

FEATURES

- | 72Watts peak pulse power (tp = 8/20μs)
- | Bidirectional configurations
- | Solid-state silicon-avalanche technology
- | Working voltages : 5.0V
- | Low leakage current
- | Low capacitance: Cj = 0.3pF typ

APPLICATIONS

- | USB 3.0 and USB3.1
- | Ultra-high-speed data lines
- | Very sensitive interface lines
- | Notebooks, Desktops, and Servers
- | Portable Instrumentation



DFN1006



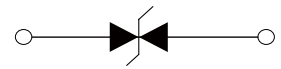
Marking

IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) ±25kV (air), ±25kV (contact)
- | IEC61000-4-4 (EFT) 40A (5/50ns)

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003



Schematic Symbol

THERMAL CONSIDERATIONS

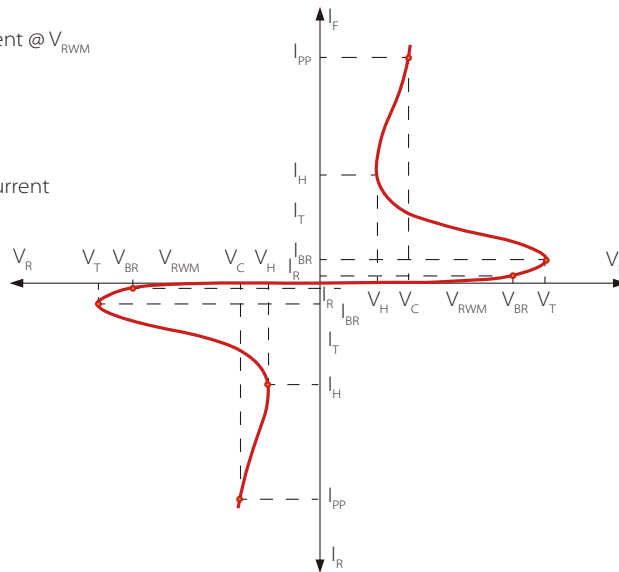
Symbol	Parameter	Value	Unit
P_{pp}	Peak Pulse Power (tp=8/20μs waveform)	72	Watts
T_J	Operating Temperature Range	-55 to +125	°C
T_{STG}	Storage Temperature Range	-55 to +125	°C

ELECTRICAL CHARACTERISTICS

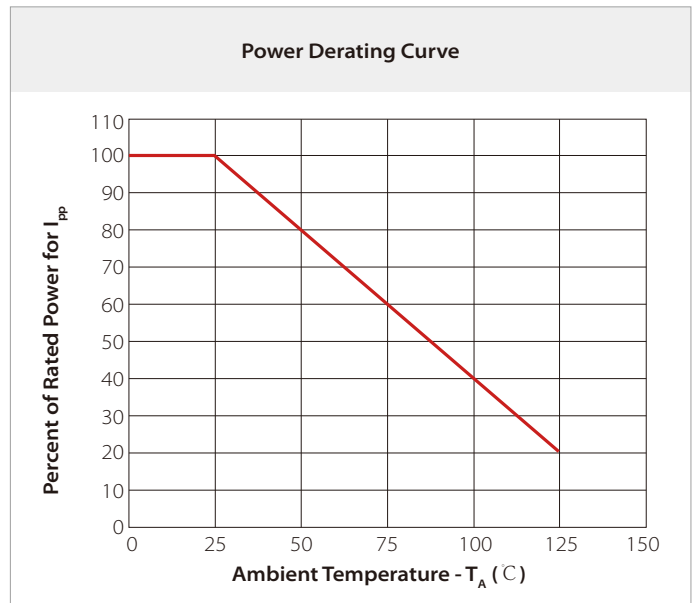
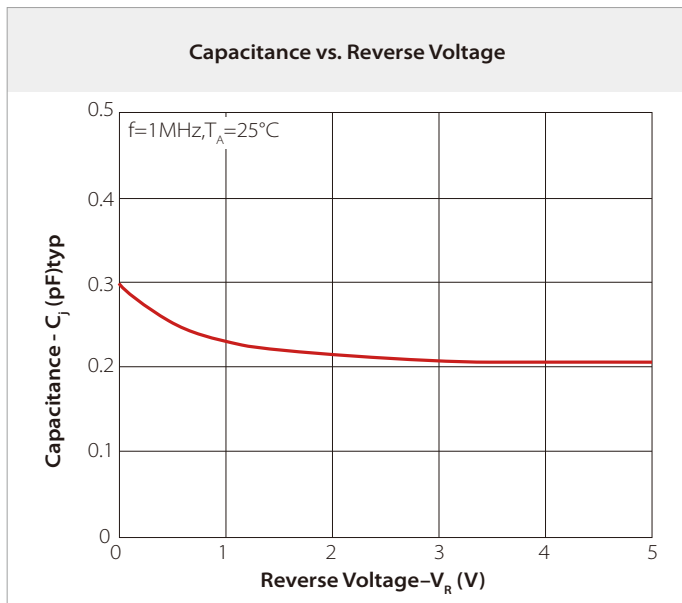
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_{RWM}	Reverse Stand-off Voltage				5	V
V_{BR}	Reverse Breakdown Voltage	$I_T=1\text{mA}$	6	7		V
V_H	Holding Voltage		2		3.5	V
I_R	Reverse Leakage Current	$V_{RWM}=5.0\text{V}$			0.5	uA
V_C	Clamping Voltage	$I_{pp}=9\text{A}, tp=8/20\mu\text{s}$		7	8	V
V_{CL}	ESD Clamping Voltage	$I_{TLP}=4\text{A}$ $tp=0.2/100\text{ns}$		3.7		V
V_{CL}	ESD Clamping Voltage	$I_{TLP}=16\text{A}$ $tp=0.2/100\text{ns}$		8		V
I_{pp}	Peak Pulse Current	$tp=8/20\mu\text{s}$			9	A
R_{dyn}	ESD Dynamic Resistance	$T_{LP}=0.2/100\text{ns}$		0.35		Ω
C_J	Off State Junction Capacitance	$V_R=0\text{V}, f=1\text{MHz}$		0.30	0.40	pF

