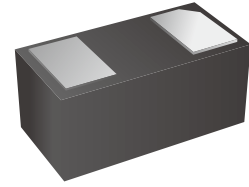
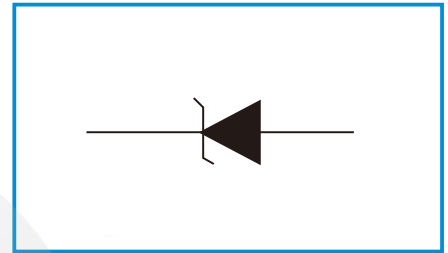


**Unidirectional TVS Diode**
**Features**

- Transient protection for high-speed data lines  
IEC 61000-4-2 (ESD)  $\pm 30\text{kV}$  (Contact)  
 $\pm 30\text{kV}$  (Air)
- IEC61000-4-4 (EFT) 110A (5/50ns)
- 1350 Watts Peak Pulse Power per (tp=8/20μs)
- Protects one Power or I/O line (unidirectional)
- Low clamping voltage
- Working voltages : 5V
- Low leakage current


**Functional Diagram**

**Mechanical Data**

- DFN1610-2L package
- Flammability Rating: UL 94V-0
- Packaging: Tape and Reel
- High temperature soldering guaranteed: 260°C/10s
- Reel size: 7 inch
- Marking : FS

**Applications**

- Laptop Computer
- Cell Phone Handset
- Digital Camera
- Personal Digital Assistants (PDA)
- DC Power line

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

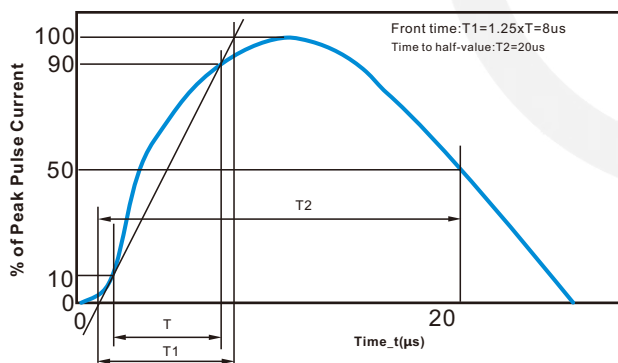
Symbol	Parameter	Value	Units
V <sub>ESD</sub>	ESD per IEC 61000-4-2 (Contact)	±30	kV
	ESD per IEC 61000-4-2 (Air)	±30	
P <sub>PP</sub>	Peak Pulse Power (8/20μs)	1350	W
T <sub>OPT</sub>	Operating Temperature	-55~125	°C
T <sub>STG</sub>	Storage Temperature	-55~150	°C

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

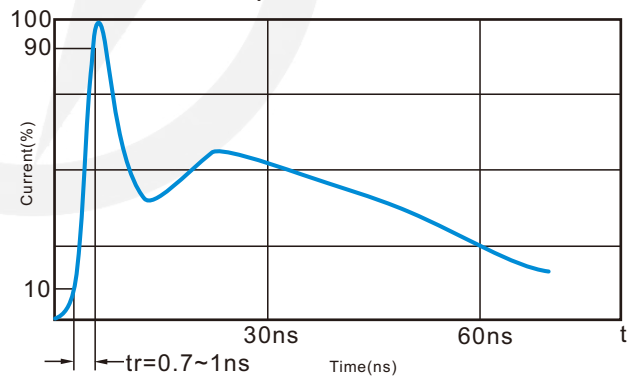
Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V <sub>RWM</sub>	Reverse Working Voltage				5.0	V
V <sub>BR</sub>	Reverse Breakdown Voltage	I <sub>T</sub> = 1mA	6.0			V
I <sub>R</sub>	Reverse Leakage Current	V <sub>RWM</sub> = 5V			2	μA
V <sub>C</sub>	Clamping Voltage	I <sub>PP</sub> = 1A, t <sub>p</sub> = 8/20μs		6.5	7.5	V
		I <sub>PP</sub> = 10A, t <sub>p</sub> = 8/20μs		7.5	9.8	V
		I <sub>PP</sub> = 90A, t <sub>p</sub> = 8/20μs			15	V
C <sub>J</sub>	Junction Capacitance	V <sub>R</sub> = 0V, f = 1MHz		800		pF

