

FEATURES

- | 40 Watts Peak Pulse Power per Line (tp=8/20μs)
- | Bi-directional configurations
- | Response time is typically <1ns
- | Solid-state silicon-avalanche technology
- | Low Leakage Current
- | Low Clamping Voltage

APPLICATIONS

- | USB3.0 and USB3.1
- | HDMI1.3,HDMI1.4 and HDMI2.0
- | Sensitive interface lines
- | Antenna applications
- | Digital Visual Interface(DVI)



DFN1006



Marking

IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) ±20kV (air), ±15kV (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)	40	Watts
T_J	Operating Temperature Range	-55 to +125	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C

ELECTRICAL CHARACTERISTICS

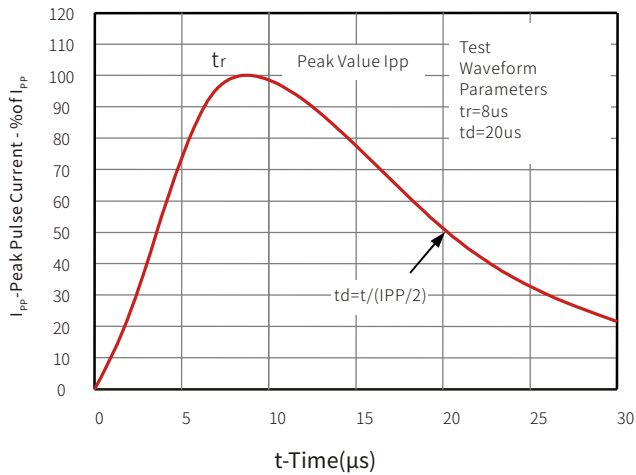
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_{RWM}	Reverse Working Voltage				3.6	V
V_{BR}	Reverse Breakdown Voltage	$I_T=1mA$	4	7.8		V
V_H	Reverse Holding Voltage	$I_T=I_H$	2.0		3.3	V
I_R	Reverse Leakage Current	$V_{RWM}=3.6V$			0.2	μA
V_C	Clamping Voltage	$I_{pp}=6A, tp=8/20μs$		5.5	6.5	V
V_C	ESD Clamping Voltage ⁽¹⁾	$I_{TLP}=4A, tp=0.2/100ns$		5.8		V
V_C	ESD Clamping Voltage	$I_{TLP}=16A, tp=0.2/100ns$		9.4	11.8	V
R_{DYN}	ESD Dynamic Resistance ⁽²⁾	$TLP=0.2/100ns$		0.3	0.5	Ω
I_{PP}	Peak Pulse Current	$tp=8/20μs$			6	A
C_J	Junction Capacitance	$V_R=0V, f=1MHz$		0.22	0.32	pF

Note:

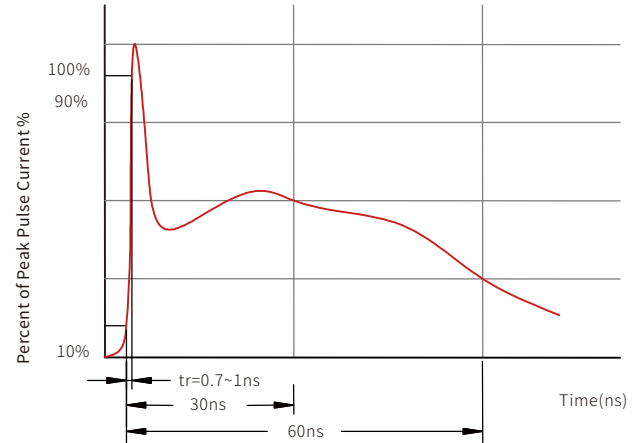
(1): TLP Setting: ITLP and VTLP sample window: t1=70ns to t2=90ns.

