

FEATURES

- | 60 Watts Peak Pulse Power per Line ($t_p=8/20\mu s$)
- | Package optimized for high-speed lines
- | Protects four data lines
- | Low leakage current
- | Low clamping voltage
- | Each I/O pin can withstand over 1000 ESD strikes for $\pm 8kV$ contact discharge

APPLICATIONS

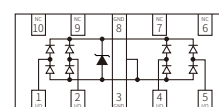
- | Serial ATA
- | PCI Express
- | Desktops, Servers and Notebooks
- | MDDI Ports
- | USB 2.0/3.0 Power and Data Line
- | Protection Display Ports
- | High Definition Multi-Media Interface (HDMI)
- | Digital Visual Interface (DVI)



DFN2010-10L

0544T

Marking



Schematic Symbol

IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) $\pm 25kV$ (air), $\pm 20kV$ (contact)
- | IEC61000-4-4 (EFT) 40A (5/50ns)

APPROVALS

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

THERMAL CONSIDERATIONS

Symbol	Parameter	Value	Unit
P_{PP}	Peak Pulse Power ($t_p=8/20\mu s$ waveform)	60	Watts
T_J	Operating Temperature Range	-55 to +125	$^{\circ}C$
T_{STG}	Storage Temperature Range	-55 to +150	$^{\circ}C$

ELECTRICAL CHARACTERISTICS

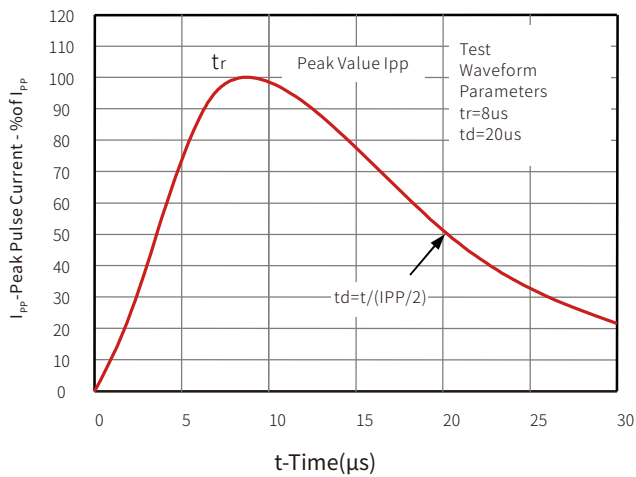
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_{RWM}	Reverse Working Voltage				5.0	V
V_{BR}	Reverse Breakdown Voltage	$I_T=1mA$	6.0			V
I_R	Reverse Leakage Current	$V_{RWM}=5V$			1.0	μA
V_C	Clamping Voltage	$I_{PP}=1A, t_p=8/20\mu s$			10	V
V_C	Clamping Voltage	$I_{PP}=4A, t_p=8/20\mu s$			15	V
$V_{CTL P}$	TLP Clamping Voltage	TLP $I_{PP}=8A, t_p=100ns$		16		V
$V_{CTL P}$	TLP Clamping Voltage	TLP $I_{PP}=16A, t_p=100ns$		23		V
I_{PP}	Peak Pulse Current	$t_p=8/20\mu s$			4	A
C_J	Junction Capacitance	$V_R=0V, f=1MHz$ I/O and GND		0.4	0.5	pF
C_J	Junction Capacitance	$V_R=0V, f=1MHz$ I/O and I/O		0.2	0.3	pF