**Characteristic Curves**

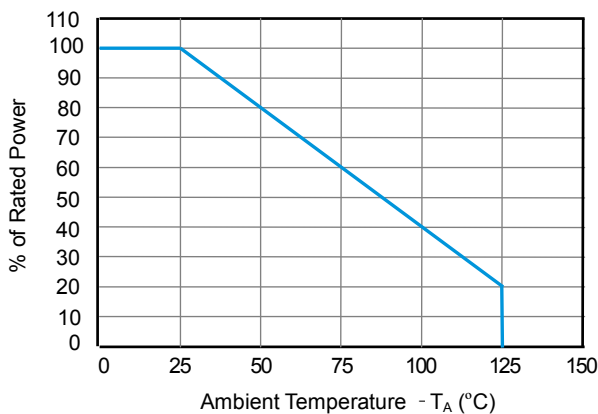
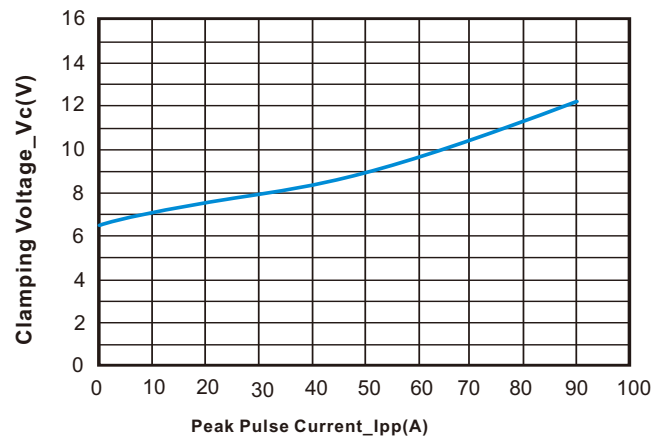
8x20μs Waveform per IEC61000-4-5



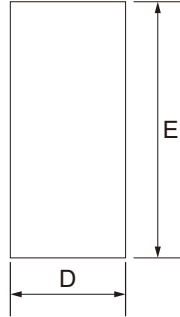
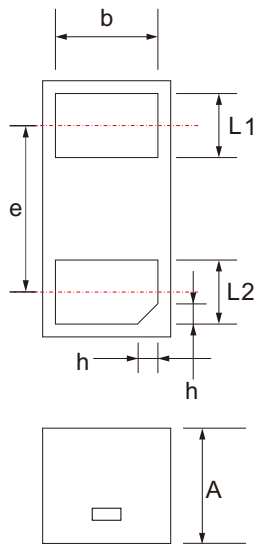
Contact Discharge Current Waveform per IEC 61000-4-2



Power Derating Curve


 Clamping Voltage vs. Peak Pulse Current (t<sub>p</sub>=8/20μs)


