

FEATURES

- Package optimized for high-speed lines
- Protects two 5V and two 24V data lines
- Low leakage current
- Low clamping voltage

APPLICATIONS

- USB Type-C
- High-speed data lines
- PD Charger or Adapter



DFN2510-10L

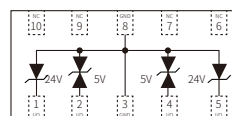
5B24O
Marking

IEC COMPATIBILITY

- IEC61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (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

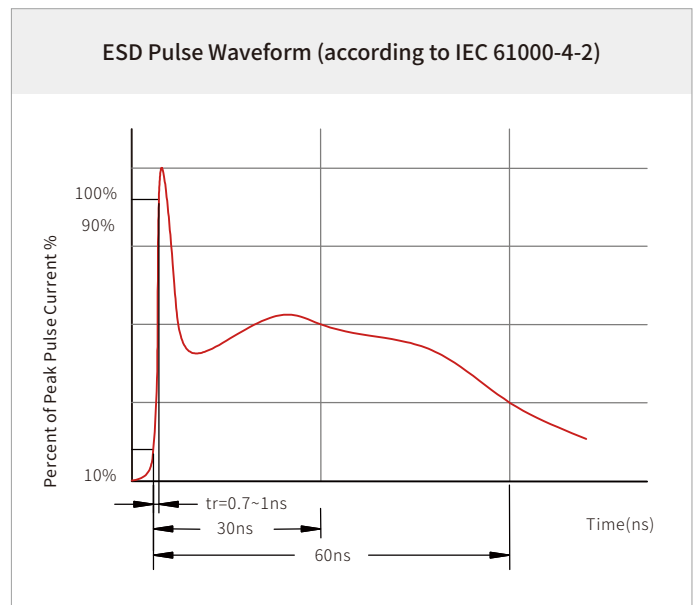
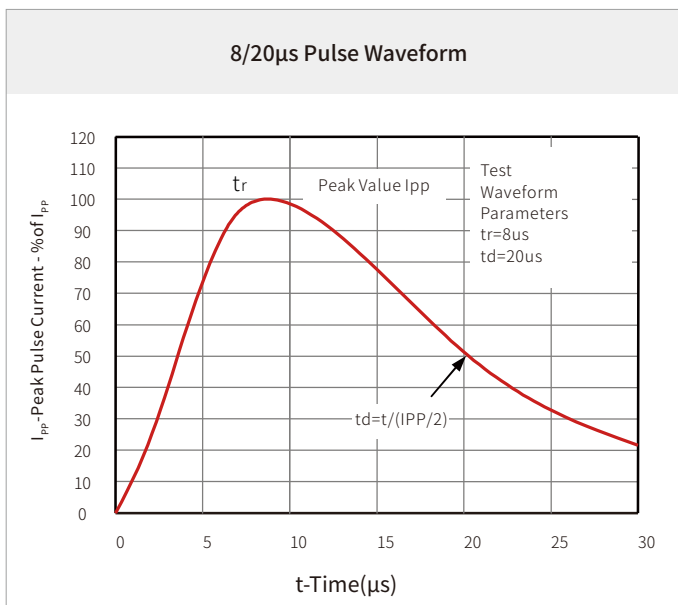
Symbol	Parameter	Value	Unit
P_{PP}	Peak Pulse Power ($t_p=8/20\mu\text{s}$ waveform) Pin1 or Pin5 to Pin3&8	140	Watts
P_{PP}	Peak Pulse Power ($t_p=8/20\mu\text{s}$ waveform) Pin2 or Pin4 to Pin3&8	90	Watts
V_{ESD}	ESD per IEC 61000-4-2 (Air) Pin1 or Pin5 to Pin3&8	30	kV
V_{ESD}	ESD per IEC 61000-4-2 (Contact) Pin1 or Pin5 to Pin3&8	20	kV
V_{ESD}	ESD per IEC 61000-4-2 (Air) Pin2 or Pin4 to Pin3&8	30	kV
V_{ESD}	ESD per IEC 61000-4-2 (Contact) Pin2 or Pin4 to Pin3&8	30	kV
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 Stand-off Voltage	Pin1 or Pin5 to Pin3&8			24	V
V_{RWM}	Reverse Stand-off Voltage	Pin2 or Pin4 to Pin3&8			5	V
V_{BR}	Reverse Breakdown Voltage	$I_T=1mA$ Pin1 or Pin5 to Pin3&8	26			V
V_{BR}	Reverse Breakdown Voltage	$I_T=1mA$ Pin2 or Pin4 to Pin3&8	5.6			V
I_R	Reverse Leakage Current	$V_{RWM}=24V$ Pin1 or Pin5 to Pin3&8			0.5	μA
I_R	Reverse Leakage Current	$V_{RWM}=5V$ Pin2 or Pin4 to Pin3&8			0.5	μA
V_C	Clamping Voltage	$I_{PP}=2.8A, t_p=8/20\mu s$ Pin1 or Pin5 to Pin3&8			50	V
V_C	Clamping Voltage	$I_{PP}=6A, t_p=8/20\mu s$ Pin2 or Pin4 to Pin3&8			15	V
C_J	Off State Junction Capacitance	$V_R=0V, f=1MHz$ Pin1 or Pin5 to Pin3&8			25	pF
C_J	Off State Junction Capacitance	$V_R=0V, f=1MHz$ Pin2 or Pin4 to Pin3&8			15	pF

