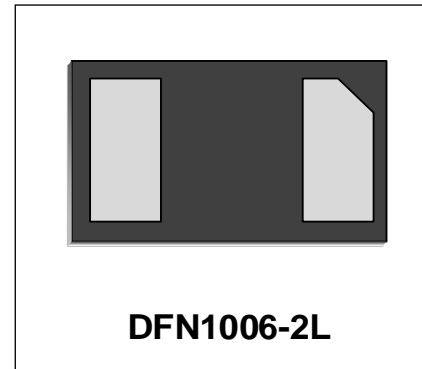


Transient Voltage Suppressor

Features

- Small Body Outline Dimensions
- Protects one I/O or power line
- Low Clamping Voltage
- Working Voltage: 15V
- Low Leakage Current



IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 7A (8/20 μs)

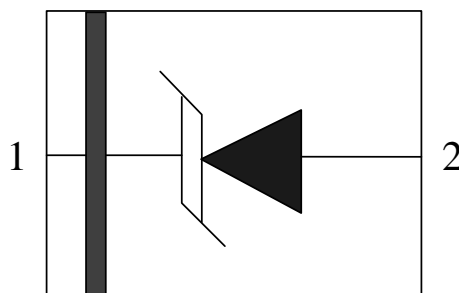
Mechanical Characteristics

- DFN1006-2L package
- Marking : Marking Code
- Packaging : Tape and Reel per EIA 481
- RoHS Compliant

Applications

- Cellular Handsets & Accessories
- Personal Digital Assistants (PDAs)
- Notebooks & Handhelds
- Portable Instrumentation
- Digital Cameras
- MP3 Players

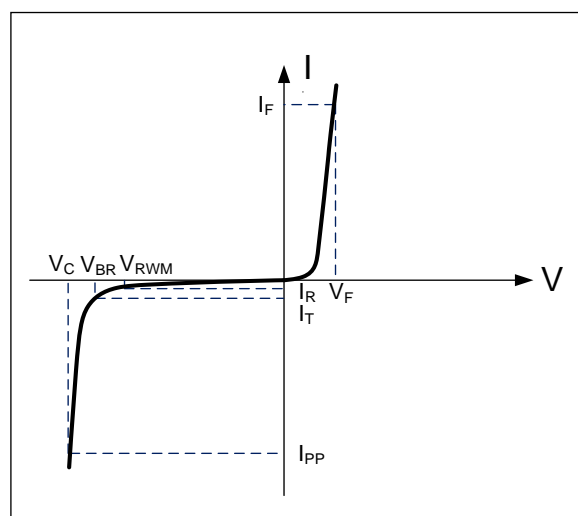
Schematic & PIN Configuration



Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P _{PP}	196	Watts
Peak Pulse Current ($t_p = 8/20\mu s$)	I _{PP}	7	A
Operating Temperature	T _J	-55 to + 125	°C
Storage Temperature	T _{STG}	-55 to +150	°C

Electrical Parameters (T=25°C)

Symbol	Parameter
I _{PP}	Peak Pulse Current
V _C	Clamping Voltage @ I _{PP}
V _{RWM}	Reverse Stand-Off Voltage
I _R	Reverse Leakage Current @ V _{RWM}
V _{BR}	Breakdown Voltage @ I _T
I _T	Test Current
I _F	Forward Current
V _F	Forward Voltage @ I _F



Electrical Characteristics

WE15DF						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V _{RWM}				15	V
Reverse Breakdown Voltage	V _{BR}	I _T =1mA	16.7			V
Reverse Leakage Current	I _R	V _{RWM} =15V, T=25°C			500	nA
Clamping Voltage	V _C	I _{PP} =7A, t _p =8/20μs		26	28	V
Forward Voltage	V _F	I _F =10mA	0.6		1.0	V
Dynamic Resistance ^{1,2}	R _{DYN}	TLP=0.2/100ns		0.4		Ω
ESD Clamping Voltage ¹	V _C	I _{PP} = 4A, t _p = 0.2/100ns (TLP)		20.2		V
ESD Clamping Voltage ¹	V _C	I _{PP} = 16A, t _p = 0.2/100ns (TLP)		24.9		V
Junction Capacitance	C _j	V _R =0V, f =1MHz		40	50	pF

Notes : 1、 TLP Setting : t_p=100ns, t_r=0.2ns, I_{TLP} and V_{TLP} sample window:t₁=70ns to t₂=90ns.
 2、 Dynamic resistance calculated from I_{PP}=4A to I_{PP}=16A using "Best Fit".

