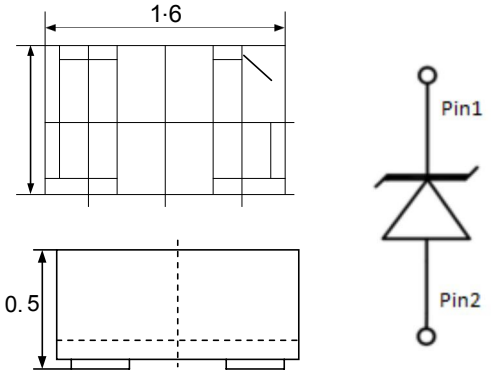
Features

* Ultra small package: 1.6x1.0x0.5mm
* Protects one data or power line
* Ultra low leakage: nA level
* Low clamping voltage
* 2-pin leadless package
* Complies with following standards:
* – IEC 61000-4-2 (ESD) immunity test
* Air discharge: ±30kV
* Contact discharge: ±30kV
* – IEC61000-4-4 (EFT) 120A (5/50ns)
* – IEC61000-4-5 (Lightning) 120A (8/20μs)
* RoHS Compliant
* Package: DFN1610-2
* Lead Finish: NiPdAu

Description

The JGU0710D6 is an uni-directional TVS diode, utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive data and power line. The JGU0710D6 complies with the IEC 61000-4-2 (ESD) standard with ±15kV air and ±8kV contact discharge. It is assembled into an ultra-small 1.6x1.0x0.5mm lead-free DFN package. The small size and high ESD surge protection make JGU0710D6 an ideal choice to protect cell phone, digital cameras, audio players and many other portable applications.

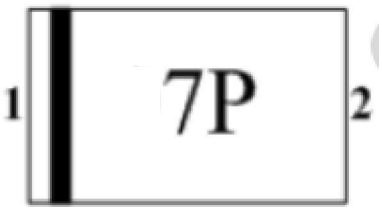
Circuit Diagram



Applications

* Mobile Phones
* Battery Protection
* Power Line Protection
* Vbat pin for Mobile Devices
* Hand Held Portable Applications

Marking Diagram



Transparent top view

7P:Device Marking Code
Bar denotes cathode

Ordering Information

Part Number	Packaging	Reel Size
JGU0710D6	3000/Tape & Reel	7 inch

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

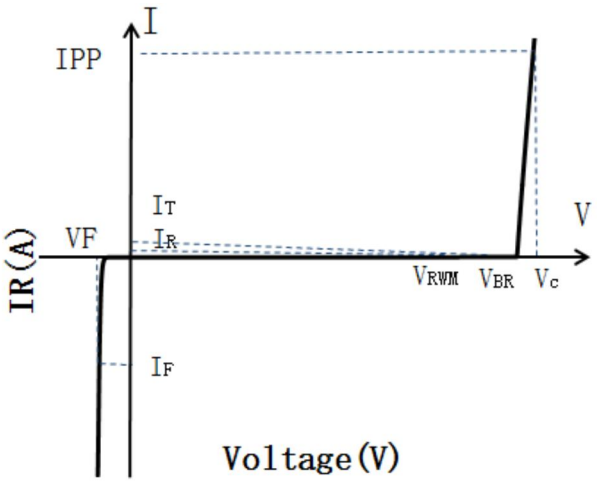
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	2000	W
Peak Pulse Current (8/20μs)	IPP	120	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±30 ±30	kV
Operating Temperature Range	TJ	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

