

Transient Voltage Suppressor

FEATURES

- ◆520Watts peak pulse power ($t_p = 8/20\mu s$)
- ◆Unidirectional 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) 50A (5/50ns)
- ◆IEC 61000-4-5 (Lightning) 35A (8/20 μs)

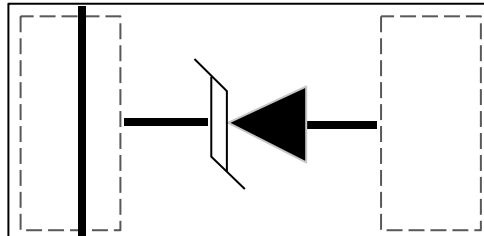
APPLICATIONS

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

MECHANICAL DATA

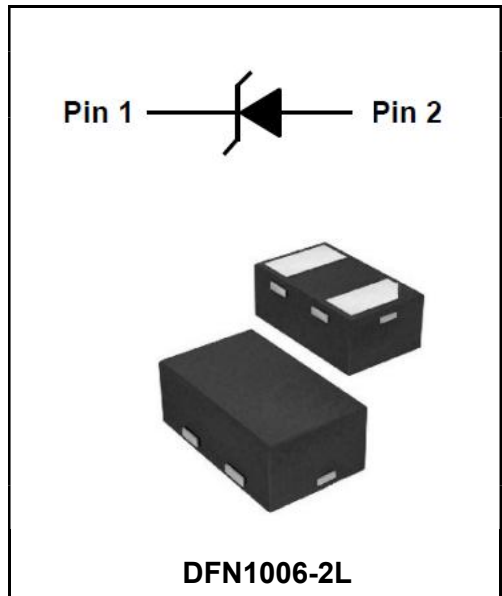
- ◆Case:DFN1006-2L
- ◆Molding compound flammability rating: UL 94V-0
- ◆Packaging: Tape and Reel
- ◆RoHS/WEEE Compliant

Schematic & PIN Configuration



Absolute maximum ratings

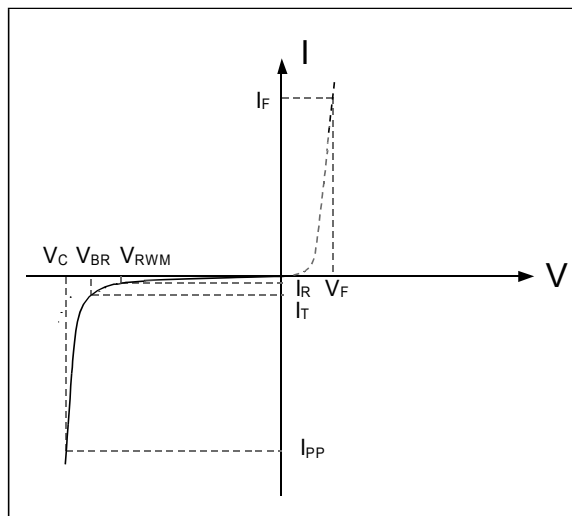
Parameter	Symbol	Value	Unit
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	520	W
Peak pulse current ($t_p = 8/20\mu s$) (note1)	I_{pp}	35	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 30	KV
ESD per IEC 61000-4-2 (Contact)		± 30	
Lead Soldering Temperature (10seconds)	T_L	260	$^{\circ}C$
Operation junction temperature	T_J	-55~150	$^{\circ}C$
Storage temperature	T_{STG}	-55~150	$^{\circ}C$



Marking Code	
ESD1006D5V0	5E

Electrical Parameters (T=25°C)

