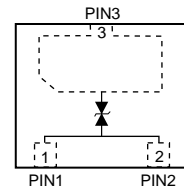
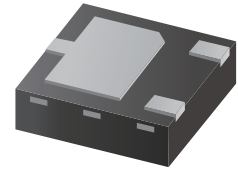


## ESD Protection Diodes

### Features

- IEC 61000-4-2 (ESD)
  - ±30kV Contact Discharge
  - ±30kV Air Discharge
- 5000W Peak pulse Power (8/20us)
- IEC 61000-4-4 EFT Protection
  - 40A (5/50ns)
- Halogen free and RoHS compliant
- Protects one power or I/O
- Transient protection for high-speed data lines
- Low clamping voltage
- Low leakage current
- Lead free in comply with EU RoHS 2011/65/EU directives



### Mechanical Data

- Case:DFN2020-3L
- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants
- Notebooks / Desktops / Servers
- Portable Instrumentation
- Peripherals & Pagers
- Flammability Rating:UL94V-0

### Ordering Information

Part Number	Marking	Shipping	Reel
LTE20D4V5C02-TR3	T45 008	3000PCS Tape&Reel	7 inches

## Absolute Maximum rating

Over operating free-air temperature range (unless otherwise noted)

Parameters	Symbol	Min	Max	Unit
Peak pulse power (tp=8/20us)@25°C	P <sub>pk</sub>		5000	W
Peak pulse current (tp=8/20us)@25°C	I <sub>PP</sub>		240	A
ESD (IEC61000-4-2 air discharge) @25°C	V <sub>ESD</sub>		±30	kV
ESD (IEC61000-4-2 contact discharge) @25°C	V <sub>ESD</sub>		±30	kV
Junction temperature	T <sub>J</sub>		125	°C
Operating temperature	T <sub>OP</sub>	-40	125	°C
Storage temperature	T <sub>STG</sub>	-55	150	°C
Lead temperature	T <sub>L</sub>		260	°C

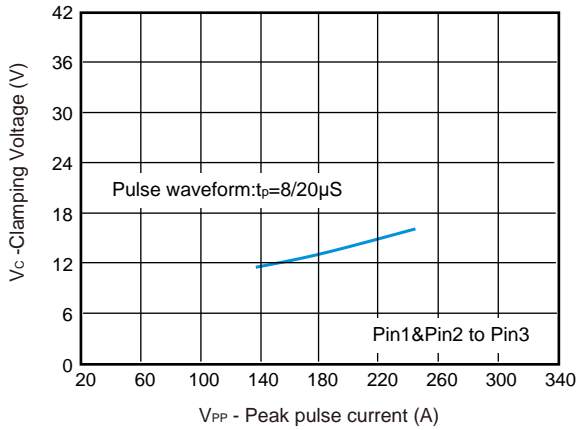
## Electrical Characteristics

At TA = 25°C unless otherwise noted

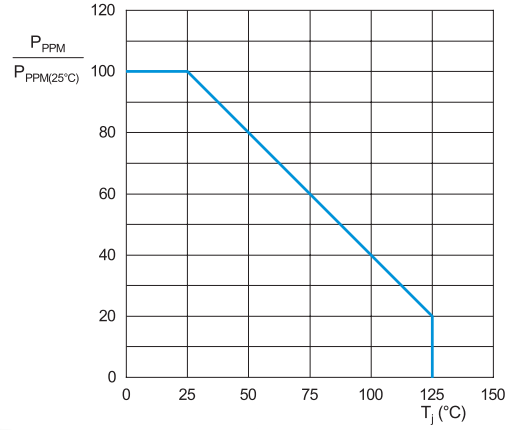
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Stand-off Voltage	V <sub>RWM</sub>				4.5	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>T</sub> =1mA	4.8		6.0	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>RWM</sub> =4.5V			1	uA
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> =150A; tp=8/20us		12		V
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> =200A; tp=8/20us		14		V
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> =240A; tp=8/20us		16		V
Junction Capacitance	C <sub>J</sub>	I/O to GND; VR=0V; f=1MHz		1000		pF

