

FEATURES

- | 60W Peak Pulse Power per Line (tp=8/20μs)
- | 8-Channel uni-directional ESD diode
- | Ultra Low Leakage: nA Level
- | Ultra Low capacitance: 0.6pF
when I/O to GND
- | Low Clamping Voltage
- | Response time is typically < 1 ns

APPLICATIONS

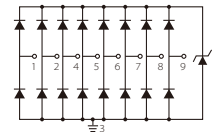
- | Smartphones, tablet computers,
- | Mobile Internet Devices (MID)
- | and portable devices
- | LCD/LED TVs and monitors
- | HDMI
- | Flat panel displays
- | Set-top boxes and game consoles
- | USB2.0/USB3.0
- | Embedded display port



DFN3810-9



Marking



Schematic Symbol

IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) ±17kV (air), ±12kV (contact)
- | IEC61000-4-4 (EFT) 40A (5/50ns)

APPROVALS

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

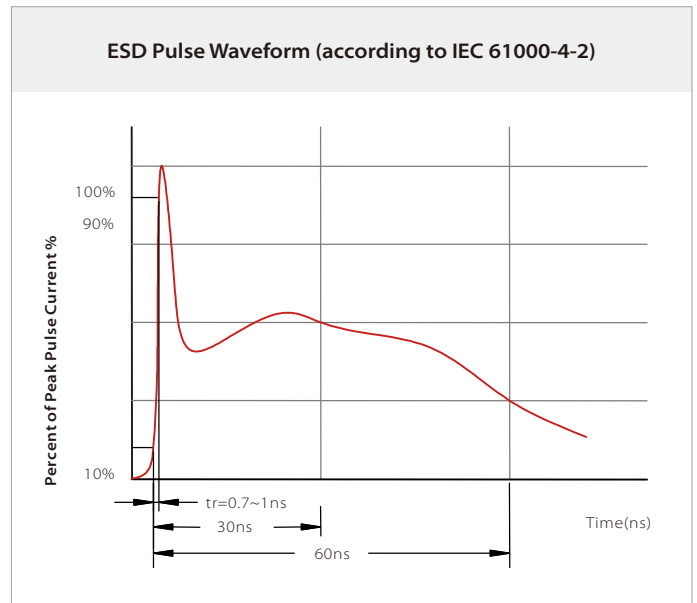
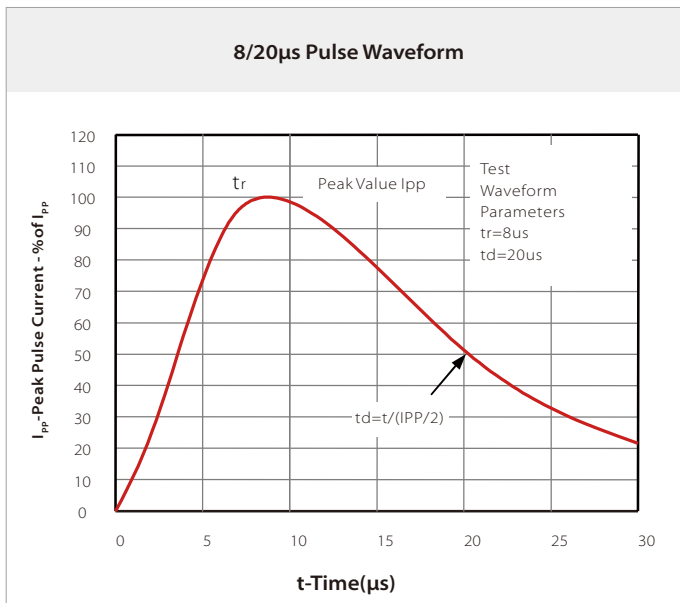
THERMAL CONSIDERATIONS

Symbol	Parameter	Value	Unit
P_{PP}	Peak Pulse Power (tp=8/20μs waveform)	60	Watts
T_J	Operating Temperature Range	-40 to +85	°C
T_{STG}	Storage Temperature Range	-55 to +150	°C