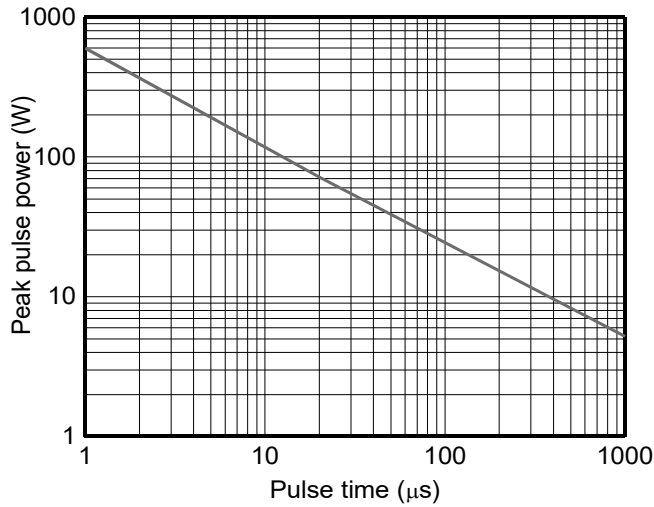
Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F



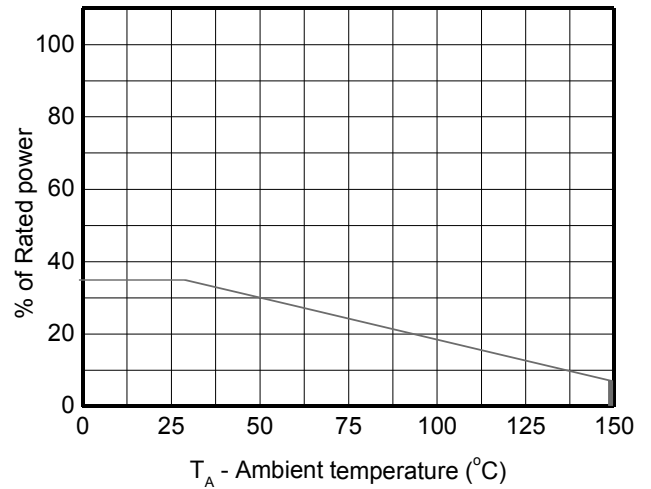
Electrical Characteristics

Parameter	Conditions	Symbols	Min	Typ	Max	Unit
Reverse Stand-Off Voltage		V_{RWM}			5.0	V
Reverse Breakdown Voltage	$I_T=1mA$	V_{BR}			7.5	V
Reverse Leakage Current	$V_{RWM}=5.0V, T=25^{\circ}C$	I_R		0.5	1	μA
Peak Pulse Current	$t_p=8/20\mu s$	I_{PP}			35	A
Clamping Voltage	$I_{PP}=35A, t_p=8/20\mu s$	V_C			15	V
Junction Capacitance	$V_R=0V, f=1MHz$	C_J		200		pF

