

FEATURES

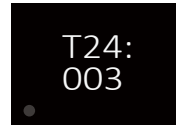
- | 6000W Peak Pulse Power per Line (tp=8/20μs)
- | Protects one data or power line
- | Working voltages : 24 V
- | Low leakage current
- | Low clamping voltage

APPLICATIONS

- | I/O Interfaces
- | Power lines
- | Automotive and Telecommunication
- | Computer & Consumer Electronics
- | Industrial Electronics
- | Microcontroller Input Protection



DFN2020-3L



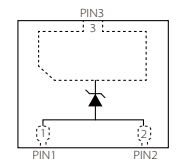
Marking

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

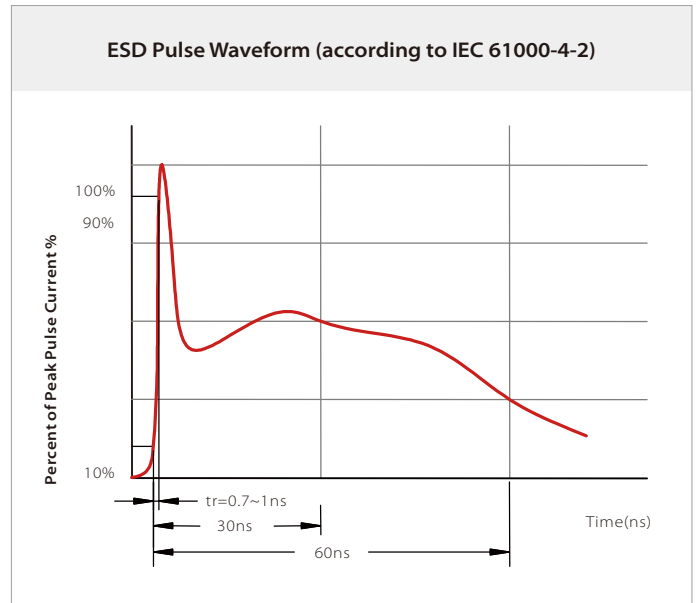
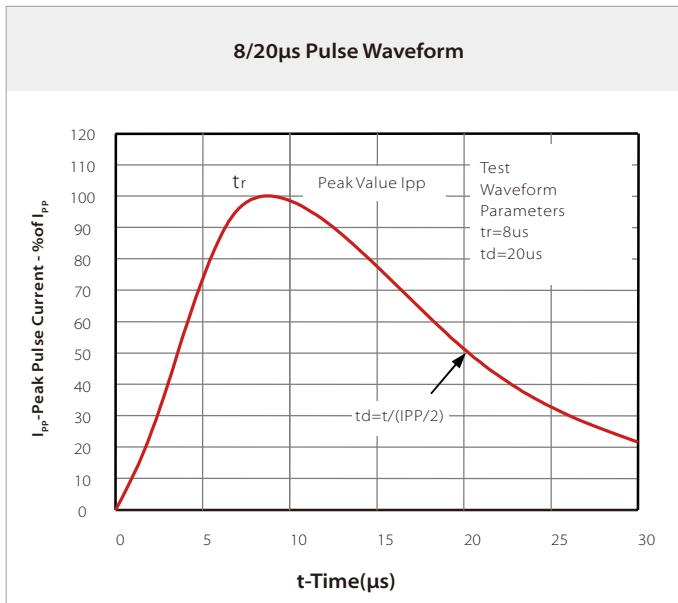
THERMAL CONSIDERATIONS

| Symbol | Parameter | Value | Unit |
|-----------|---------------------------------------|-------------|-------|
| P_{PP} | Peak Pulse Power (tp=8/20μs waveform) | 6000 | Watts |
| T_J | Operating Temperature Range | -55 to +150 | °C |
| T_{STG} | Storage Temperature Range | -55 to +150 | °C |