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

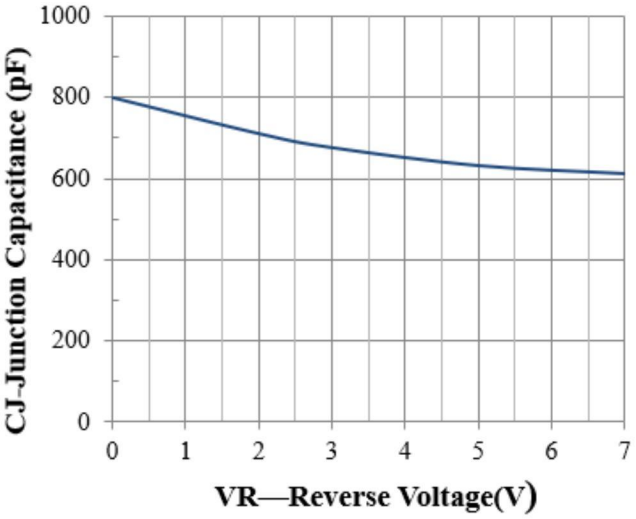
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				7	V
Breakdown Voltage	V_{BR}	I_T = 1mA		8		V
Reverse Leakage Current	I_R	V_{RWM} = 7V			1.0	μA
Clamping Voltage	V_C	I_{PP} = 1A (8 x 20μs pulse)		10		V
Clamping Voltage	V_C	I_{PP} = 120A (8 x 20μs pulse)		16	18	V
Junction Capacitance	C_J	VR = 0V, f= 1MHz			800	pF

Portion Electronics Parameter

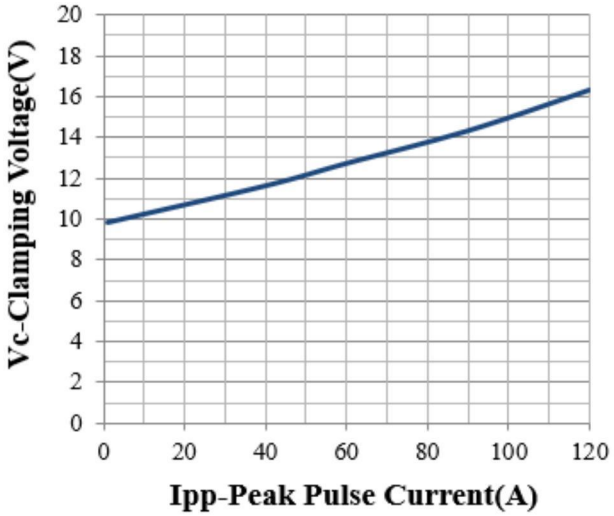
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
Vc	Clamping Voltage @Ic
I_F	Forward Current
V_F	Forward Voltage @I_F



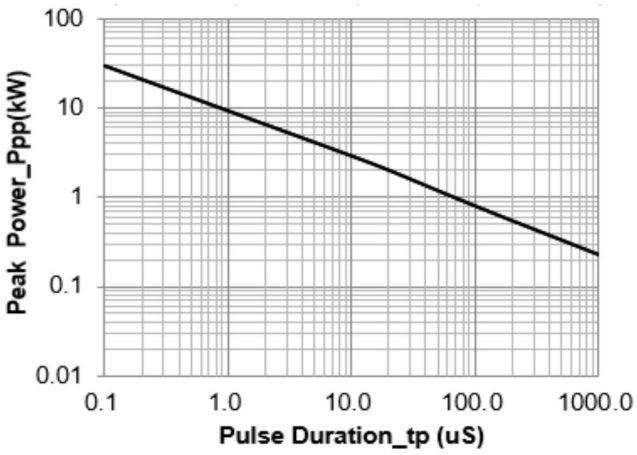
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



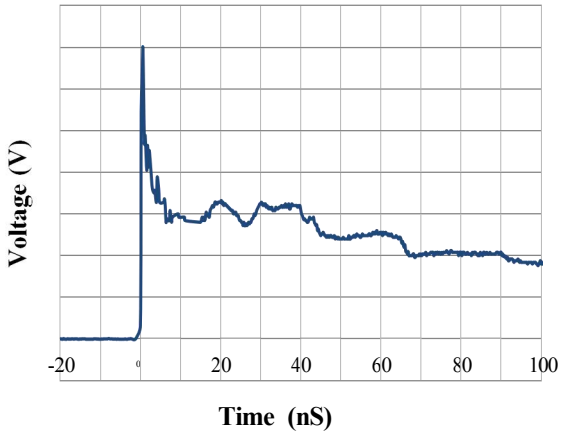
Junction Capacitance vs. Reverse Voltage