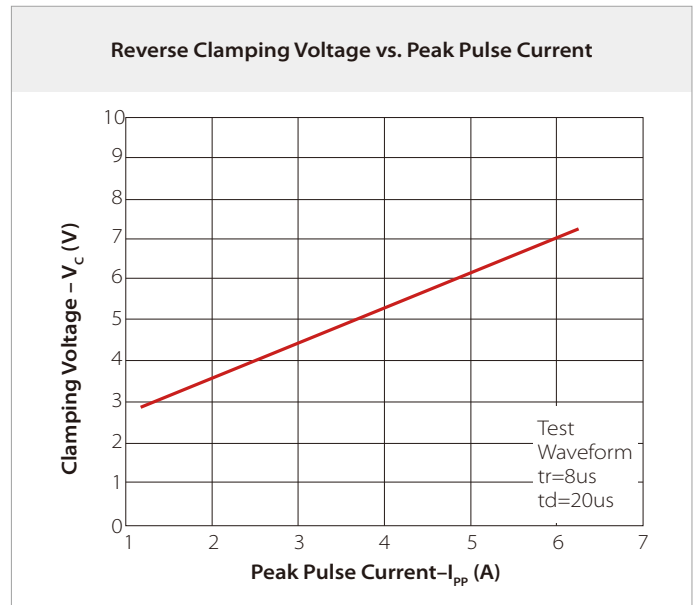
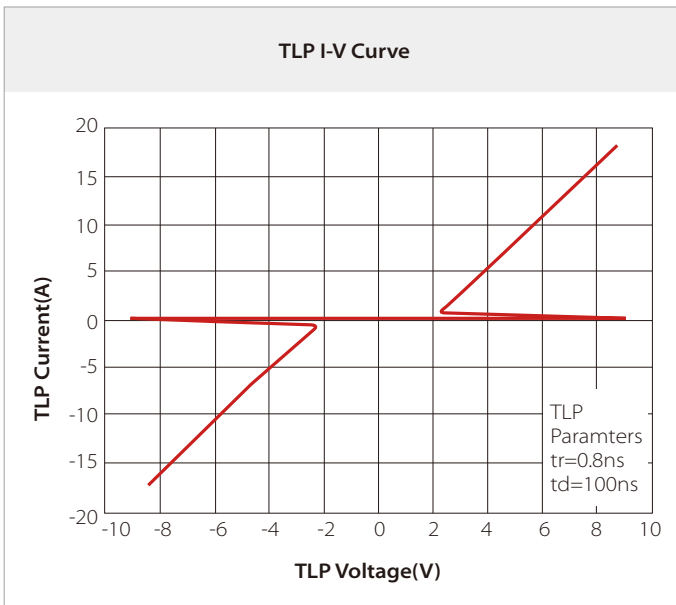
ELECTRICAL PARAMETERS (T_A = 25°C)