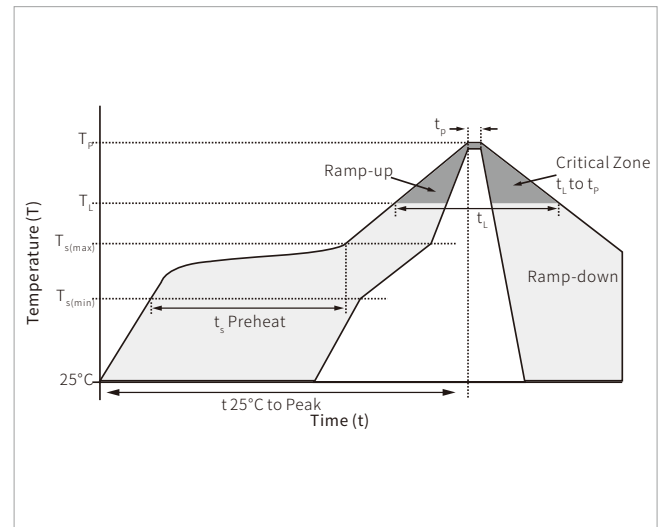
Note: I/O pins are pin 1/2/4/5; GND pins are pin 3/8; pin 6/7/9/10 are NC and can be connected with any pin.

CHARACTERISTIC CURVES

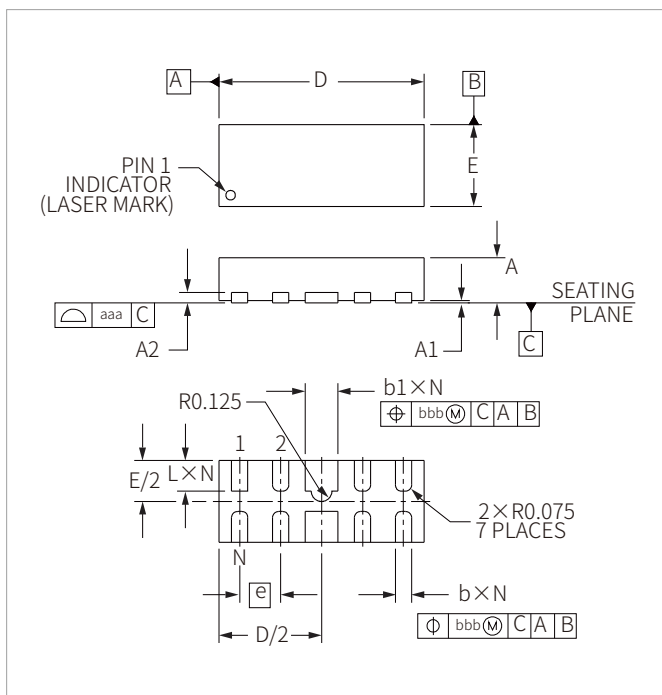


SOLDERING PARAMETERS

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

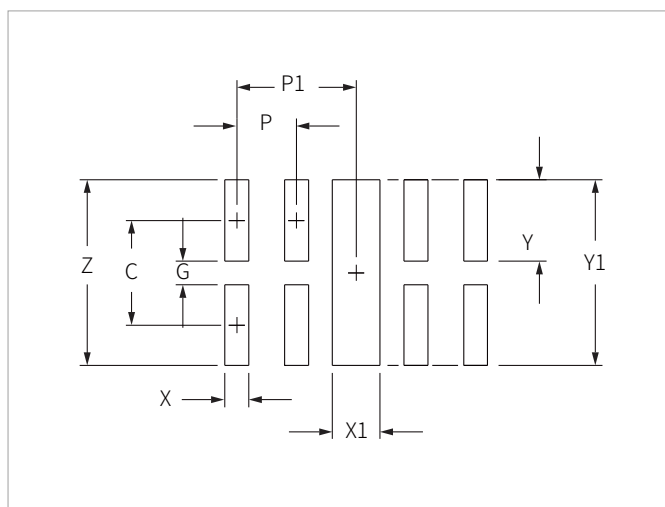


DFN2510-10L PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.40	0.65	0.016	0.026
A1	0	0.05	0	0.002
A2	(0.13)		(0.005)	
b	0.15	0.25	0.006	0.010
b1	0.35	0.45	0.014	0.018
D	2.40	2.60	0.094	0.102
E	0.90	1.10	0.035	0.043
e	0.50BSC		0.020BSC	
L	0.30	0.45	0.012	0.018
N	8		8	
aaa	0.08		0.003	
bbb	0.10		0.004	

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
C	0.87	0.034
G	0.20	0.008
P	0.50	0.020
P1	1.00	0.039
X	0.20	0.008
X1	0.40	0.016
Y	0.68	0.027
Y1	1.55	0.061
Z	1.55	0.061

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SE21T09U245D	DFN2510-10L	3000PCS	7"

Headquarters

No.3387 Shendu Road
Pujiang I&E Park
Minhang Shanghai China
201000

Hotline

400-021-5756

Web

<https://www.semiware.com>

Sales Center

Tel: 86-21-3463-7458
Email: sales18@semiware.com

Customer Service

Tel: 86-21-5484-1001
Email: sales17@semiware.com

Technical Support

Tel: 86-21-3463-7654
Email: fae01@semiware.com

Complaint & Suggestions

Tel: 86-21-3463-7172
Ext: 8868
Email: cs03@semiware.com

By QR Code

Website



Wechat

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