

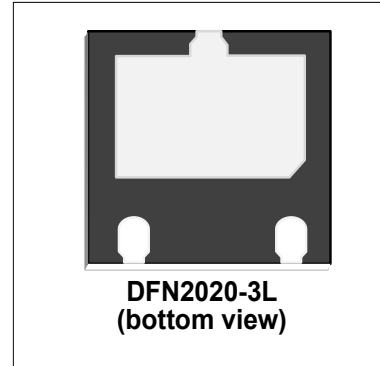


Features

- 4000 Watts Peak Power ($t_p = 8/20\mu s$)
- Fast Response time: Typically $< 1ns$
- Excellent Clamping Capability
- Low Inductance
- Low profile package

IEC Compatibility (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 150A (8/20 μs)



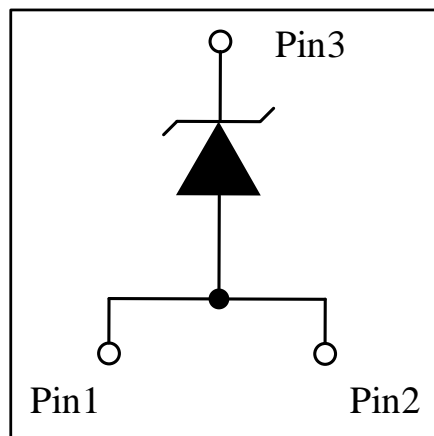
Mechanical Characteristics

- DFN2020-3L package
- Molding compound flammability rating: UL 94V-0
- Marking : Making Code
- Packaging : Tape and Reel per EIA 481
- RoHS Compliant

Applications

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

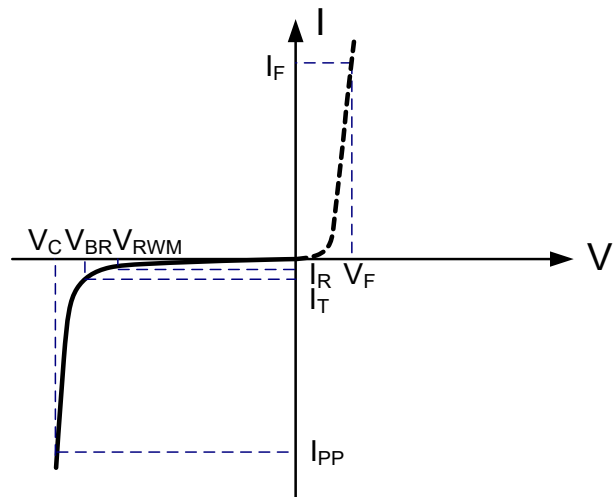
PIN Configuration



| Absolute Maximum Rating | | | |
|--|-----------|--------------|-------------|
| Rating | Symbol | Value | Units |
| Lead Soldering Temperature | T_L | 260(10sec) | $^{\circ}C$ |
| Operating Temperature | T_J | -55 to + 125 | $^{\circ}C$ |
| Storage Temperature | T_{STG} | -55 to +150 | $^{\circ}C$ |
| Peak Pulse Power ($t_p=8/20\mu s$) | P_{PP} | 4000 | Watts |
| Peak Pulse Current ($t_p=8/20\mu s$) | I_{PP} | 150 | A |

Electrical Parameters (T=25 $^{\circ}C$)

| Symbol | Parameter |
|-----------|-------------------------------------|
| I_{PP} | Reverse Peak Pulse Current |
| V_C | Clamping Voltage @ I_{PP} |
| V_{RWM} | Working Peak Reverse Voltage |
| I_R | Reverse Leakage Current @ V_{RWM} |
| V_{BR} | Breakdown Voltage @ I_T |
| I_T | Test Current |
| I_F | Forward Current |
| V_F | Forward Voltage @ I_F |



Electrical Characteristics

| DW12P4N3-S | | | | | | |
|-------------------------------|-----------|------------------------------|---------|---------|---------|-------|
| Parameter | Symbol | Conditions | Minimum | Typical | Maximum | Units |
| Reverse Stand-Off Voltage | V_{RWM} | | | | 12 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T=1mA$ | 13.4 | 14 | | V |
| Reverse Leakage Current | I_R | $V_{RWM}=12V, T=25^{\circ}C$ | | | 500 | nA |
| Peak Pulse Current | I_{PP} | $t_p=8/20\mu s$ | | | 150 | A |
| Clamping Voltage ¹ | V_C | $I_{PP}=40A, t_p=8/20\mu s$ | | 19 | 22 | V |
| Clamping Voltage ¹ | V_C | $I_{PP}=90A, t_p=8/20\mu s$ | | 23 | 25 | V |
| Clamping Voltage ¹ | V_C | $I_{PP}=150A, t_p=8/20\mu s$ | | 26 | 27 | V |
| Junction Capacitance | C_j | $V_R = 0V, f = 1MHz$ | | 900 | 1000 | pF |



Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

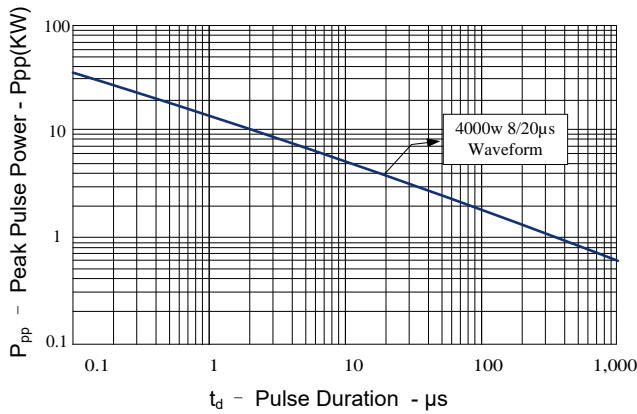


Figure 2: Power Derating Curve

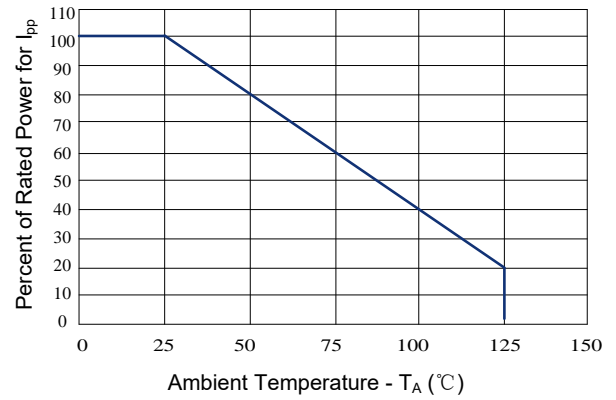


Figure 3: Clamping Voltage vs. Peak Pulse Current

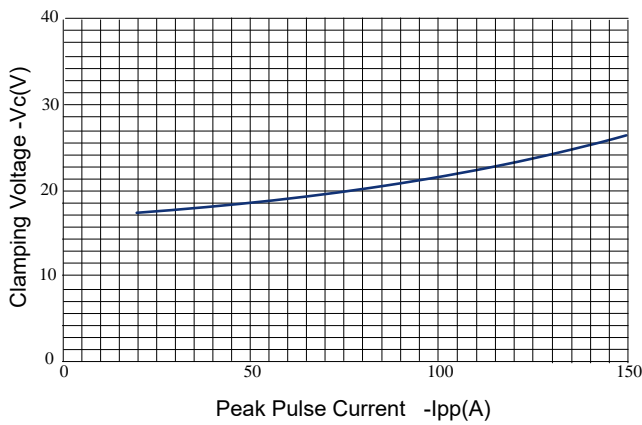


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