- V_{RWM} Reverse Working Voltage Max.
- I_R Maximum Reverse Leakage Current @ V_{RWM}
- V_T Trigger Voltage
- V_H Holding Voltage
- I_H Holding Current
- V_{BR} Reverse Breakdown Voltage
- I_{pp} Maximum Reverse Peak Pulse Current
- V_C Clamping Voltage @ I_{pp}



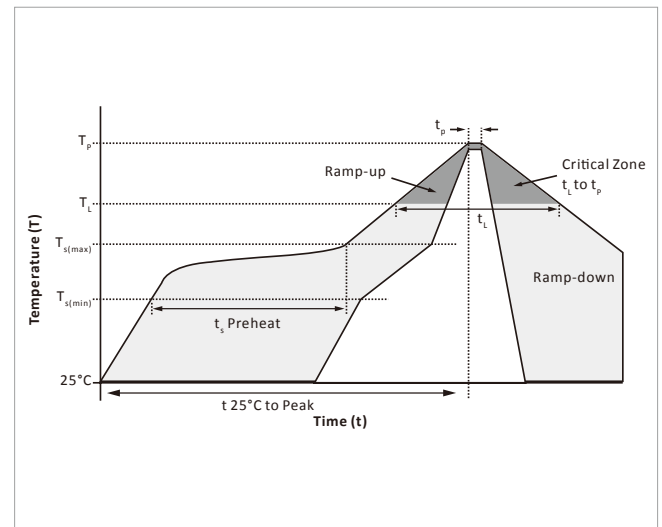
CHARACTERISTIC CURVES



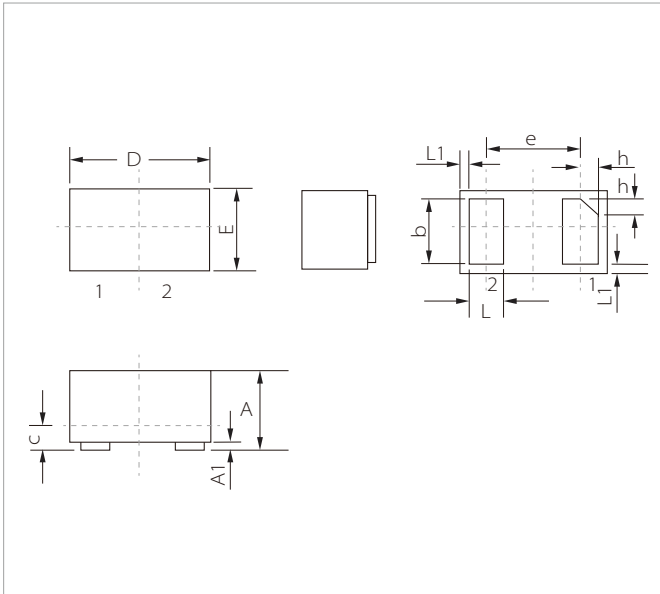


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_p)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	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 (T_p)		8 minutes max.
Do not exceed		260°C

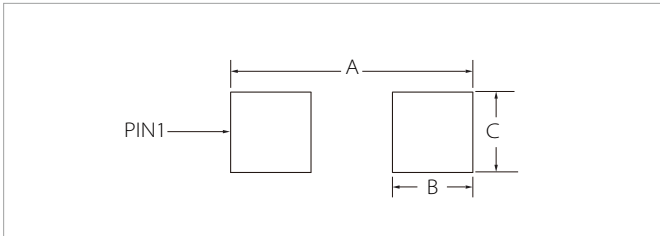


DFN1006 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.35	0.50	0.014	0.020
A1	0	0.05	0	0.002
b	0.40	0.55	0.016	0.022
c	0.12	0.18	0.005	0.007
D	0.95	1.05	0.037	0.041
e	0.65BSC		0.026BSC	
E	0.55	0.70	0.022	0.027
L	0.20	0.35	0.008	0.014
L1	0.05REF		0.002REF	
h	0.07	0.17	0.003	0.007

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
A	1.20	0.047
B	0.47	0.019
C	0.60	0.024

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SE10F10B5.0MA-SP	DFN1006	10000PCS	7"

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