

Features

- Ultra low leakage: nA level
- Operating voltage: 12V
- 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) 80A (5/50ns)
 - IEC61000-4-5 (Lightning) 65A (8/20 μs)
- RoHS Compliant

Applications

- Mobile Phones and Accessories
- Battery Protection
- USB VBus
- Power Line Protection
- Hand Held Portable Applications

Mechanical Characteristics

- Package: DFN1610-2
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel:3,000pcs
- Reel Size:7 inch
- Device Marking: 12P

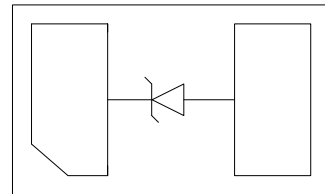
Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs pulse)	Ppk	1700	W
Peak Pulse Current (8/20 μs pulse)	I _{PP}	65	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	T _J	-40 to +125	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

Dimensions DFN1610-2



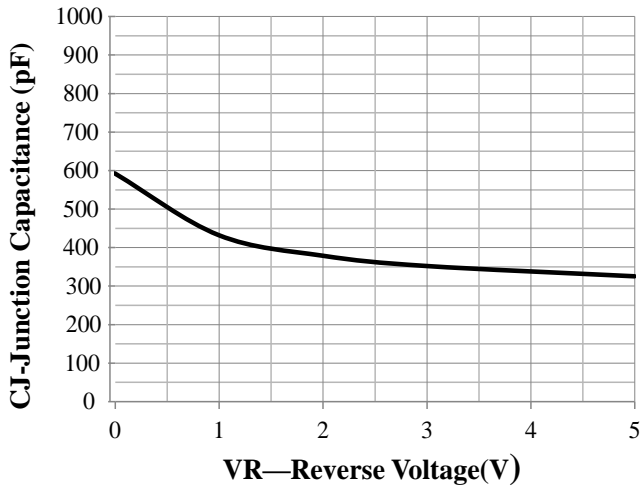
Pin Configuration



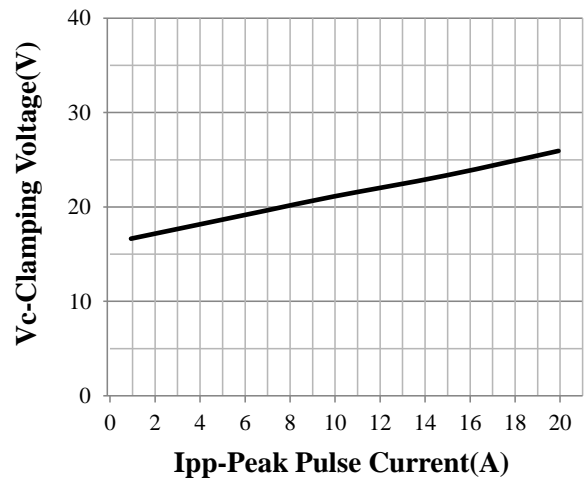
**Electrical Characteristics** (TA=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				12	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	13		17	V
Reverse Leakage Current	I_R	$V_{RWM} = 12\text{V}$			0.1	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse)			18	V
Clamping Voltage	V_C	$I_{PP} = 35\text{A}$ (8 x 20 μs pulse)		18	22	V
Clamping Voltage	V_C	$I_{PP} = 65\text{A}$ (8 x 20 μs pulse)		21.8	26	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		400	600	pF

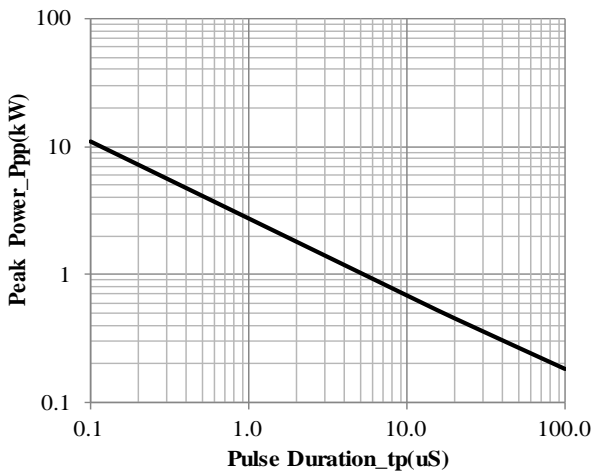
Typical Performance Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise specified)