**Characteristic Curves** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

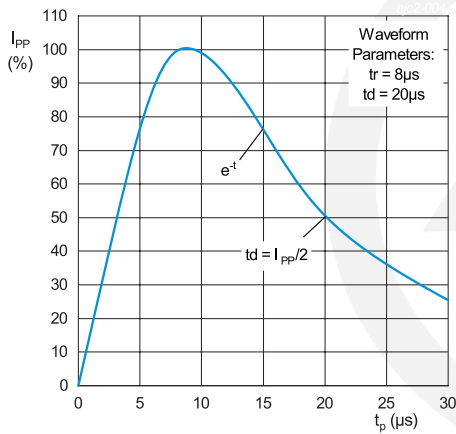
**Fig.1 Clamping voltage vs. Peak pulse current**



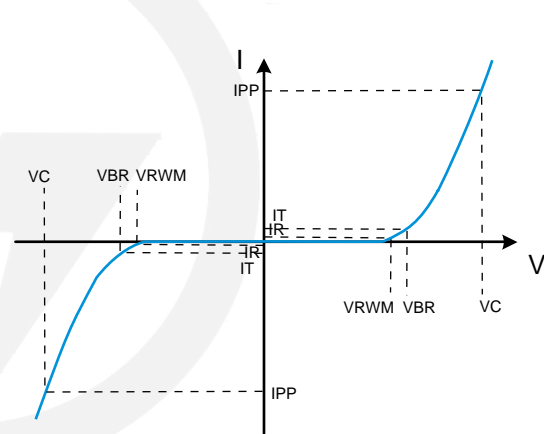
**Fig.2 Peak pulse power derating curve**



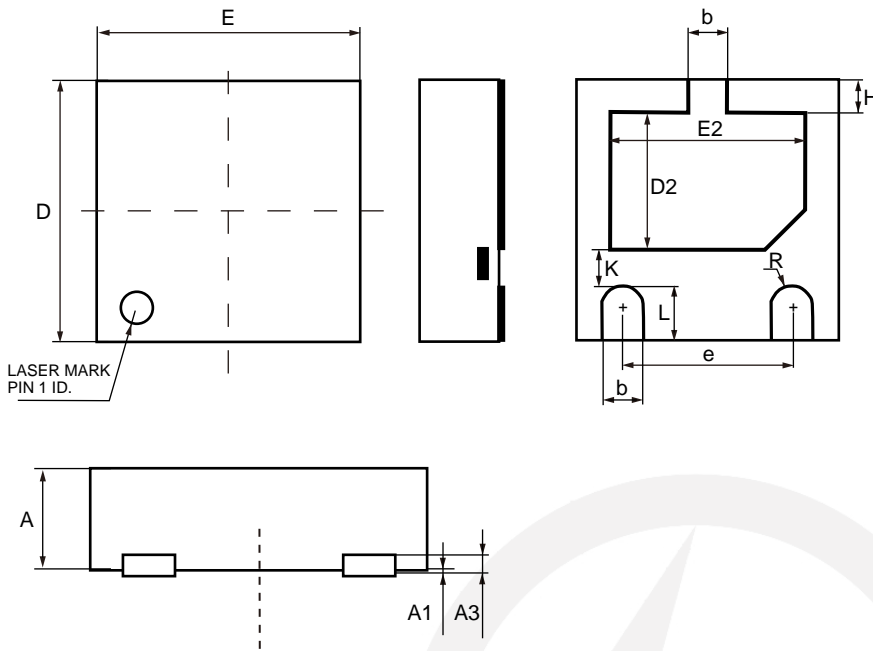
**Fig.3 Pulse waveform**



**Fig.4 Parameters**

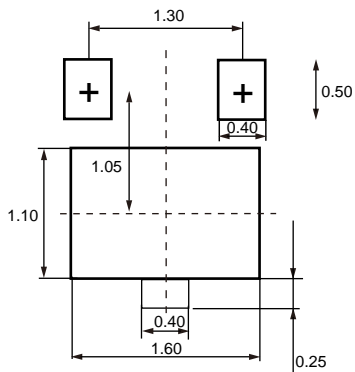


**DFN2020-3L Package Outline**



Symbol	Dimensions In Millimeters		
	Min	Typ	Max
A	0.51	0.55	0.60
A1	0.00	0.02	0.05
A3	0.15REF		
b	0.25	0.30	0.35
D	1.90	2.00	2.10
E	1.90	2.00	2.10
D2	0.85	1.00	1.10
E2	1.35	1.50	1.60
e	1.20	1.30	1.40
H	0.20	0.25	0.30
K	0.20	0.30	0.40
L	0.35	0.40	0.45
R	0.15		