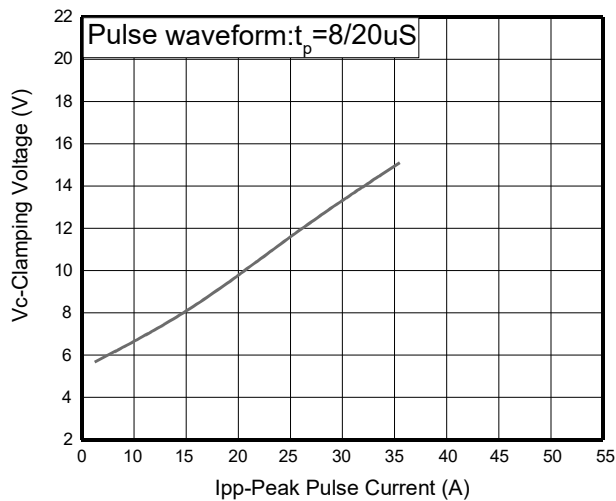
Typical Characteristics



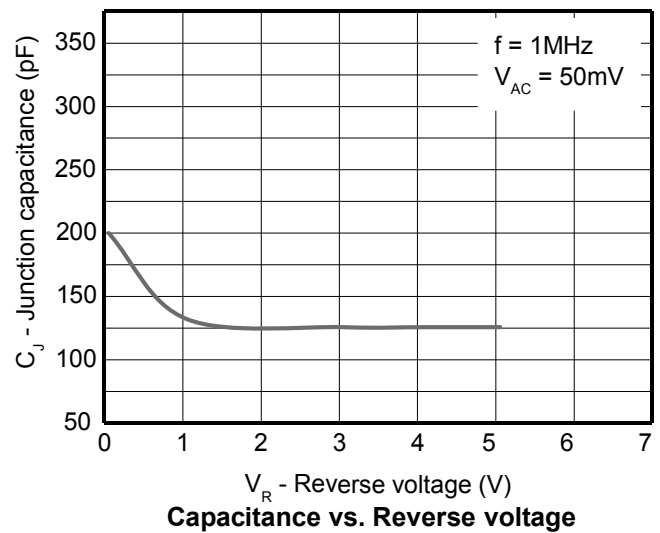
Non-repetitive peak pulse power vs. Pulse time



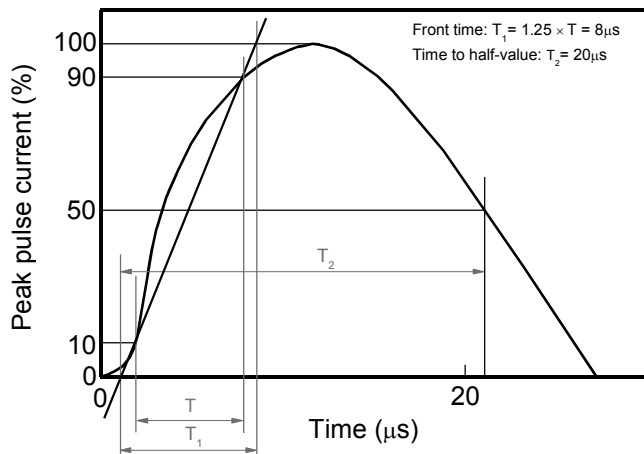
Power derating vs. Ambient temperature



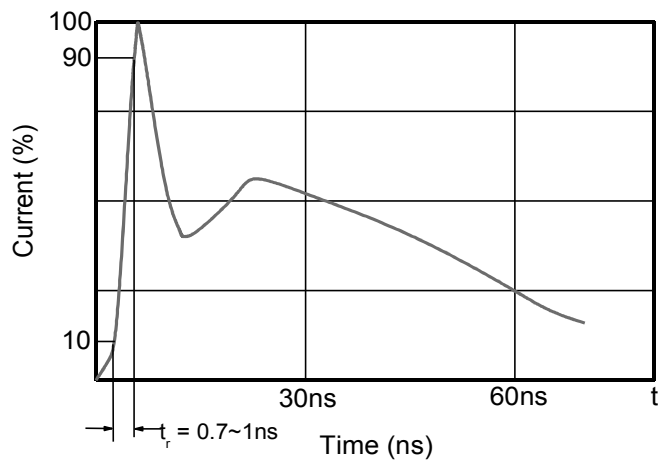
Clamping voltage vs. Peak pulse current



Capacitance vs. Reverse voltage



8/20 μs waveform per IEC61000-4-5



Contact discharge current waveform per IEC61000-4-2

Ordering information

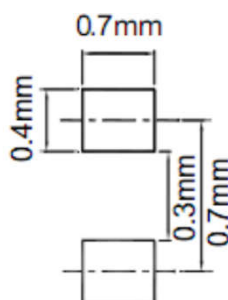
Package	Packing Description	Packing Quantity
DFN1006-2L	Tape/Reel, 7" reel	10000PCS/Reel 400000PCS/Carton

Package Dimensions

DFN1006-2L

Dim.	Millimeter(mm)		Inches	
	Min.	Max.	Min.	Max.
A	0.350	0.450	0.014	0.018
D	0.550	0.650	0.022	0.026
E	0.950	1.050	0.037	0.041
D1	0.420	0.520	0.017	0.020
E1	0.550	0.650	0.022	0.026
L	0.270	0.370	0.011	0.015
L1	-	0.100	-	0.004

The recommended mounting pad size



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