

1-Line Bi-directional TVS Diode

Features

- Ultra small package: 0.6x0.3x0.3mm
- low capacitance
- Protects one data or power line
- Ultra low leakage: nA level
- Operating voltage: 3.3V
- Low clamping voltage
- 2-Pin leadless package
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 Air discharge: $\pm 30\text{kV}$
 Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 21A (8/20 μs)
- RoHS Compliant

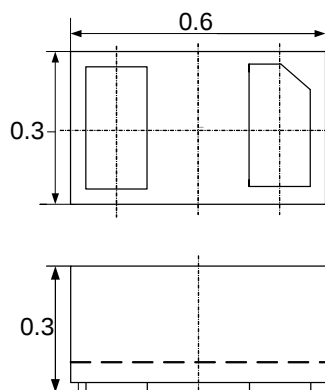
Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays

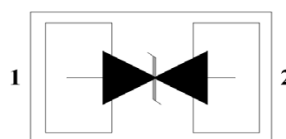
Mechanical Characteristics

- Package: DFN0603-2 (0.6x0.3x0.3mm)
- Case Material: "Green" Molding Compound.
- Quantity Per Reel: 10,000pcs
- Reel Size: 7 inch
- Device Marking: 3J

Dimensions DFN0603



Pin Configuration



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

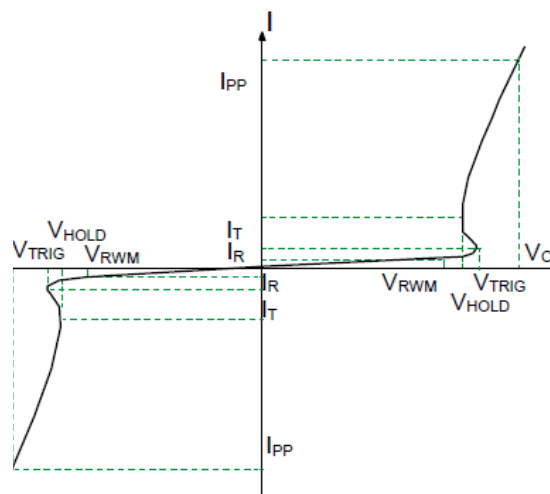
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pp}	170	W
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STJ}	-55 to +150	°C