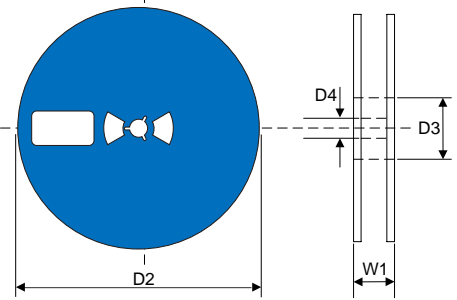
**DFN2020-3L Suggested Pad Layout**



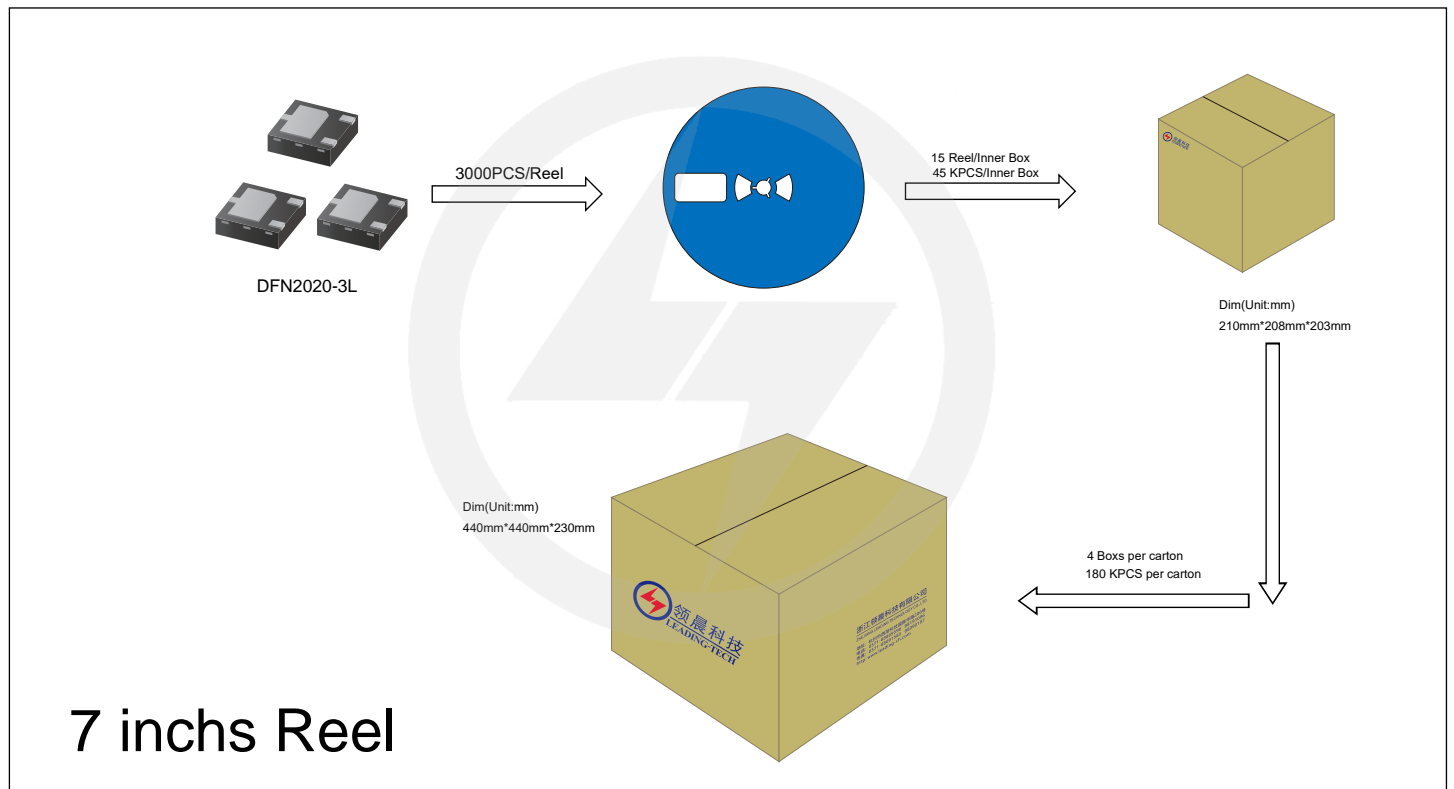
Note:  
This recommended land pattern is for reference purpose only.