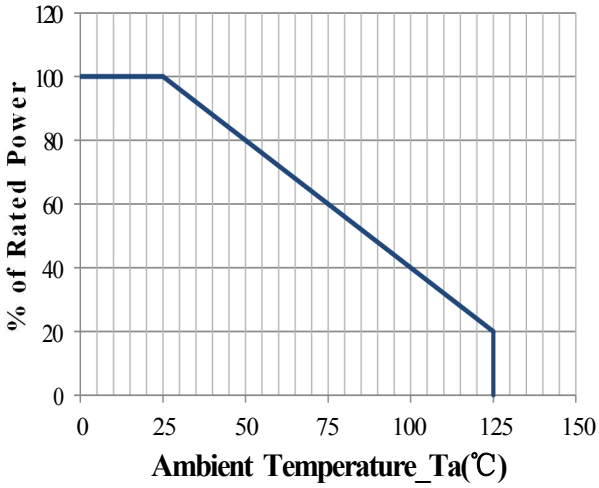
Clamping Voltage vs. Peak Pulse Current



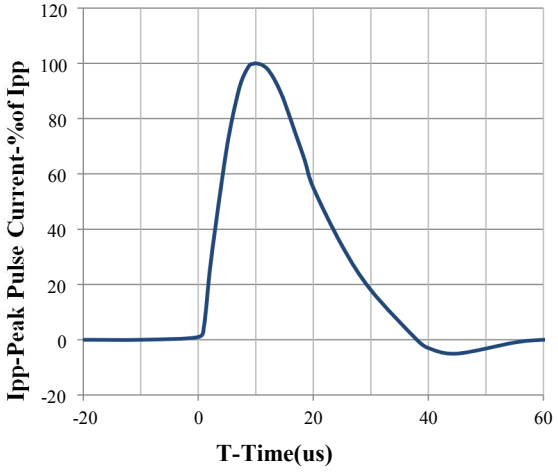
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform

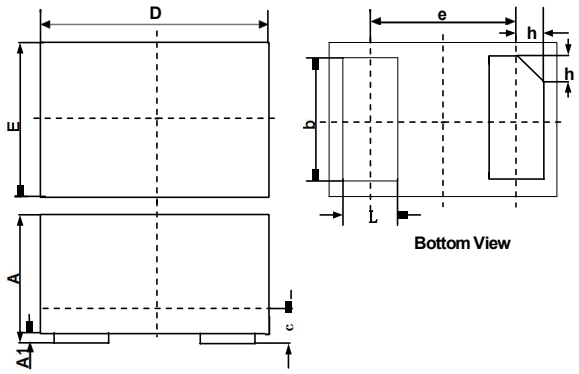


Power Derating Curve



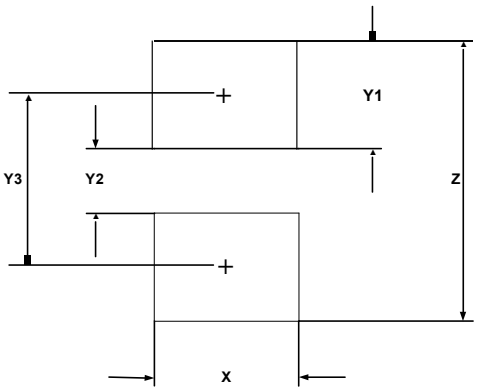
8 X 20us Pulse Waveform

DFN1610-2 Package Outline Drawing



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.75	0.80	0.85	0.030	0.032	0.034
c	0.10	0.15	0.20	0.004	0.006	0.008
D	1.55	1.60	1.65	0.062	0.064	0.066
e	1.10 BSC			0.044 BSC		
E	0.95	1.00	1.05	0.038	0.040	0.042
L	0.35	0.40	0.45	0.014	0.016	0.018
h	0.15	0.20	0.25	0.006	0.008	0.010

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	1.00	0.040
Y1	0.62	0.025
Y2	0.60	0.024
Y3	1.22	0.049
Z	1.85	0.074