

## Features

- 450Watts peak pulse power ( $t_p = 8/20\mu s$ )
- Bidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Protection one power line
- IEC 61000-4-2  $\pm 30kV$  contact  $\pm 30kV$  air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 45A (8/20 $\mu s$ )



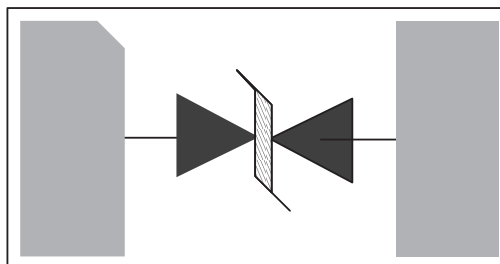
## Applications

- Laptop Computers
- Cellular Phones
- Digital Cameras
- Personal Digital Assistants (PDAs)

## Mechanical Data

- DFN1610-2L package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

## Schematic & PIN Configuration



DFN1610-2L



### Absolute Maximum Rating

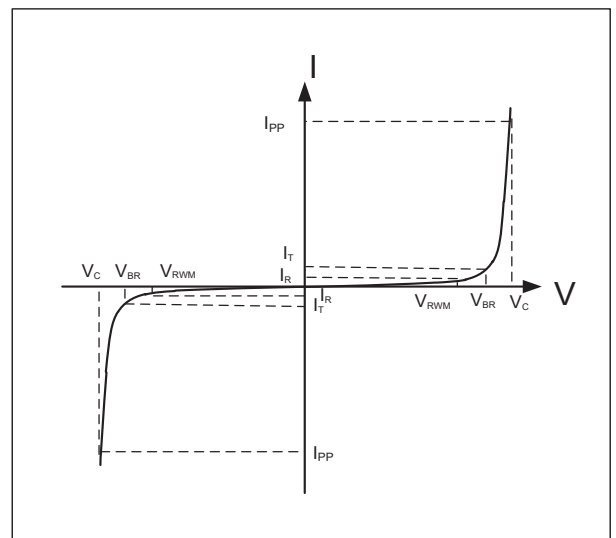
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu s$ )	$P_{PP}$	450	Watts
Peak Pulse Current ( $t_p = 8/20\mu s$ ) (note1)	$I_{pp}$	45	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	30 30	kV
Lead Soldering Temperature	$T_L$	260(10seconds)	°C
Junction Temperature	$T_J$	-55 to + 125	°C
Storage Temperature	$T_{stg}$	-55 to + 125	°C

### Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	$V_{RWM}$				7.0	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1mA$	7.2			V
Reverse Leakage Current	$I_R$	$V_{RWM} = 7V, T = 25^\circ C$			1	uA
Clamping Voltage	$V_C$	$I_{PP} = 45A, t_p = 8/20\mu s$		10		V
Junction Capacitance	$C_j$	$V_R = 0V, f = 1MHz$		140		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

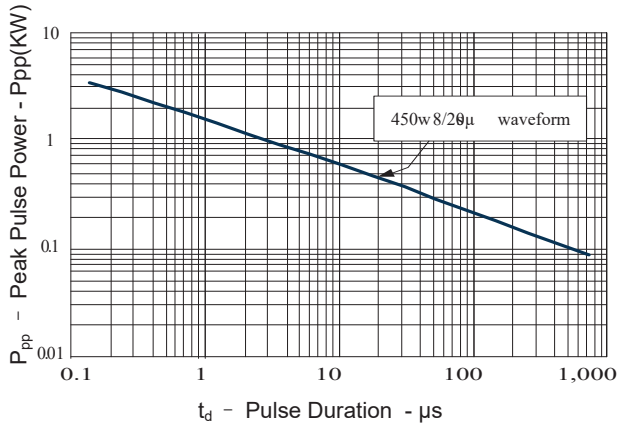


Note.: 8/20μs pulse waveform.

