

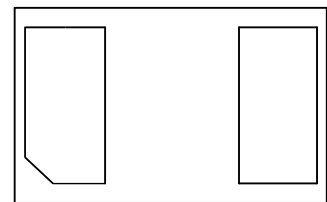
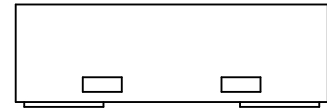
DFN1610-2L Plastic-Encapsulate Diodes

ESDJ12UG0D6 Uni-directional Suppressor

DFN1610-2L 

Features

- 1800Watts peak pulse power ($t_p = 8/20\mu s$)
- Unidirectional configuration
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Protection one power line to:
- IEC 61000-4-2 (ESD): $\pm 30KV$ (Contact); $\pm 30KV$ (Air);
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 75A (8/20 μs)



Equivalent circuit



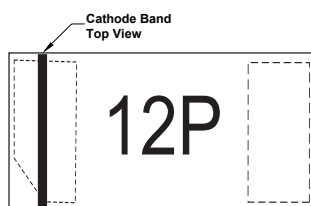
Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation

Mechanical Characteristics

- Molding compound flammability Rating: UL 94V-0
- DFN1610 package
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

Marking



Front side

12P = Device code

The marking bar indicates the cathode

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

Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 30 ± 30	KV
Peak Pulse Power (tp =8/20μs)	P _{PP}	1800	W
Peak Pulse Current (tp =8/20μs) (note1)	I _{PP}	75	A
Junction Temperature	T _J	-55 to +125	°C
Storage Temperature	T _{STG}	-55 to +125	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T _L	260(10 sec.)	°C

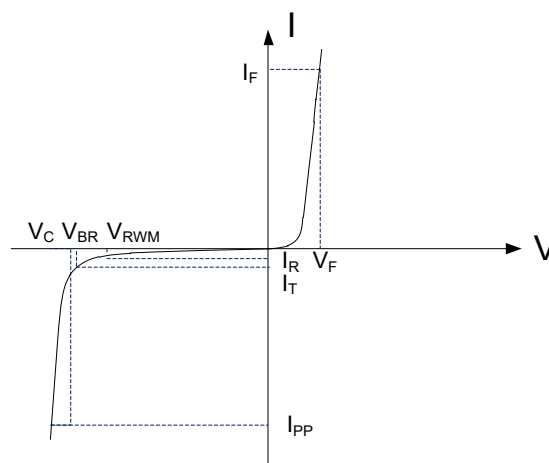
Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse Stand-Off Voltage	V _{RWM}				12	V
Reverse Breakdown Voltage	V _{BR}	I _T =1mA	12.08			V
Reverse Leakage Current	I _R	V _{RWM} =12.0V ,T=25°C			1	μA
Clamping Voltage	V _C	I _{PP} =75A, tp=8/20μs		20	26	V
Junction Capacitance	C _J	V _R = 0V, f = 1MHz		440		pF

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

Symbol	Parameter
I _{PP}	Maximum Reverse Peak Pulse Current
V _C	Clamping Voltage @ I _{PP}
V _{RWM}	Working Peak Reverse Voltage
I _R	Maximum Reverse Leakage Current @ V _{RWM}
V _{BR}	Breakdown Voltage @ I _T
I _T	Test Current

Note:.. 8/20μs pulse waveform.



Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

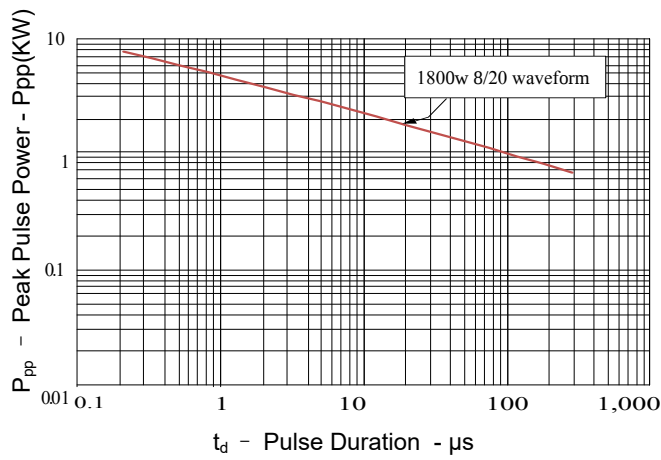


Figure 2: Power Derating Curve

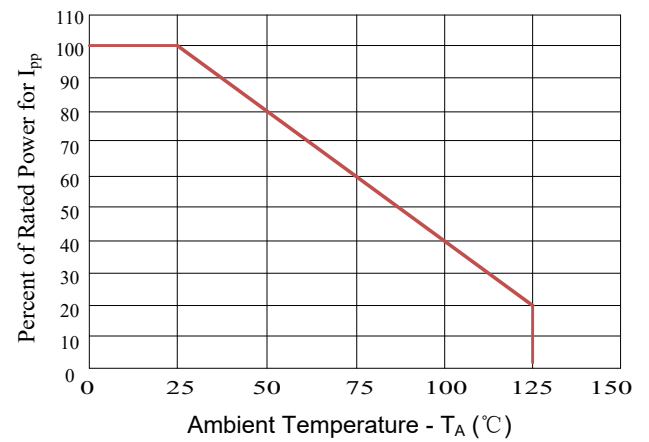


Figure3: Pulse Waveform

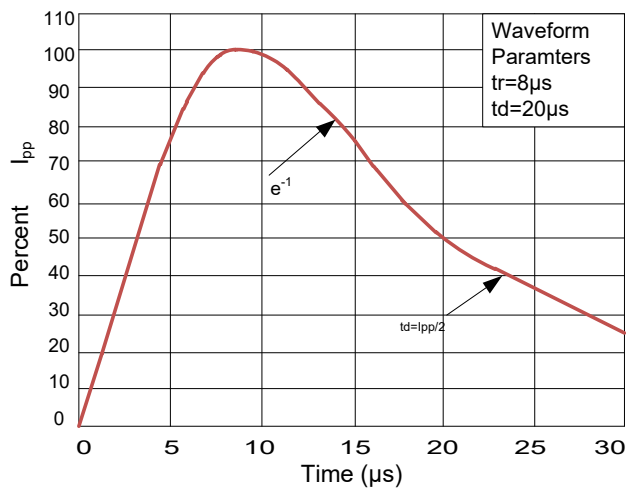
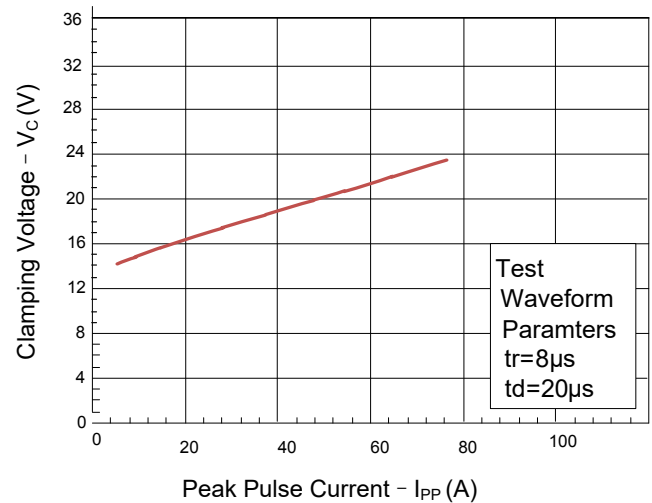
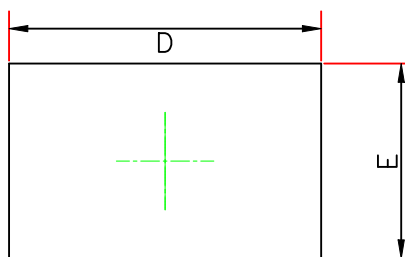


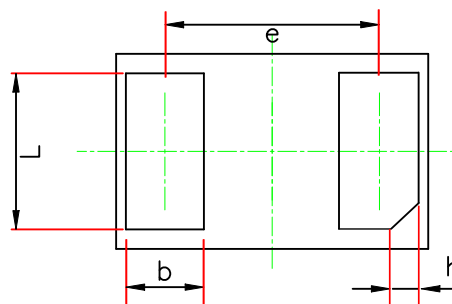
Figure 4: Clamping Voltage vs. I_pp



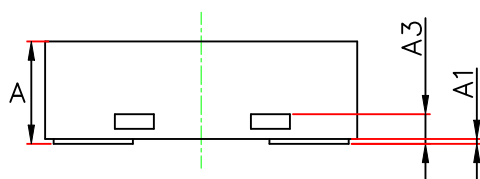
DFN1610-2L Package Outline Dimensions



TOP VIEW



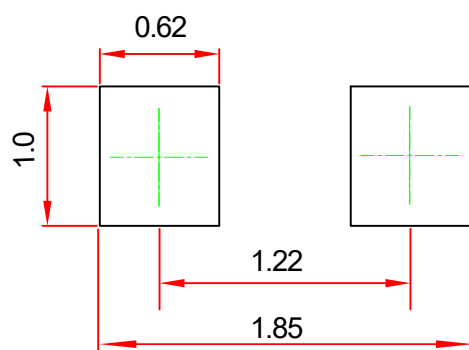
BOTTOM VIEW



SIDE VIEW

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.450	0.550	0.018	0.022
A1	0.000	0.050	0.000	0.002
A3	0.100	0.200	0.004	0.008
D	1.550	1.650	0.061	0.065
E	0.950	1.050	0.037	0.041
b	0.350	0.450	0.014	0.018
e	1.100TYP.		0.043TYP.	
L	0.750	0.850	0.030	0.033
h	0.150	0.250	0.006	0.010

Suggested Pad Layout



Note:

1. Controlling dimension: in/millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

Package and Ordering Information

Package	Outline	Reel Size	Reel DIA. (mm)	Q'TY/Reel (pcs)
DFN1610-2L	TAPING	7"	330	5000