ELECTRICAL CHARACTERISTICS

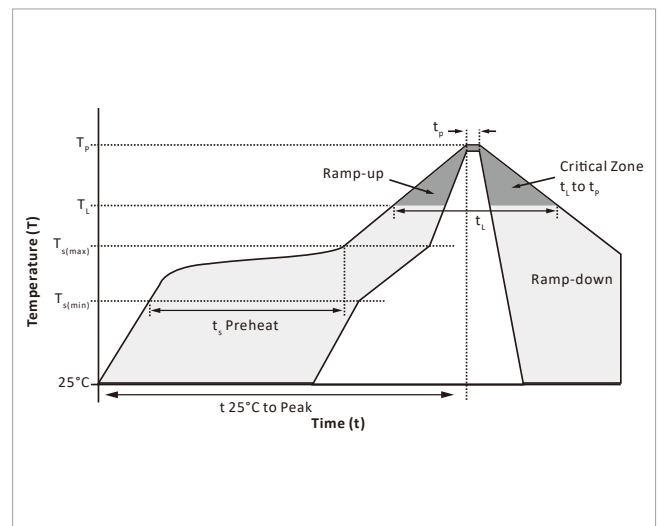
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_{RWM}	Reverse Stand-off Voltage				3.3	V
V_{BR}	Reverse Breakdown Voltage	$I_T=1mA$	4			V
I_R	Reverse Leakage Current	$V_{RWM}=3.3V$			1000	nA
V_C	Clamping Voltage (Tp=8/20us)	$I_{pp}=1A, tp=8/20us$		8.5		V
V_C	Clamping Voltage (Tp=8/20us)	$I_{pp}=4.5A, tp=8/20us$		12		V
I_{pp}	Peak Pulse Current (Tp=8/20us)	tp=8/20us			4.5	A
C_J	Off State Junction Capacitance	$V_R=0V, f=1MHz$ I/O to GND		0.6		pF
C_J	Off State Junction Capacitance	$V_R=0V, f=1MHz$ I/O to I/O		0.3		pF

CHARACTERISTIC CURVES

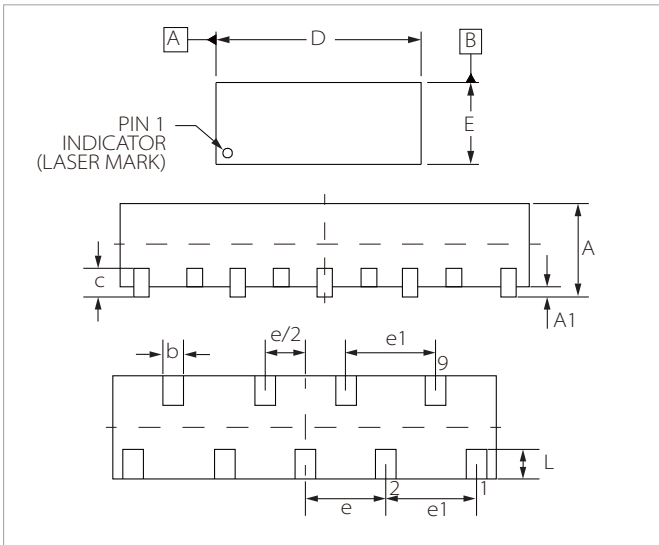


SOLDERING PARAMETERS

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_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

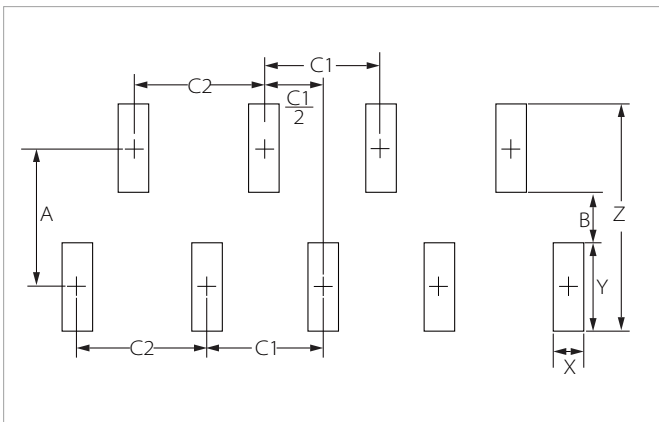


DFN3810-9 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.45	0.55	0.018	0.022
A1	0	0.05	0.000	0.002
b	0.15	0.25	0.006	0.010
c	0.10	0.20	0.004	0.008
D	3.75	3.90	0.148	0.154
e	0.80BSC		0.031BSC	
e1	0.90BSC		0.035BSC	
E	0.90	1.10	0.035	0.043
L	0.20	0.40	0.008	0.016

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
A	0.95	0.037
B	0.35	0.014
C1	0.80	0.031
C2	0.90	0.035
X	0.20	0.008
Y	0.60	0.024
Z	1.55	0.061

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SE38F10U3.3MA	DFN3810-9	3000PCS	7"

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