Note: I/O pins are pin 1,2,4,5, GND pins are pin 3,8

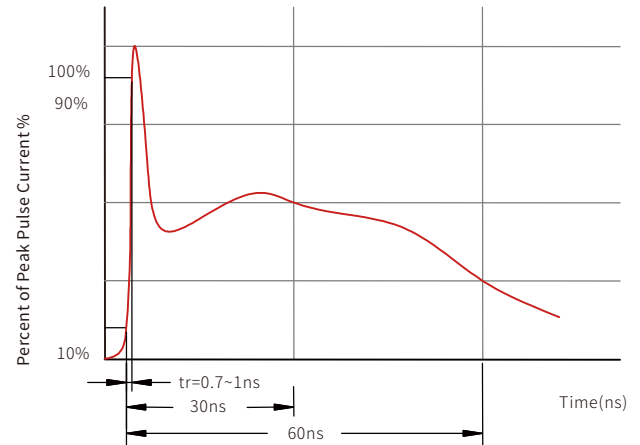
Product Datasheet | Rev. A2.0

CHARACTERISTIC CURVES

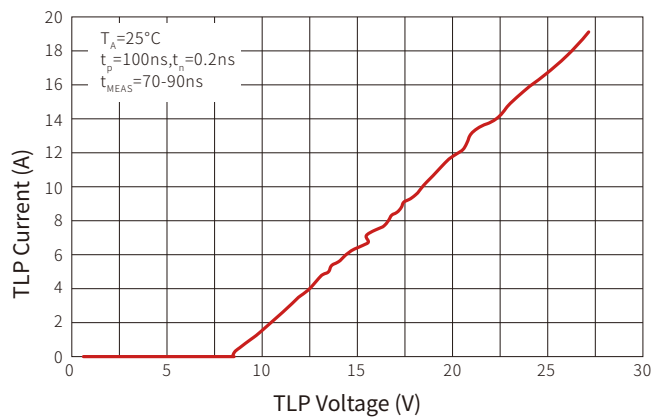
8/20 μ s Pulse Waveform



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

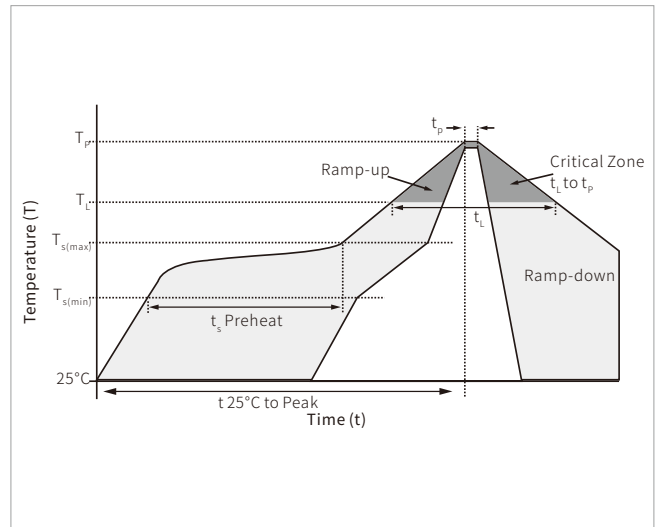


Transmission Line Pulsing (TLP) Measurement

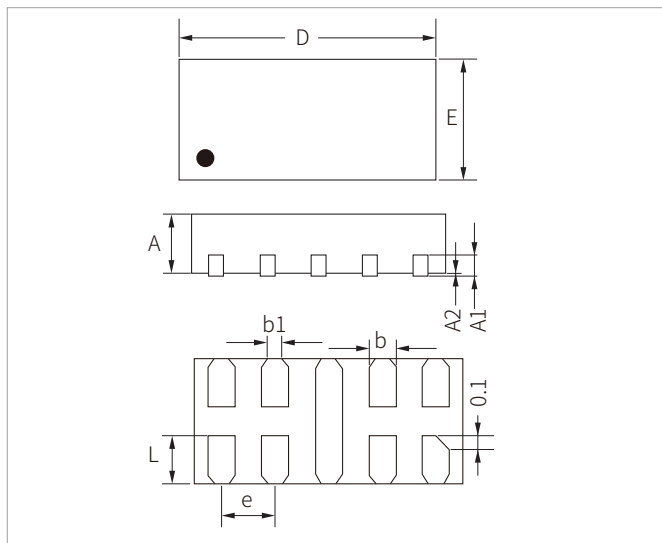


SOLDERING PARAMETERS

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



DFN2010-10L PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
D	1.90	2.10	0.075	0.083
E	0.90	1.10	0.035	0.043
b	0.15	0.25	0.006	0.010
b1	0.115REF		0.005REF	
L	0.33	0.43	0.013	0.017
e	0.40BSC		0.016BSC	
A	0.40	0.60	0.016	0.024
A1	0.15REF		0.006REF	
A2	0	0.05	0	0.002

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SE20P10F06U5.0UD-SP	DFN2010-10L	3000PCS	7"

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By QR Code

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