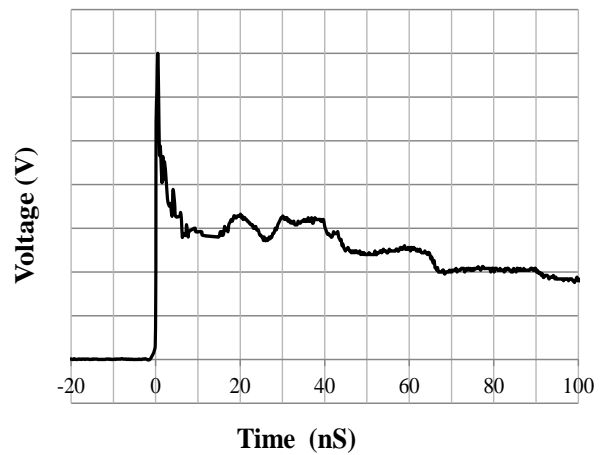
Junction Capacitance vs. Reverse Voltage



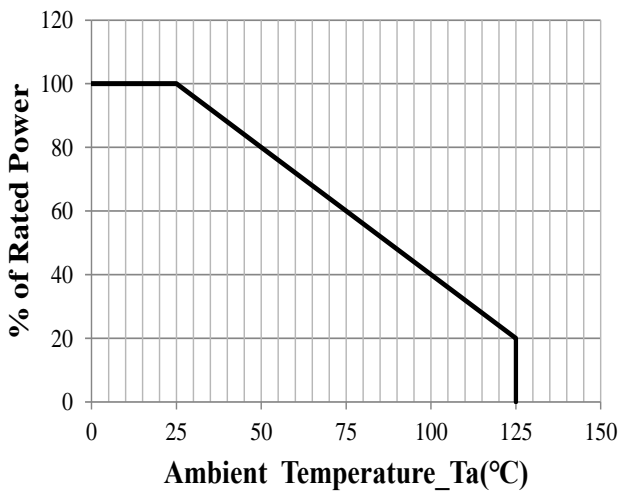
Clamping Voltage vs. Peak Pulse Current



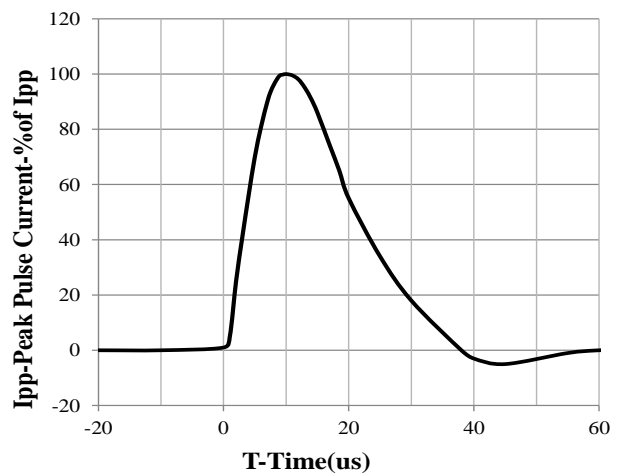
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



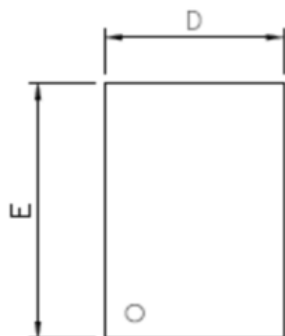
Power Derating Curve



8 X 20us Pulse Waveform

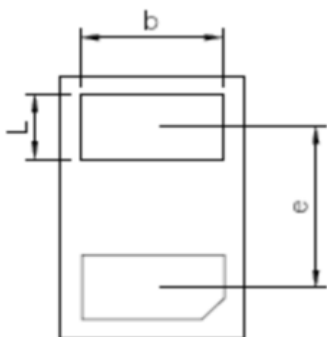


DFN1610-2 Package Outline Drawing

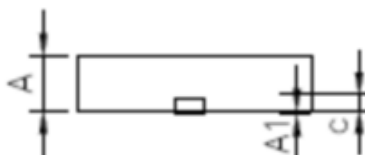


TOP VIEW

SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	Min	Typ	Max	Min	Typ	Max
A	0.50	0.55	0.60	0.0197	0.0217	0.0236
A1	0.00	0.03	0.05	0.0000	0.0012	0.0020
b	0.75	0.80	0.85	0.0295	0.0315	0.0335
c	0.152 REF			0.0060 REF		
D	0.95	1.00	1.05	0.0374	0.0394	0.0413
e	1.09 REF			0.0429 REF		
E	1.55	1.60	1.65	0.0610	0.0630	0.0650
L	0.35	0.40	0.45	0.0138	0.0157	0.0177

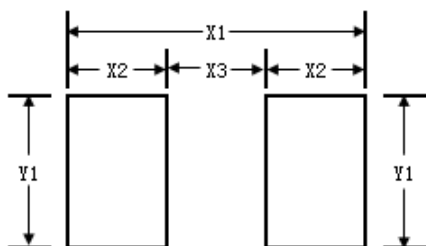


BOTTOM VIEW



SIDE VIEW

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X1	1.700	0.0669
X2	0.600	0.0236
X3	0.500	0.0197
Y1	1.000	0.0394

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