Typical Characteristics

Figure 1: Peak Pulse Power Vs Pulse Time

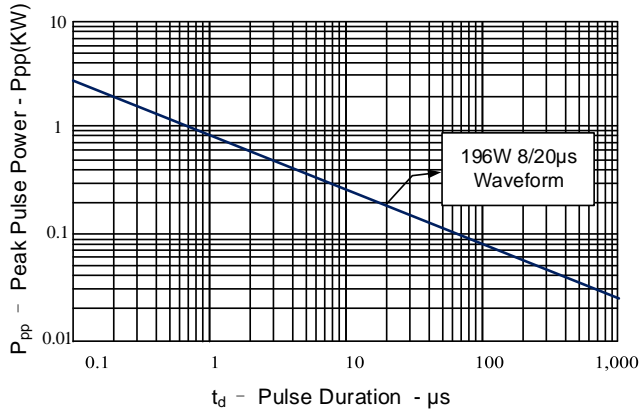


Figure 2: Power Derating Curve

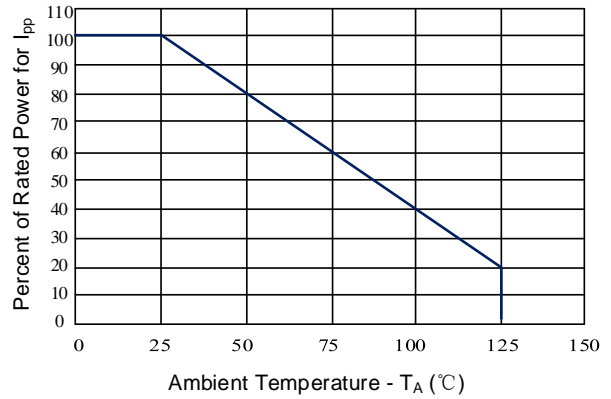


Figure 3: Clamping Voltage vs. Peak Pulse Current

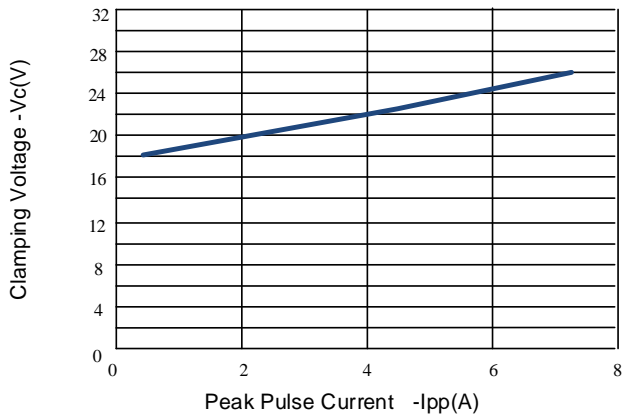


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

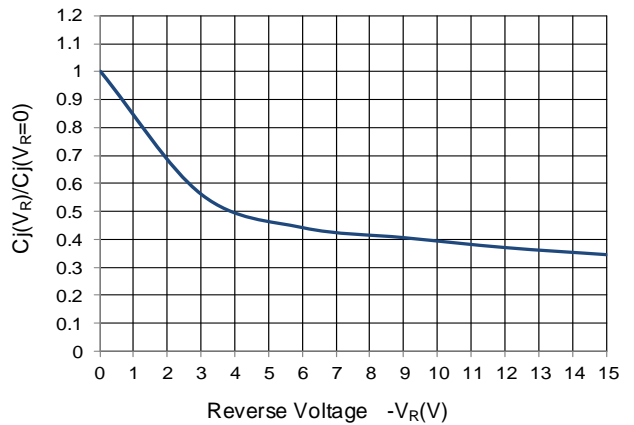


Figure 5: 8/20μs Pulse Waveform

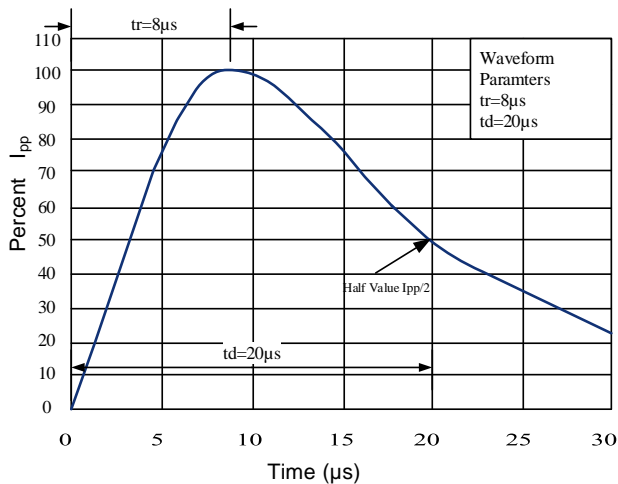
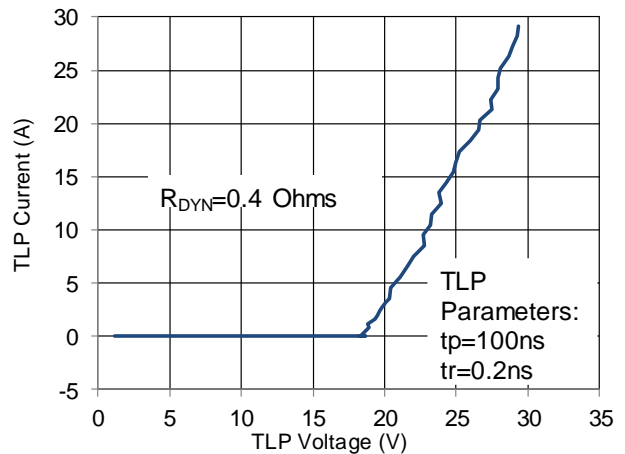
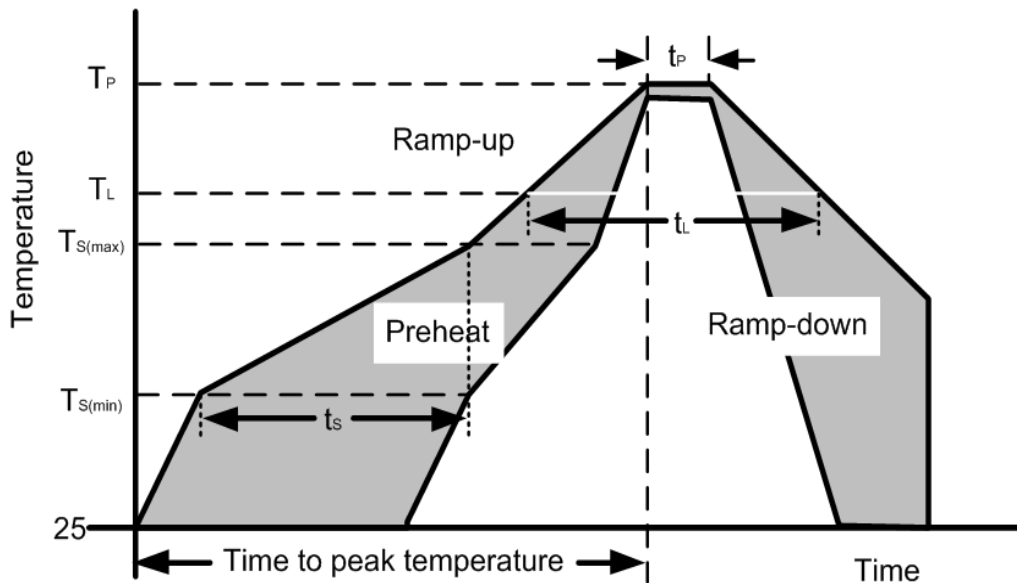


Figure 6: TLP I-V Curve



Soldering Parameters

Reflow Condition		Pb – Free assembly
Pre Heat	Temperature Min ($T_{S(min)}$)	150°C
	Temperature Max ($T_{S(max)}$)	200°C
	Time (min to max) (t_s)	60 – 190 secs
Average ramp up rate (Liquidus Temp) (T_L) to peak		5°C/second max
$T_{S(max)}$ to T_L —Ramp-up Rate		5°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_P)		260+0/-5 °C
Time within actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		280°C



Outline Drawing –DFN1006-2L

PACKAGE OUTLINE

BOTTOM VIEW

DFN1006-2L

SYMBOL	MILLIMETERS		
	MIN	NOM	MAX
A	0.45	0.50	0.55
A1	0	0.02	0.05
b	0.45	0.50	0.55
C	0.12	0.15	0.18
D	0.95	1.00	1.05
e	0.65BSC		
E	0.55	0.60	0.65
L	0.20	0.25	0.30
L1	0.05REF		
h	0.07	0.12	0.17

Land Pattern

Marking Codes

Part Number	WE15DF	Marking Code	
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Package Information

Qty: 10k/Reel

CONTACT INFORMATION

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For additional information, please contact your local Sales Representative.

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Specifications are subject to change without notice.
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
Users should verify actual device performance in their specific applications.