

Descriptions

This is Transient Voltage Suppressor in a DFN1006-2L Plastic Package.

Features

- Small Body Outline Dimensions:
- Protects one I/O or power line
- Low Clamping Voltage
- Working Voltage: 5V
- 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) 18A (8/20 μs)

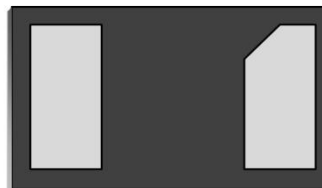
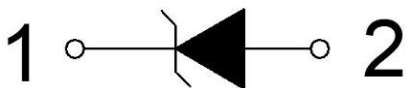
Mechanical Characteristics

- DFN1006-2L package
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS Compliant & HF
- Device meets MSL1 requirement

Applications

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

Schematic & PIN Configuration



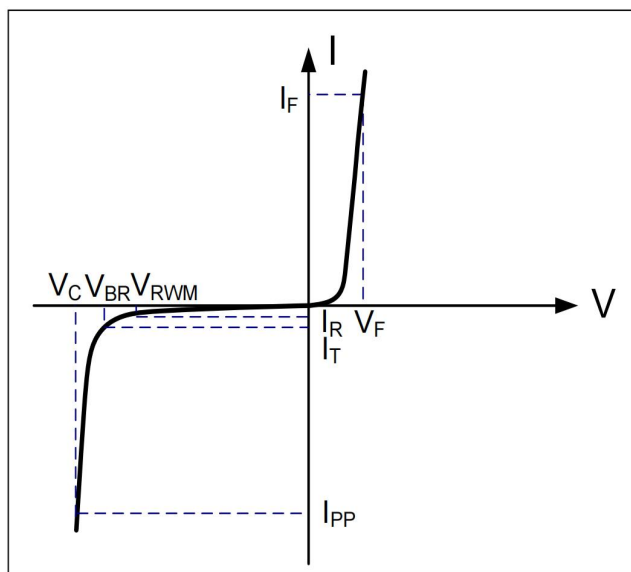
DFN1006-2L

Absolute Maximum Ratings($T_a=25^{\circ}\text{C}$)

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu\text{s}$)	P_{PP}	288	Watts
Peak Pulse Current ($t_p=8/20\mu\text{s}$)	I_{PP}	18	A
Operating Temperature	T_J	-55 to + 125	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}\text{C}$

Electrical Parameters

Symbol	Parameter
I_{PP}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Reverse Stand-Off Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Reverse Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics(T=25°C unless otherwise noted)

CTSY5V0P1U2ZP						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_r=1mA$	6		10	V
Reverse Leakage Current	I_R	$V_{RWM}=5V$			500	nA
Forward Voltage	V_F	$I_F=10mA$	0.6		1.5	V
Clamping Voltage	V_C	$I_{PP}=18A, t_p=8/20\mu s$		12	16	V
ESD Clamping Voltage ¹	V_C	$I_{PP} = 4A$ $t_p = 0.2/100ns$		7.9		V
ESD Clamping Voltage ¹	V_C	$I_{PP} = 16A$ $t_p = 0.2/100ns$		11.0		V
Dynamic Resistance ^{1,2}	R_{DYN}	TLP=0.2/100ns		0.26		Ω
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$		0.95	1.5	pF

Note:

1、TLP Setting: $t_p=100ns$, $t_r=0.2ns$, I_{TLP} and V_{TLP} sample window: $t_1=70ns$ to $t_2=90ns$.