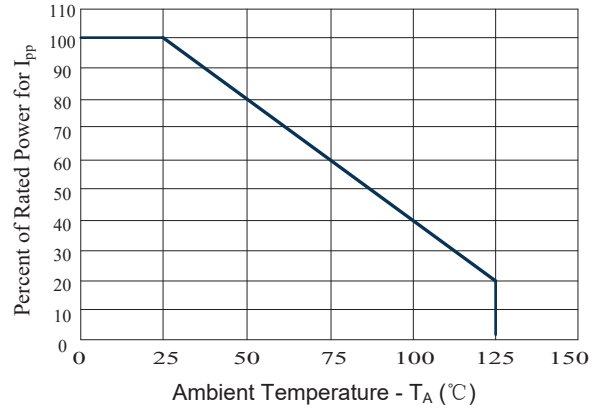


**Typical Characteristics**

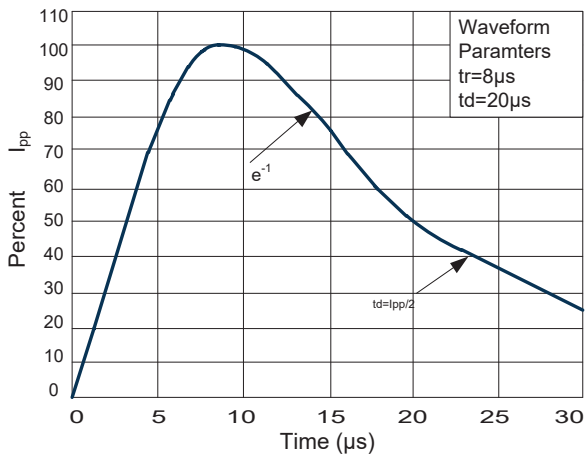
**Figure 1: Peak Pulse Power vs. Pulse Time**



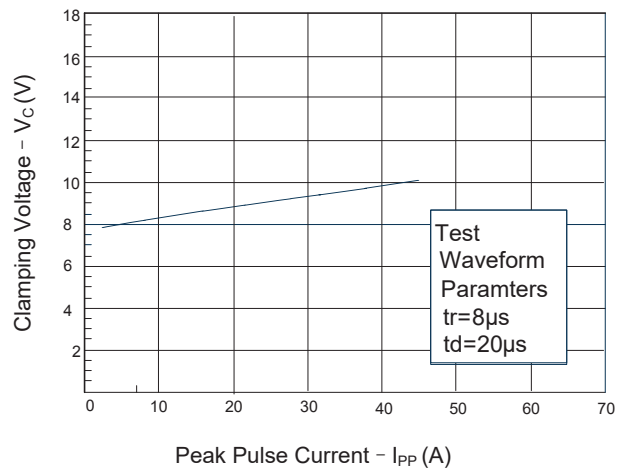
**Figure 2: Power Derating Curve**

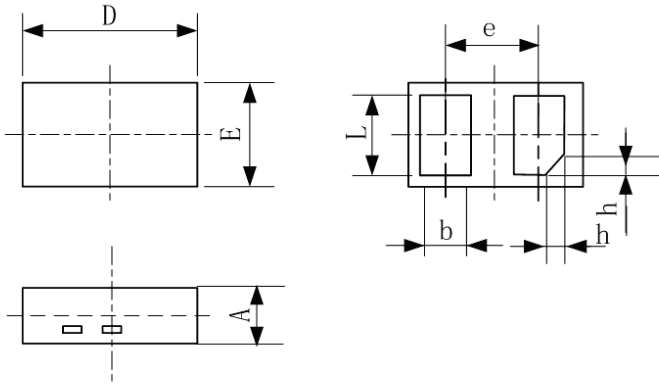


**Figure3: Pulse Waveform**



**Figure 4: Clamping Voltage vs.I<sub>pp</sub>**



**Outline Drawing – DFN1610-2L**


COMMON DIMENSION (MM)			
PKG	DFN1610		
REF.	MIN.	NON.	MAX.
A	0.45	0.50	0.55
D	1.55	1.60	1.65
E	0.95	1.00	1.05
b	0.35	0.40	0.45
L	0.75	0.80	0.85
e	1.10BSC		
h	0.15	0.20	0.25

**Marking**

**Ordering information**

Order code	Package	Base qty	Delivery mode
RL1610Q0701C	DFN1610-2L	10K	Tape and reel