**Reel Dimensions**

**Unit : mm**

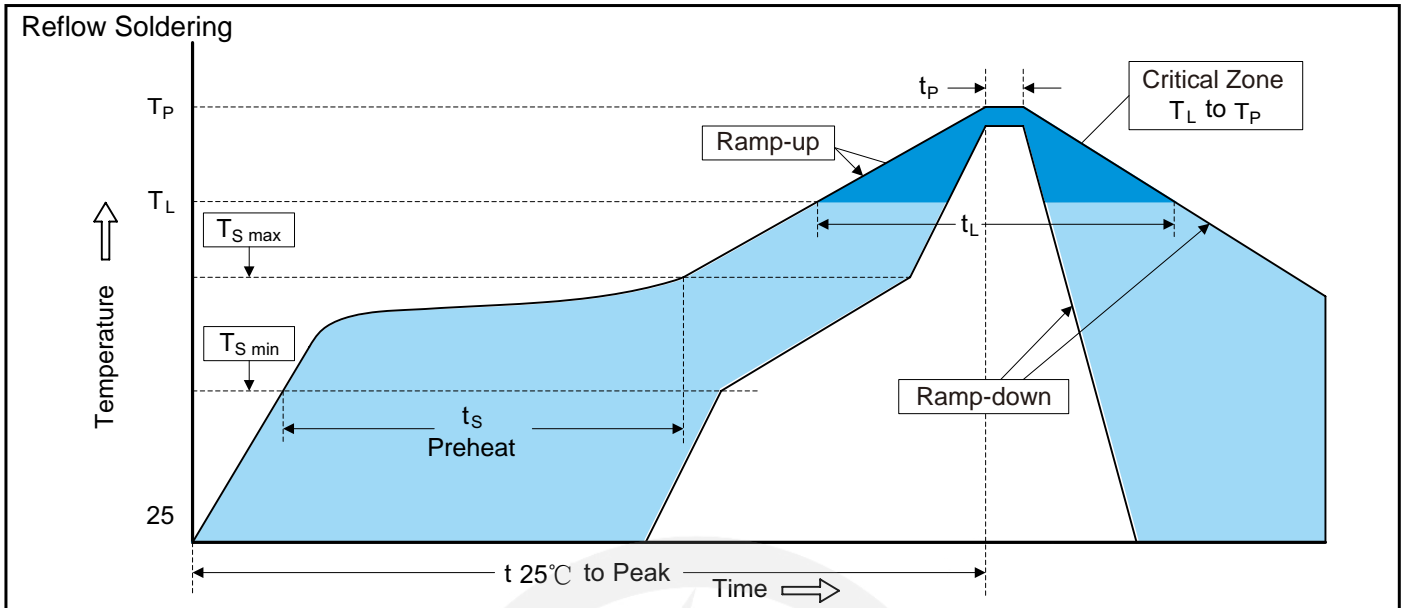
<p>7" Reel</p> 	D2	$\Phi 178.0 \pm 2.0$
	D3	$\Phi 50$
	D4	$13.0 \pm 0.5$
	W1	$12 \pm 0.5$
	Quantity: 3000PCS	

**Packaging**





Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T <sub>L</sub> to T <sub>P</sub> )	3°C/second max.
Preheat	
-Temperature Min (T <sub>S min</sub> )	150°C
-Temperature Max (T <sub>S max</sub> )	200°C
-Time (min to max) (t <sub>s</sub> )	60-180 seconds
T <sub>S max</sub> to T <sub>L</sub>	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T <sub>L</sub> )	217°C
-Time (t <sub>L</sub> )	60-150 seconds
Peak Temperature (T <sub>P</sub> )	260°C
Time within 5°C of actual Peak Temperature (t <sub>p</sub> )	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

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## Version Update Information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision content	Revision Reason	Revision Person	Note
01	2024.3.20	2024.3.20	3.0	New File	/	Ding	