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

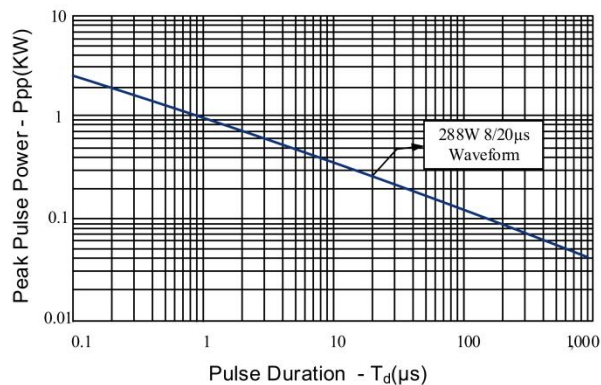


Figure 2: Power Derating Curve

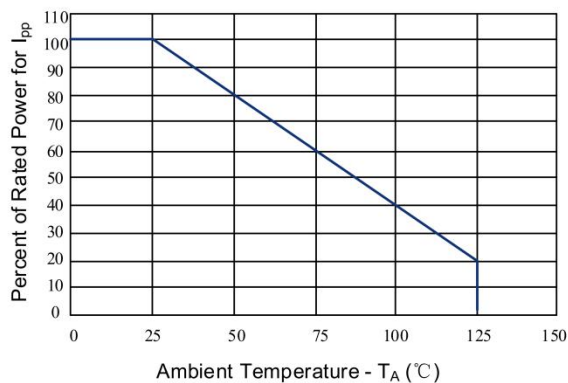


Figure 3: Clamping Voltage vs. Peak Pulse Current

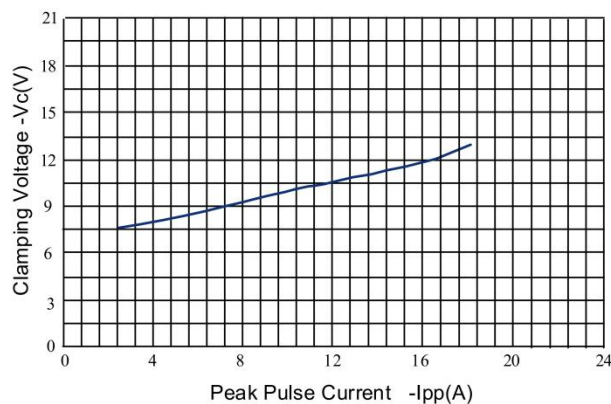


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

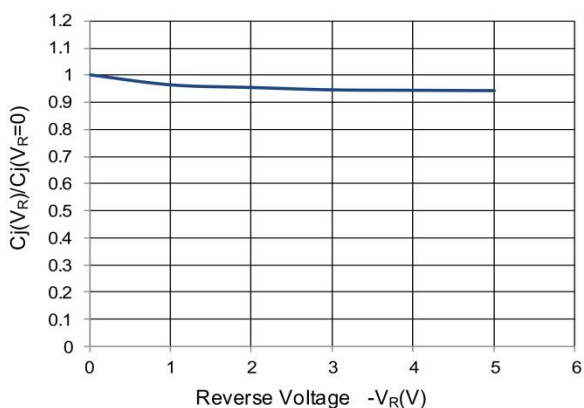


Figure 5: 8/20μs Pulse Waveform

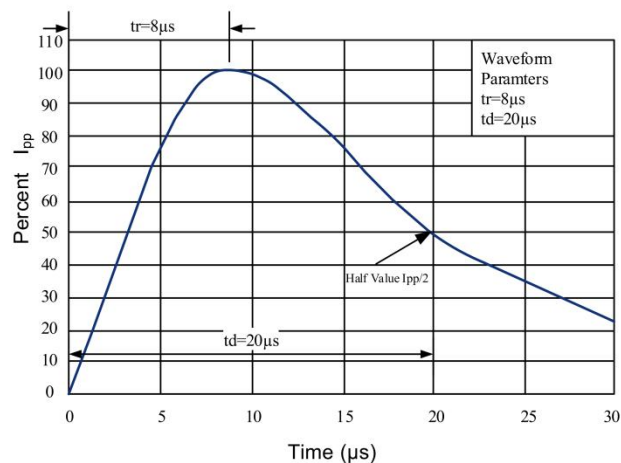
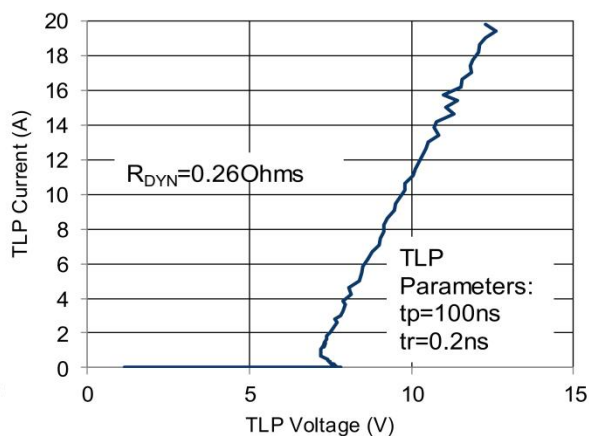
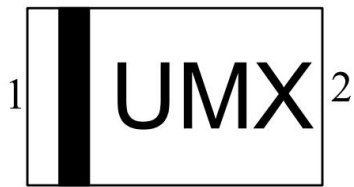


Figure 6: TLP I-V Curve



Marking codes& Package Information

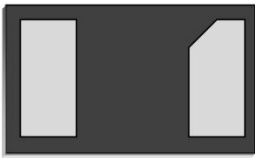
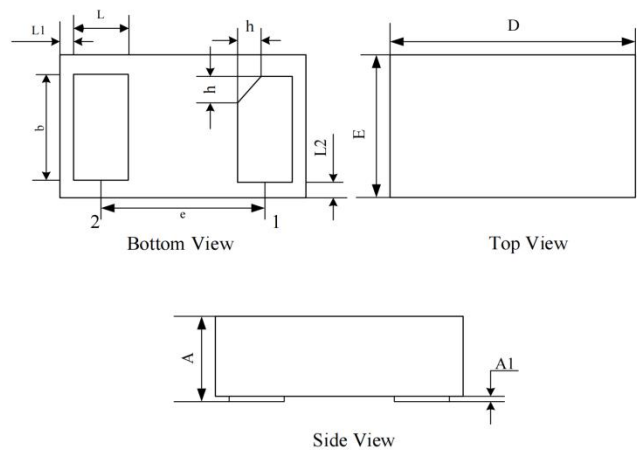


UM=Specific Device Code
X=Month Code

Qty: 10k/Reel

Outline Drawing - DFN1006-2L

PACKAGE OUTLINE



DFN1006-2L

SYMBOL	MILLIMETERS		
	NOM	MIN	MAX
A	--	0.35	0.400
A1	--	--	0.050
D	1.020	0.990	1.050
E	0.620	0.590	0.650
b	0.480	0.430	0.530
L	0.220	0.170	0.270
h	0.125	0.075	0.175
L1	0.075REF		
L2	0.070REF		
e	0.650REF		

Land Pattern

