

## FEATURES

- | 4000Watts peak pulse power ( $t_p = 8/20\mu s$ )
- | Response time is typically  $< 1\text{ ns}$
- | Protect one I/O or power line
- | Low clamping voltage

## APPLICATIONS

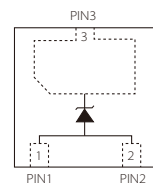
- | Cell phone handsets and accessories
- | Personal digital assistants (PDA's)
- | Notebooks, desktops, and servers
- | Portable instrumentation
- | Cordless phones
- | Digital cameras
- | Peripherals
- | MP3 players



DFN2020-3L

T10  
003

Marking



Schematic Symbol

## IEC COMPATIBILITY

- | IEC61000-4-2 (ESD)  $\pm 30\text{kV}$  (air),  $\pm 30\text{kV}$  (contact)
- | IEC61000-4-4 (EFT) 40A (5/50ns)

## APPROVALS

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

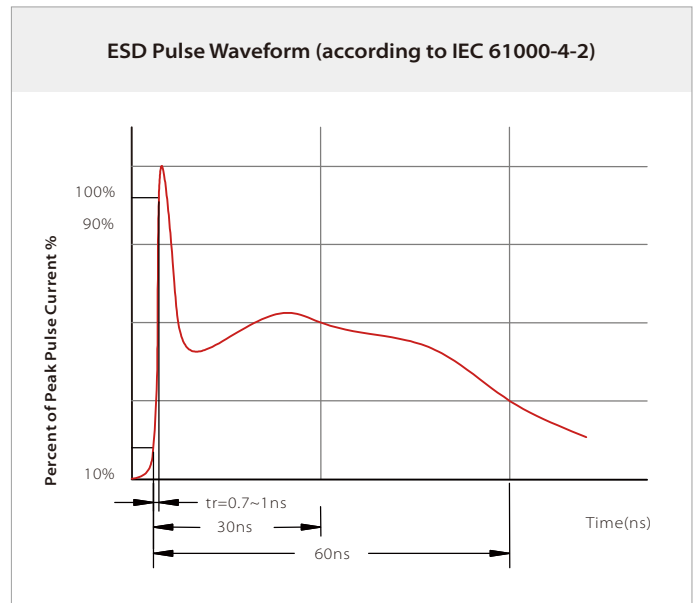
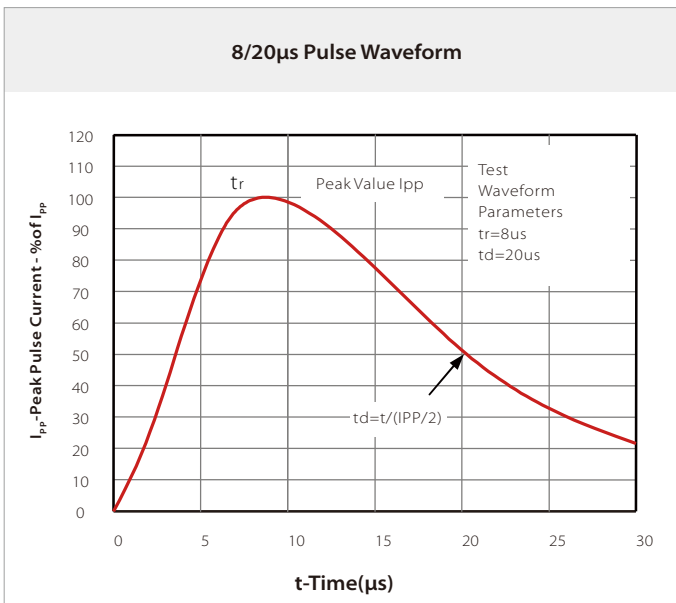
## THERMAL CONSIDERATIONS

Symbol	Parameter	Value	Unit
$P_{PP}$	Peak Pulse Power ( $t_p=8/20\mu s$ waveform)	4000	Watts
$T_J$	Operating Temperature Range	-55 to +125	$^{\circ}\text{C}$
$T_{STG}$	Storage Temperature Range	-55 to +150	$^{\circ}\text{C}$

