

## FEATURES

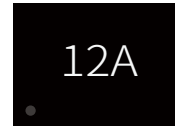
- | 5550Watts peak pulse power (tp = 8/20µs)
- | Uni-directional configurations
- | Solid-state silicon-avalanche technology
- | Low clamping voltage
- | Low leakage current

## APPLICATIONS

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



DFN2020-3L



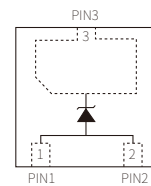
Marking

## IEC COMPATIBILITY

- | IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact)
- | IEC61000-4-4 (EFT) 40A (5/50ns)

## APPROVALS

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



Schematic Symbol

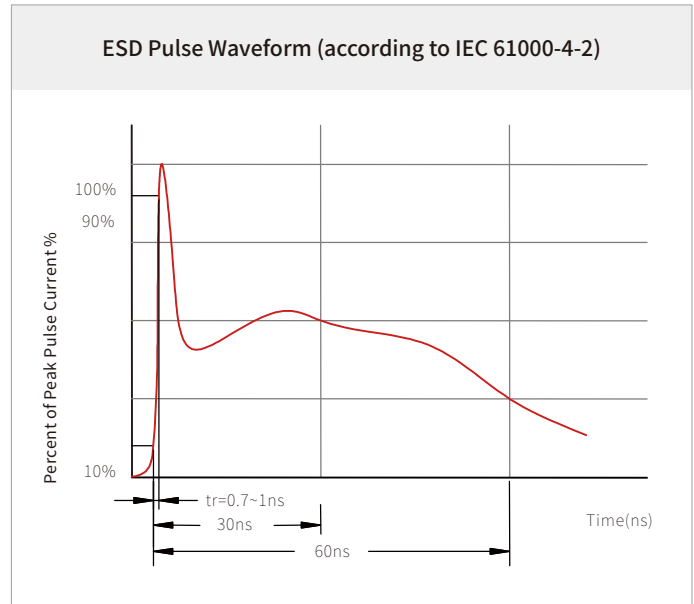
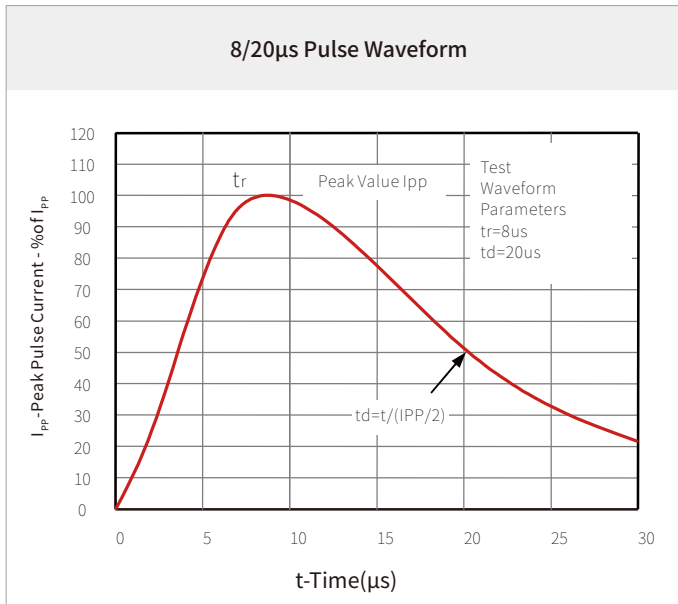
## THERMAL CONSIDERATIONS

| Symbol    | Parameter                             | Value       | Unit  |
|-----------|---------------------------------------|-------------|-------|
| $P_{PP}$  | Peak Pulse Power (tp=8/20µs waveform) | 5550        | Watts |
| $T_J$     | Operating Temperature Range           | -55 to +125 | °C    |
| $T_{STG}$ | Storage Temperature Range             | -55 to +150 | °C    |

