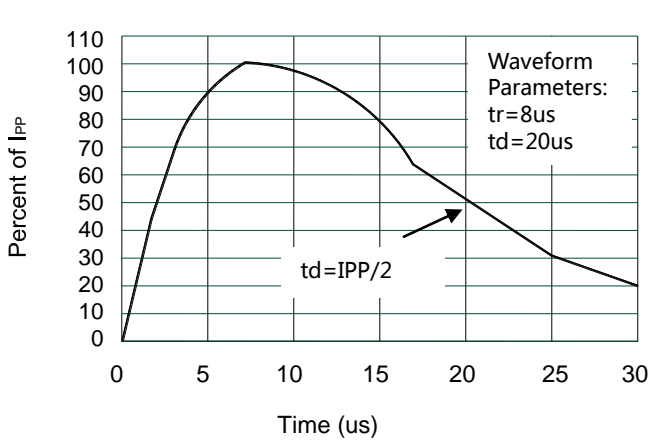
Junction capacitance is measured in VR=0V,F=1MHz

Symbol	Parameter
V _{RWM}	Working Peak Reverse Voltage
V _{BR}	Breakdown Voltage @ I _T
V _C	Clamping Voltage @8/20us (IEC61000-4-5)
I _T	Test Current
I _{RM}	Leakage current at V _{RWM}
I _{PP}	Peak pulse current
C _O	Off-state Capacitance
C _J	Junction Capacitance

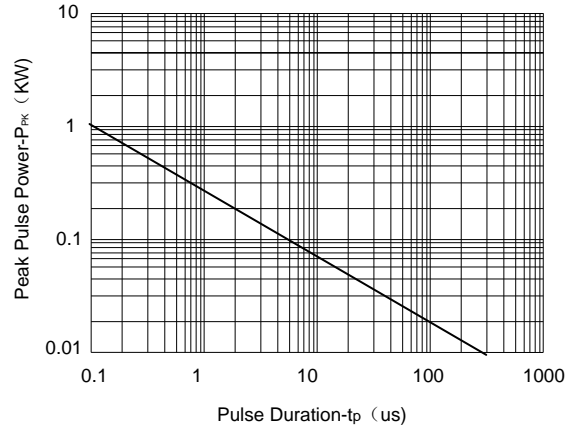


DEVICE CHARACTERISTICS

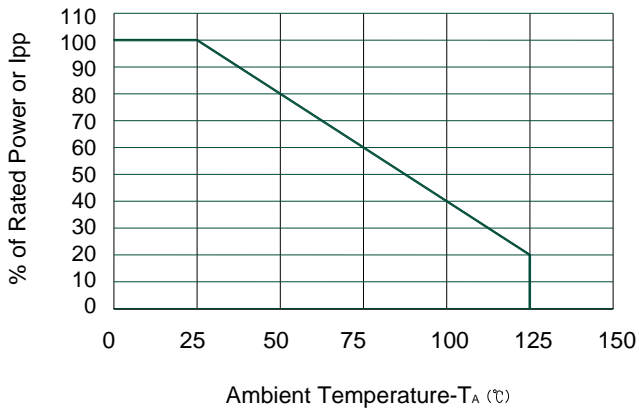
YSCLAMP3321PSCR



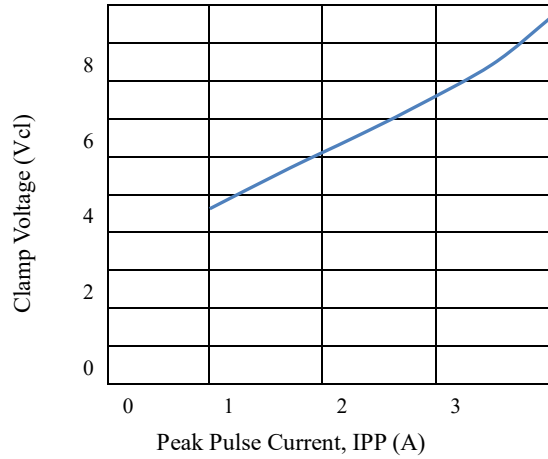
Pulse Waveform



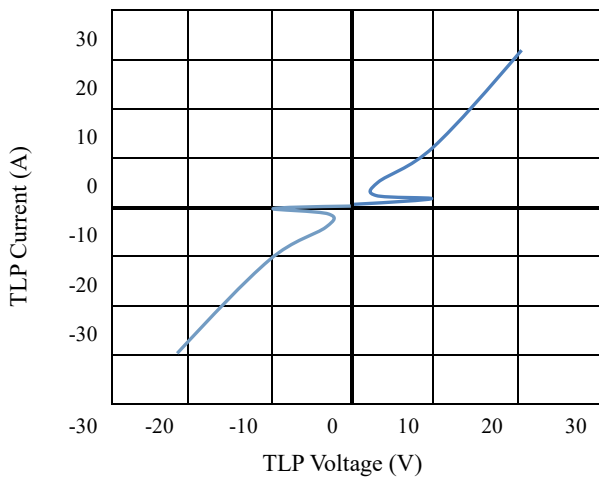
Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve



Clamping Voltage Vs Peak Pulse Current(Ipp)



Clamping Voltage Vs Peak Pulse Current(I_{TLP})

PACKAGE OUTLINE & DIMENSIONS

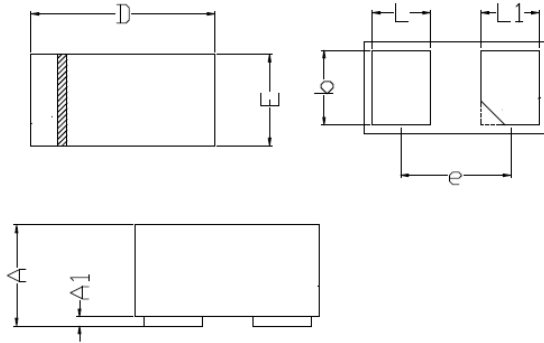
YSCLAMP3321PSCR

DFN0603

Mechanical Data

Case: DFN0603

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters	
	Min	Max
A	0.230	0.330
A1	0.000	0.050
D	0.550	0.650
E	0.250	0.350
b	0.215	0.295
L	0.115	0.225
L1	0.115	0.225
e	0.535BSC	

Recommended Pad outline