(2): Dynamic resistance calculated from $I_{pp}=4A$ to $I_{pp}=16A$

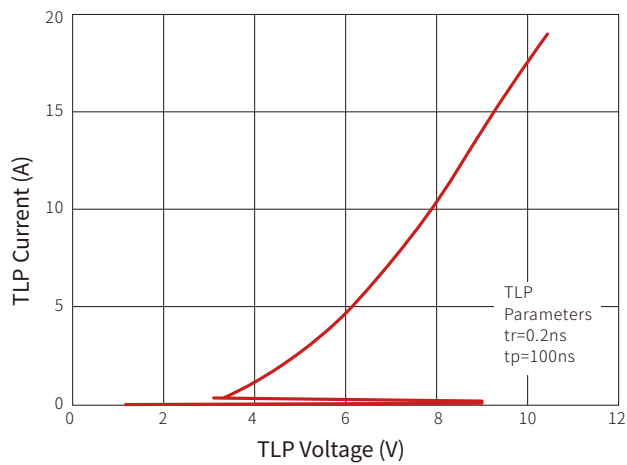
CHARACTERISTIC CURVES

8/20 μ s Pulse Waveform


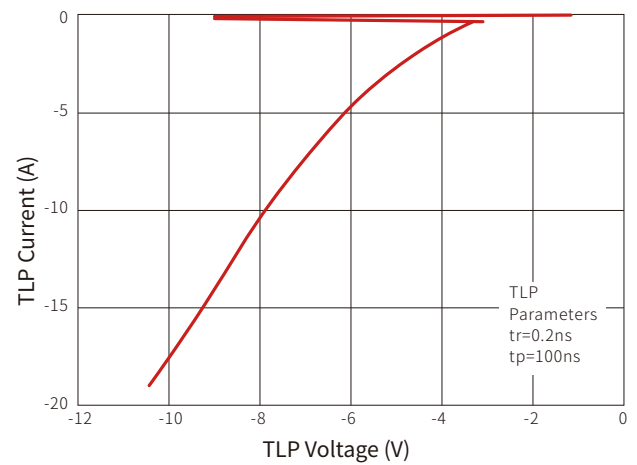
ESD Pulse Waveform (according to IEC 61000-4-2)



TLP Positive I-V Curve

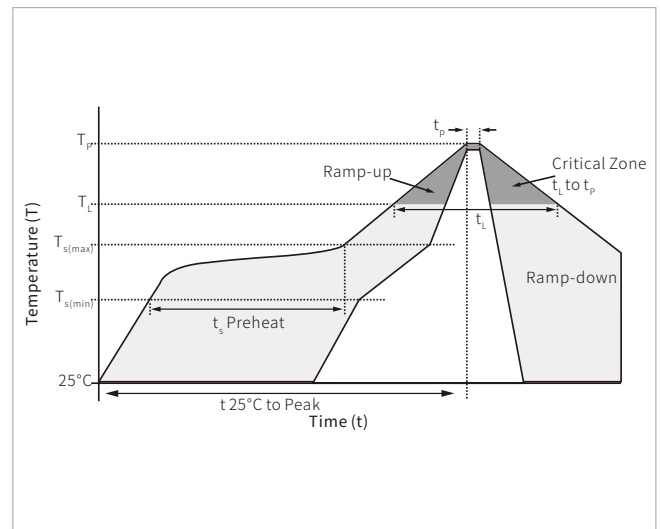


TLP Negative I-V Curve

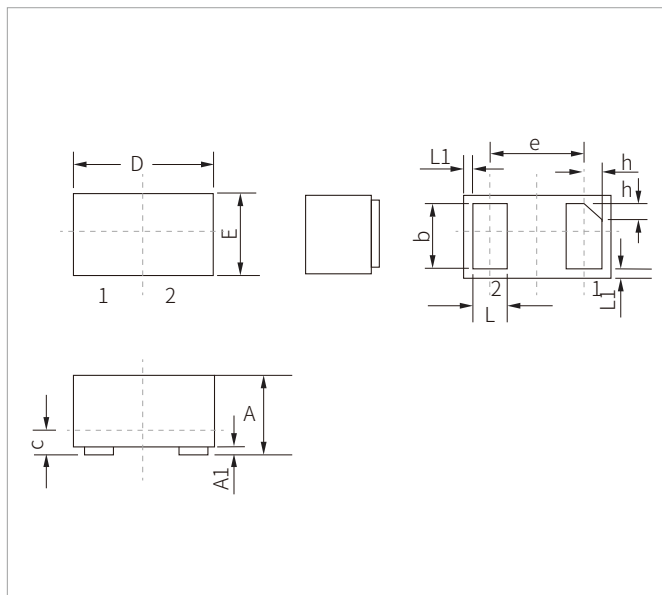


SOLDERING PARAMETERS

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_s)	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

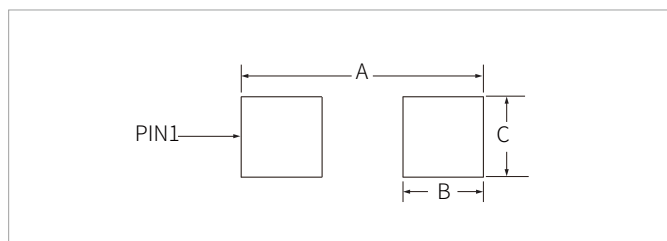


DFN1006 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.40	0.60	0.016	0.024
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	0.90	1.10	0.035	0.043
e	0.65BSC		0.026BSC	
E	0.55	0.75	0.022	0.030
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
SE10F04B3.6UA-SP	DFN1006	10000PCS	7"

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