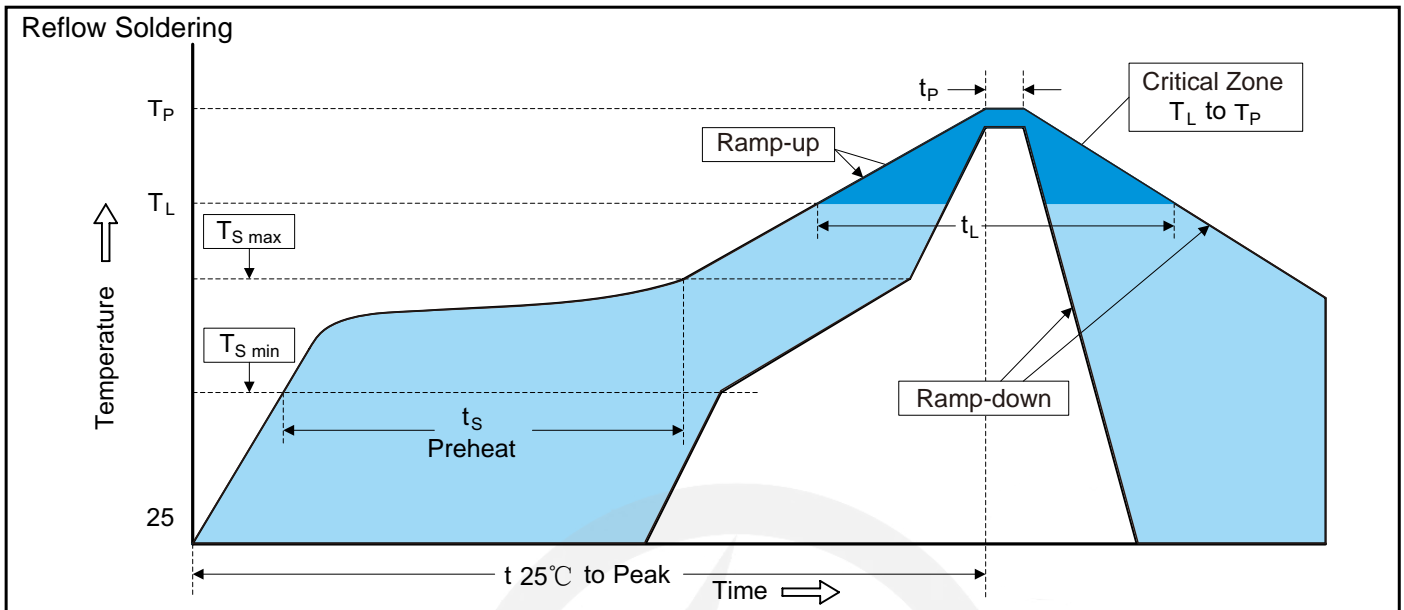
## DFN1610-2L Package Outline



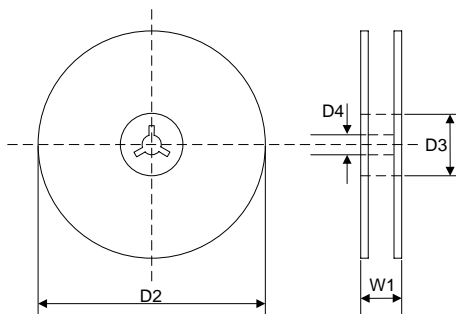
Unit: mm

SYMBOL	DIMENSIONS	
	MIN.	MAX.
D	0.950	1.050
E	1.550	1.650
L1	0.350	0.450
L2	0.350	0.450
b	0.750	0.850
e	1.090 TYP.	
A	0.450	0.550
h	0.150	0.250



**Recommended Soldering Conditions**

**Recommended Conditions**

Profile Feature	Pb-Free Assembly
Average ramp-up rate ( $T_L$ to $T_P$ )	3°C/second max.
Preheat -Temperature Min ( $T_{S\ min}$ ) -Temperature Max ( $T_{S\ max}$ ) -Time (min to max) ( $t_s$ )	150°C 200°C 60-180 seconds
$T_{S\ max}$ to $T_L$ -Ramp-up Rate	3°C/second max.
Time maintained above: -Temperature ( $T_L$ ) -Time ( $t_L$ )	217°C 60-150 seconds
Peak Temperature ( $T_P$ )	260°C
Time within 5°C of actual Peak Temperature ( $t_P$ )	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

**7" Reel**


D2	$\Phi 178.0 \pm 2.0$
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D3	$\Phi 50.0 \text{ Min.}$
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D4	$\Phi 13.0 \pm 0.5$
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W1	$16.0 \pm 2.0$
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Quantity: 3000PCS