ELECTRICAL CHARACTERISTICS

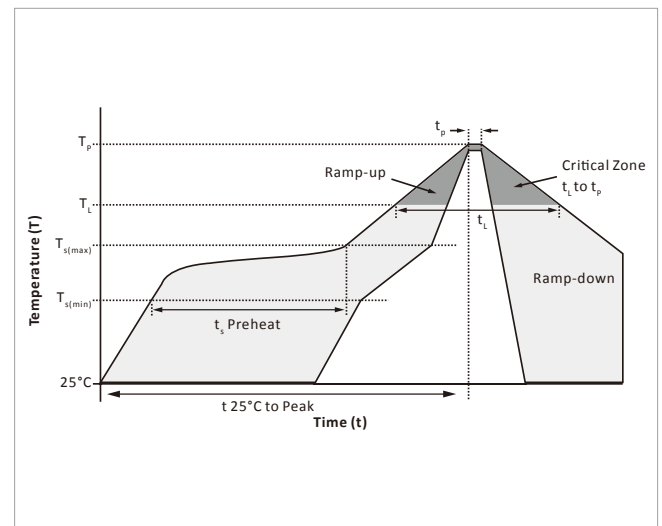
| Symbol | Parameter | Condition | Min. | Typ. | Max. | Unit |
|-----------|--------------------------------|--------------------------|------|------|------|------|
| V_{RWM} | Reverse Stand-off Voltage | | | | 24 | V |
| V_{BR} | Reverse Breakdown Voltage | $I_T=1mA$ | 25 | | 29 | V |
| I_R | Reverse Leakage Current | $V_{RWM}=24V$ | | | 1 | μA |
| V_C | Clamping Voltage (Tp=8/20us) | $I_{PP}=60A, tp=8/20us$ | | | 40 | V |
| V_C | Clamping Voltage (Tp=8/20us) | $I_{PP}=120A, tp=8/20us$ | | | 45 | V |
| I_{PP} | Peak Pulse Current (Tp=8/20us) | tp=8/20us | | | 120 | A |
| C_J | Off State Junction Capacitance | $V_R=0V, f=1MHz$ | | 800 | | pF |

CHARACTERISTIC CURVES

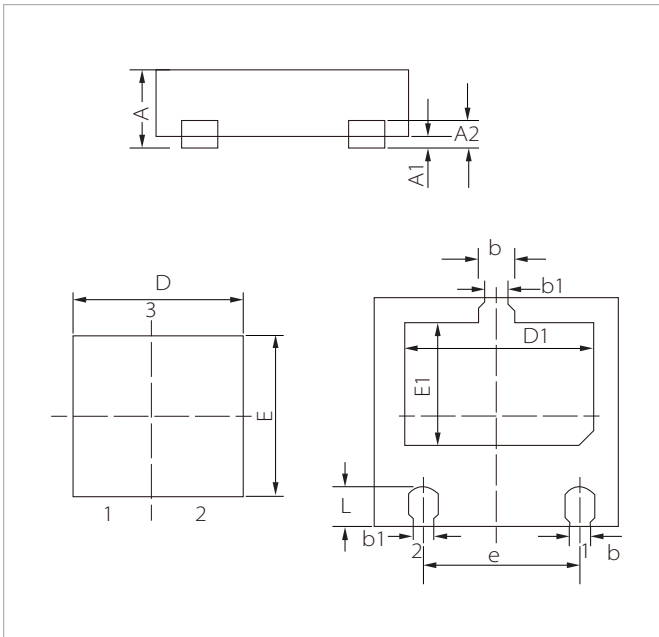


SOLDERING PARAMETERS

| 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_r) | 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 |

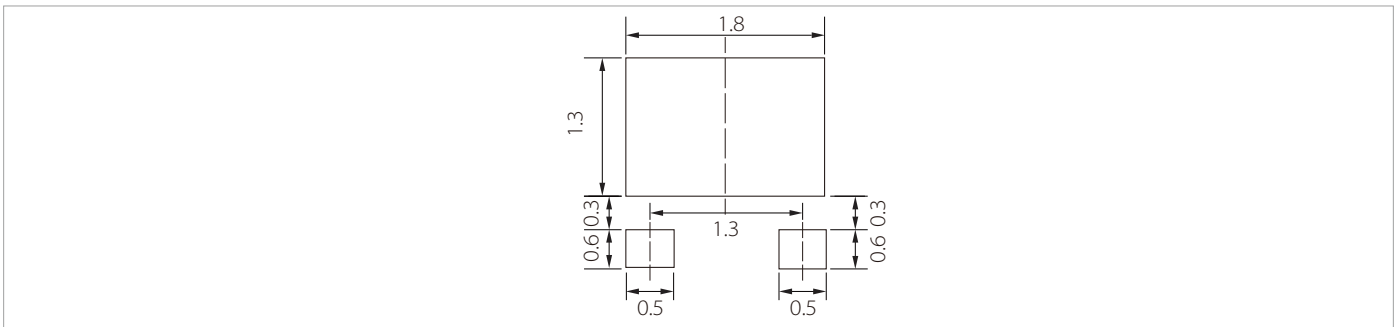


DFN2020-3L PACKAGE INFORMATION



| Ref. | Millimeters | | |
|------|-------------|------|------|
| | Min. | Typ. | Max. |
| A | 0.45 | 0.55 | 0.65 |
| A1 | - | 0.00 | 0.05 |
| A2 | 0.152BSC | | |
| D | 1.80 | 2.00 | 2.20 |
| E | 1.80 | 2.00 | 2.20 |
| 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 |
|----------------|-------------------|----------|-----------|
| SE22F3P600U24B | DFN2020-3L | 3000PCS | 7" |

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