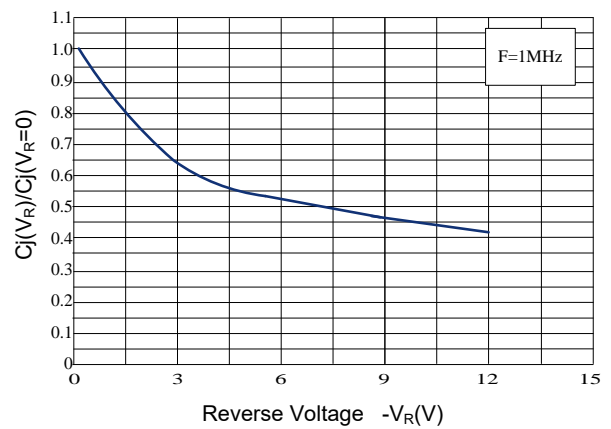
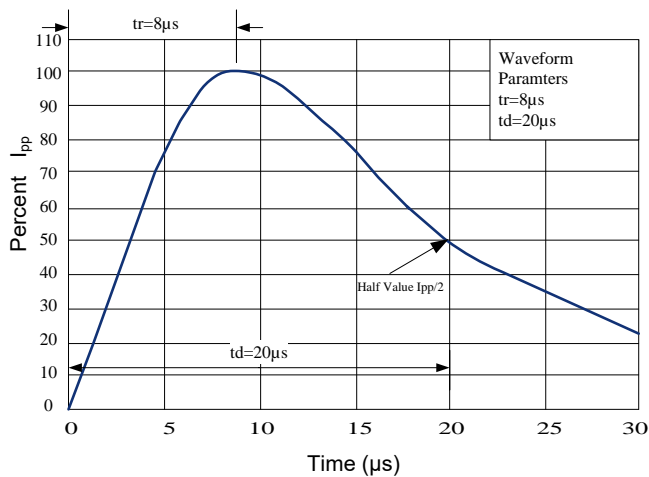
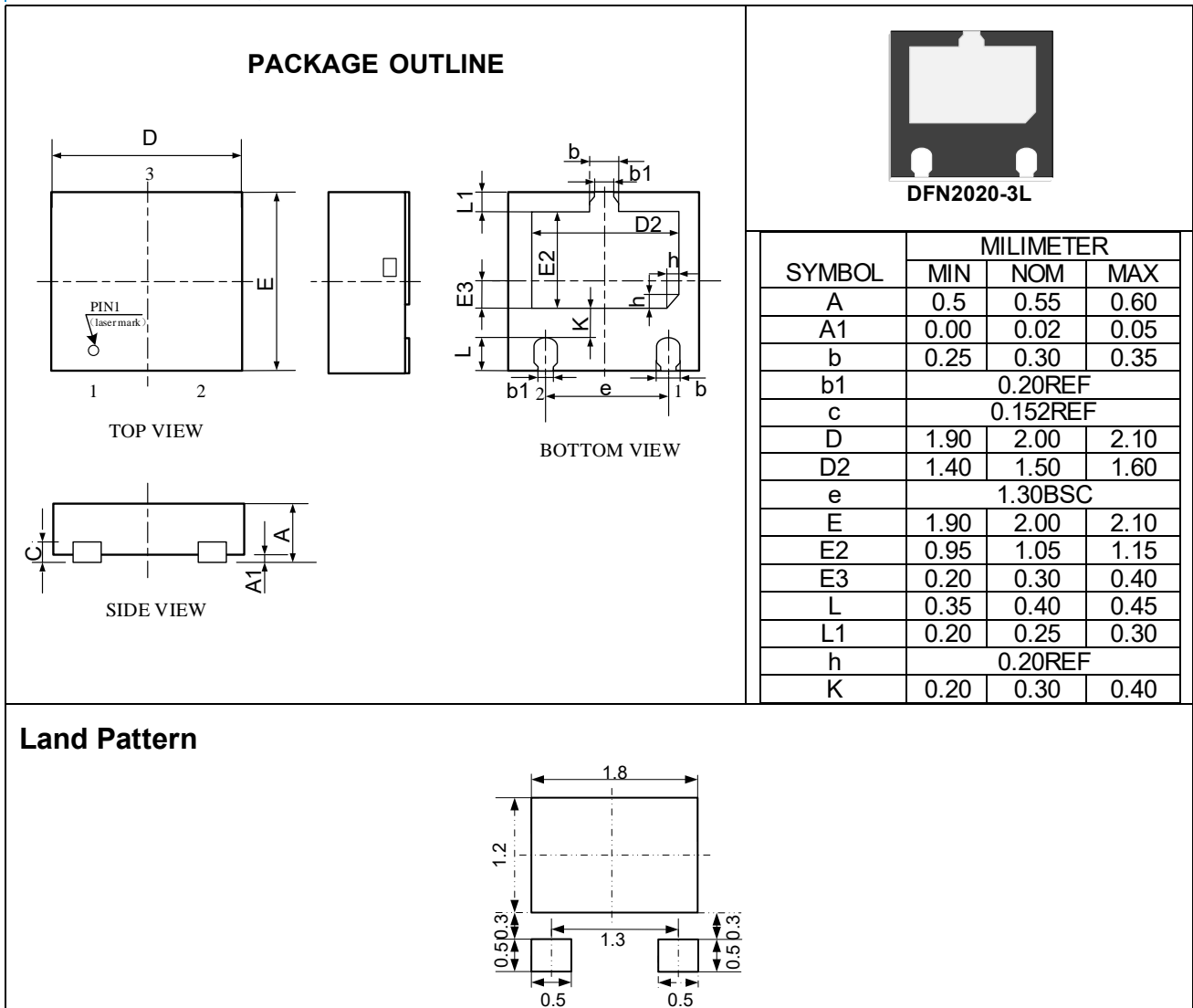


Figure 5: 8/20μs Pulse Waveform

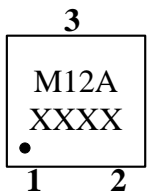




Outline Drawing –DFN2020-3L



Marking Codes



M12A=Specific Device Code
XXXX=Lot Code

Package Information

Qty: 3k/Reel