## ELECTRICAL CHARACTERISTICS

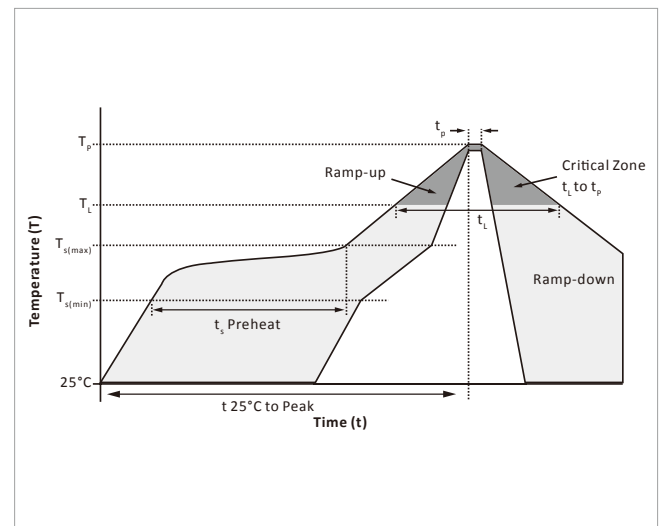
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
$V_{RWM}$	Reverse Stand-off Voltage				10	V
$V_{BR}$	Reverse Breakdown Voltage	$I_T=1\text{mA}$	13	14.2	16	V
$I_R$	Reverse Leakage Current	$V_{RWM}=10\text{V}$			1	$\mu\text{A}$
$V_C$	Clamping Voltage ( $T_p=8/20\mu s$ )	$I_{pp}=50\text{A}, t_p=8/20\mu s$			22	V
$V_C$	Clamping Voltage ( $T_p=8/20\mu s$ )	$I_{pp}=100\text{A}, t_p=8/20\mu s$			25	V
$V_C$	Clamping Voltage ( $T_p=8/20\mu s$ )	$I_{pp}=180\text{A}, t_p=8/20\mu s$			32	V
$I_{PP}$	Peak Pulse Current ( $T_p=8/20\mu s$ )	$t_p=8/20\mu s$			180	A
$C_J$	Off State Junction Capacitance	$V_R=0\text{V}, f=1\text{MHz}$			1400	pF

## CHARACTERISTIC CURVES

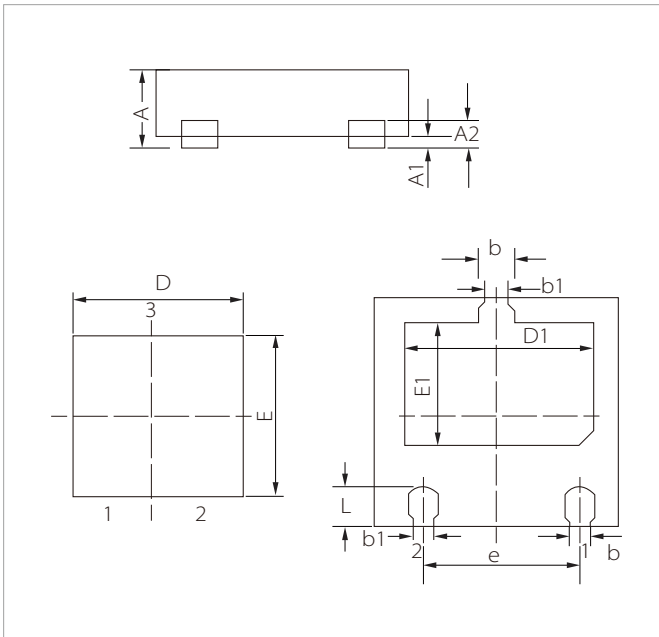


## SOLDERING PARAMETERS

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

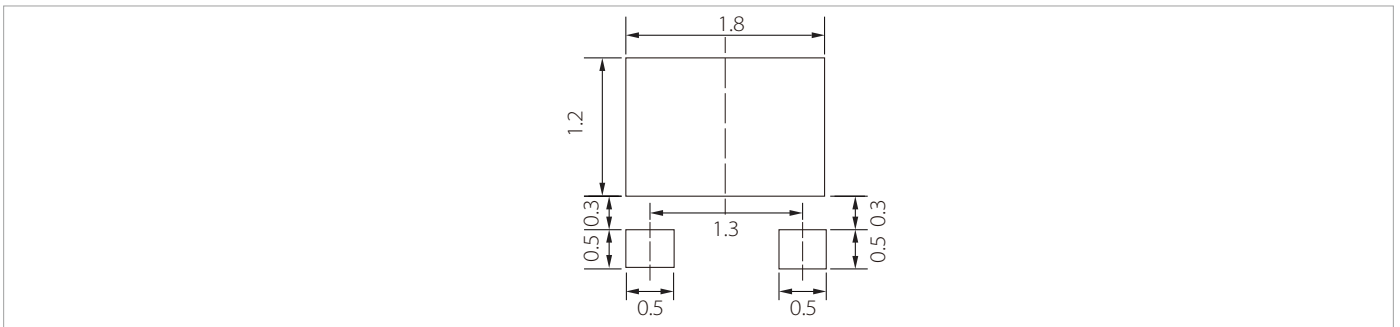


## DFN2020-3L PACKAGE INFORMATION



Ref.	Millimeters		
	Min.	Typ.	Max.
A	0.45	0.55	0.65
A1	-	0.00	0.05
A2	0.152BSC		
D	1.95	2.00	2.05
E	1.95	2.00	2.05
b	0.15	0.20	0.25
b1	0.25	0.30	0.35
D1	1.45	1.50	1.55
E1	1.00	1.05	1.10
e	1.30BSC		
L	0.35	0.40	0.45

## RECOMMENDED PAD LAYOUT DIMENSIONS



## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SE22F400U10A	DFN2020-3L	3000PCS	7"

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