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

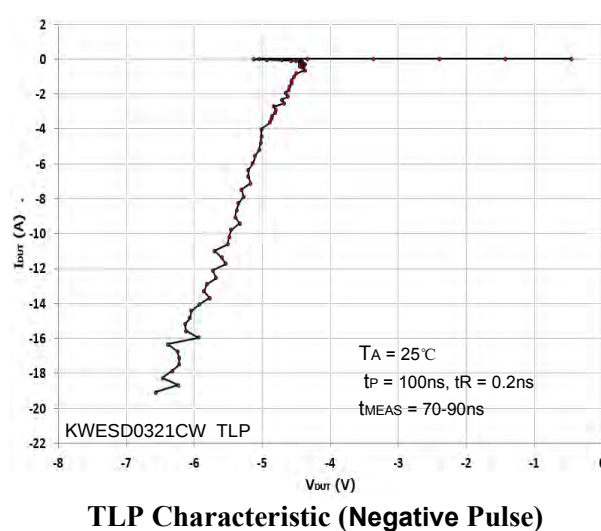
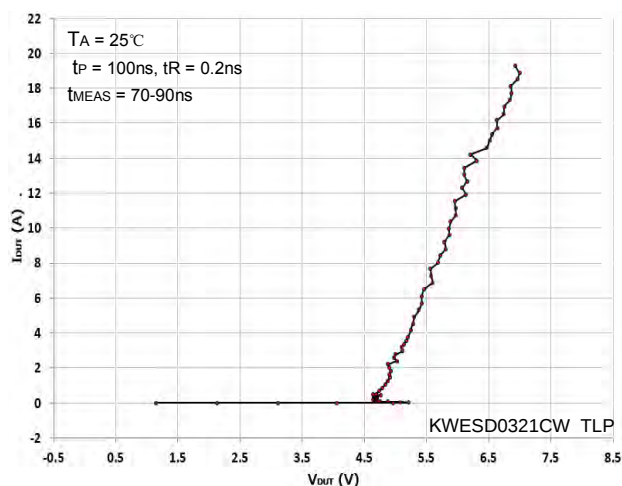
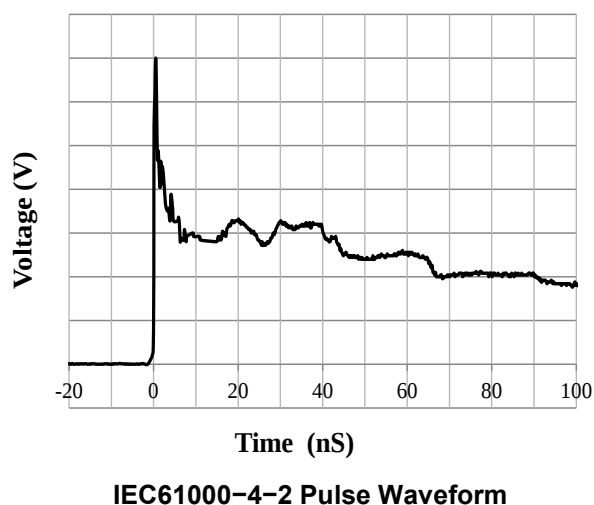
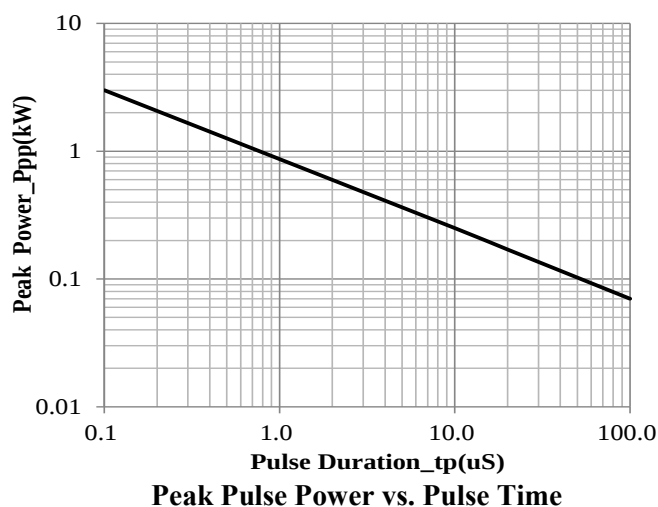
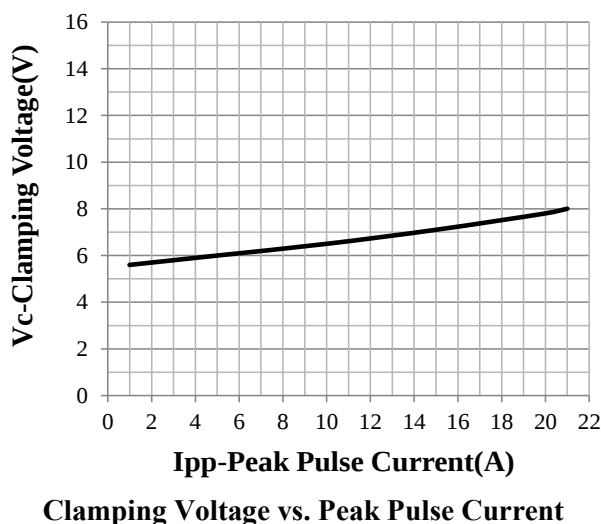
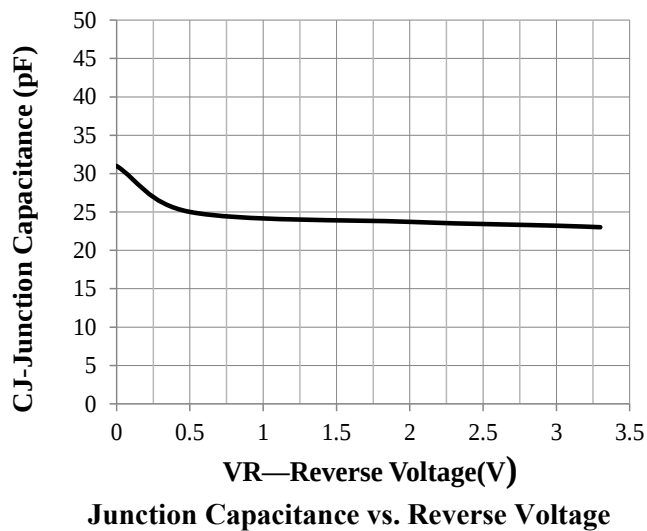
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				3.3	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	3.7	4.3	5.5	V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3\text{V}$			0.5	μA
Clamping Voltage	V_C	$I_{PP} = 10\text{A}$ (8 x 20 μs pulse)		6.0	7.5	V
Clamping Voltage	V_C	$I_{PP} = 21\text{A}$ (8 x 20 μs pulse)		8.0	9.5	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		30	50	pF

Portion Electronics Parameter

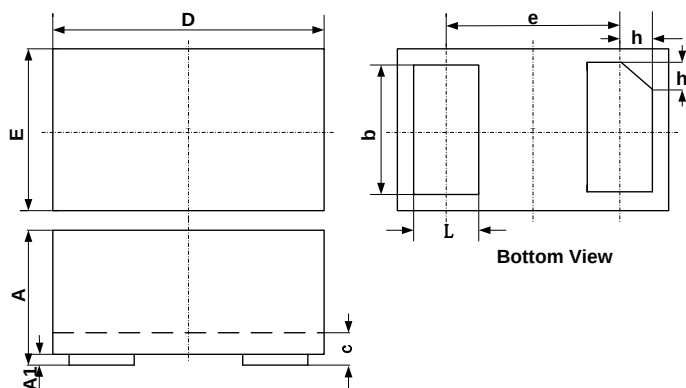
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_C



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

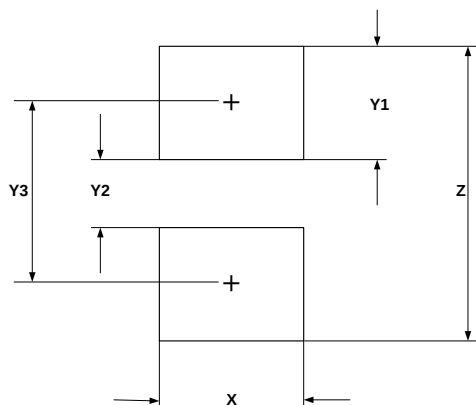


DFN0603 Package Outline Drawing



SYM	DIMENSIONS		
	MILLIMETERS		
	MIN	NOM	MAX
A	0.230	0.300	0.330
A1	0.000	0.020	0.050
b	0.215	0.245	0.275
c	0.120	0.150	0.180
D	0.550	0.600	0.650
e	0.355 BSC		
E	0.250	0.300	0.350
L	0.160	0.190	0.220
h	0.079 BSC		

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.30	0.012
Y1	0.25	0.010
Y2	0.15	0.006
Y3	0.40	0.016
Z	0.65	0.026