## ELECTRICAL CHARACTERISTICS

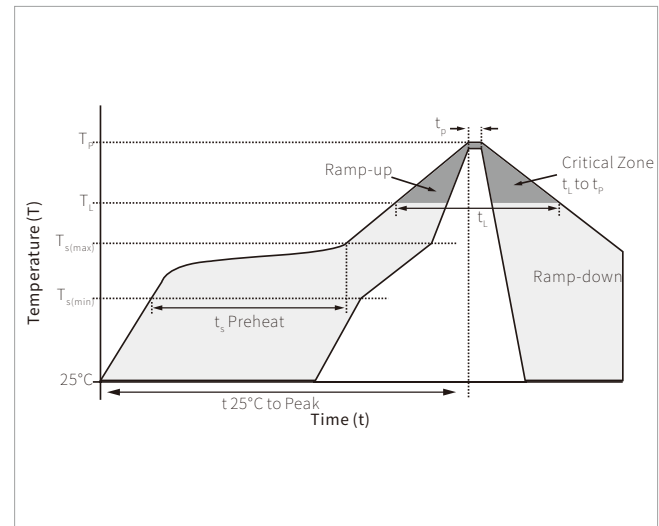
| Symbol    | Parameter                 | Condition                | Min. | Typ. | Max. | Unit |
|-----------|---------------------------|--------------------------|------|------|------|------|
| $V_{RWM}$ | Reverse Stand-off Voltage |                          |      |      | 12   | V    |
| $V_{BR}$  | Reverse Breakdown Voltage | $I_T=1mA$                | 13.2 |      | 16   | V    |
| $I_R$     | Reverse Leakage Current   | $V_{RWM}=12V$            |      |      | 1    | µA   |
| $V_F$     | Forward Voltage           | $I_F=10mA$               |      |      | 1.5  | V    |
| $V_C$     | Clamping Voltage          | $I_{PP}=185A, tp=8/20us$ |      |      | 30   | V    |
| $I_{PP}$  | Peak Pulse Current        | $tp=8/20us$              |      |      | 185  | A    |
| $C_J$     | Junction Capacitance      | $V_{DC}=0V, f=1MHz$      |      | 1500 |      | pF   |

## CHARACTERISTIC CURVES

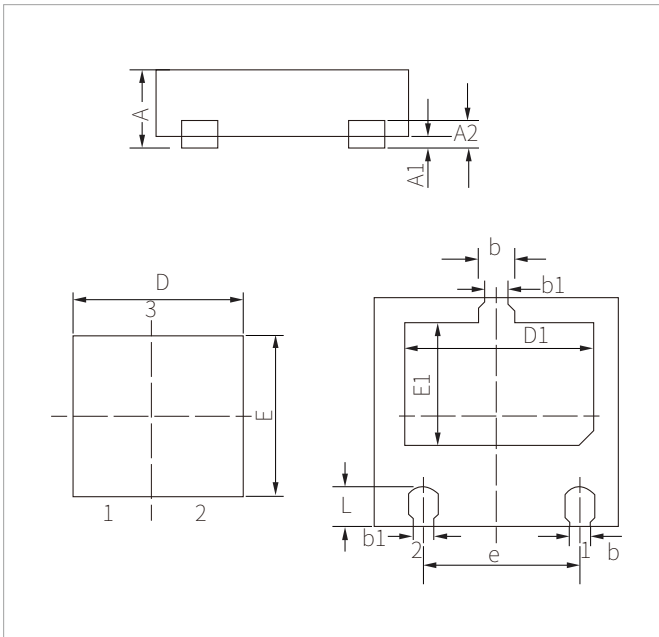


## SOLDERING PARAMETERS

| 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              |

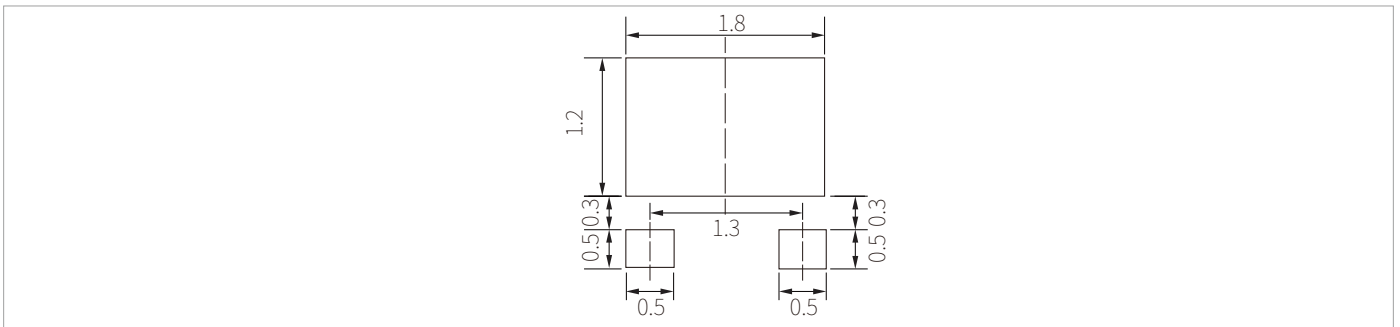


## DFN2020-3L PACKAGE INFORMATION



| Ref. | Millimeters |      |      |
|------|-------------|------|------|
|      | Min.        | Typ. | Max. |
| A    | 0.70        | 0.75 | 0.80 |
| 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 |
|--------------|-------------------|----------|-----------|
| SE22F600U12A | DFN2020-3L        | 3000PCS  | 7"        |

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