

Features

- Protects one I/O or Power Line
- Completely Compatible with SOD923
- Low Clamping Voltage
- Working Voltage: 5V
- Low Leakage Current
- Response Time is Typically < 1 ns



IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)

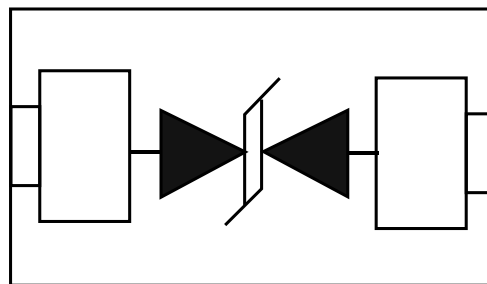
Mechanical Characteristics

- JEDEC DFN-2L package (0402 size)
- Molding compound flammability rating:
UL 94V-0
- Marking : Marking Code
- RoHS Compliant

Application

- Cellular Handsets & Accessories
- Personal Digital Assistants (PDAs)
- Notebooks & Handhelds
- Portable Instrumentation
- Digital Cameras
- MP3 Players

Schematic & PIN Configuration

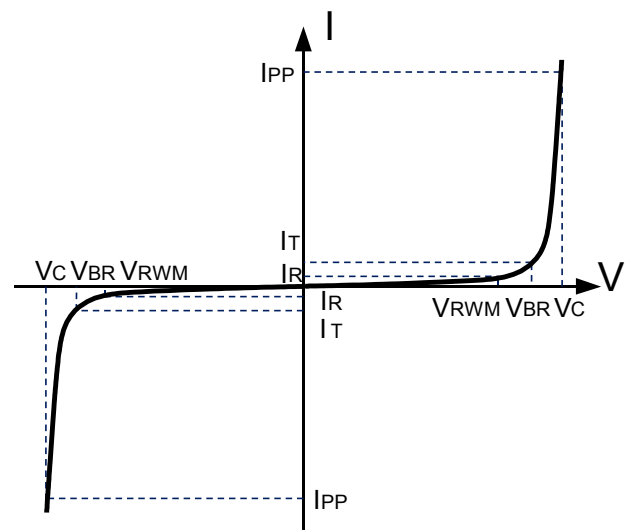


Bi irectional

| Absolute Maximum Rating | | | |
|--|-----------|--------------|-------|
| Rating | Symbol | Value | Units |
| Peak Pulse Power ($t_p = 8/20\mu s$) | P_{PP} | 200 | Watts |
| Peak Forward Voltage ($I_F = 1A, t_p = 8/20\mu s$) | V_{FP} | 1.5 | V |
| Operating Temperature | T_J | -55 to + 125 | °C |
| Storage Temperature | T_{STG} | -55 to +150 | °C |

Electrical Parameters (T=25°C)

| Symbol | Parameter |
|-----------|---|
| I_{PP} | Maximum Reverse Peak Pulse Current |
| V_C | Clamping Voltage @ I_{PP} |
| V_{RWM} | Working Peak Reverse Voltage |
| I_R | Maximum 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

| BDFN2C051V40 | | | | | | |
|---------------------------|-----------|-----------------------------|---------|---------|---------|---------|
| Parameter | Symbol | Conditions | Minimum | Typical | Maximum | Units |
| Reverse Stand-Off Voltage | V_{RWM} | | | | 5.0 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_T=1mA$ | 6.0 | | | V |
| Reverse Leakage Current | I_R | $V_{RWM}=5V, T=25^\circ C$ | | | 1 | μA |
| Peak Pulse Current | I_{PP} | $t_p=8/20\mu s$ | | | 18 | A |
| Clamping Voltage | V_C | $I_{PP}=1A, t_p=8/20\mu s$ | | | 6.9 | V |
| Clamping Voltage | V_C | $I_{PP}=18A, t_p=8/20\mu s$ | | 11 | | V |
| Junction Capacitance | C_j | $V_R=0V, f=1MHz$ | | 34 | | pF |

Typical Characteristics

Figure 1: Peak Pulse Power Vs Pulse Time

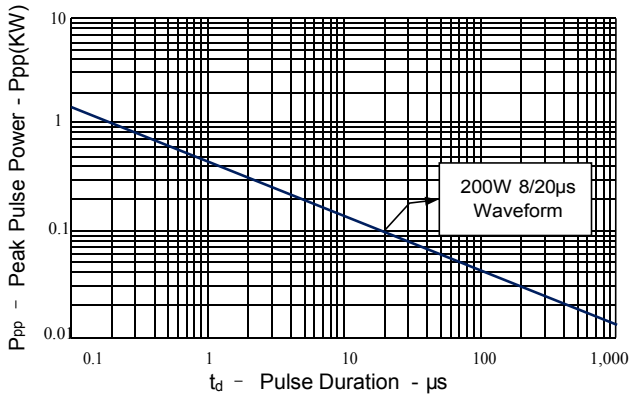


Figure 2: Power Derating Curve

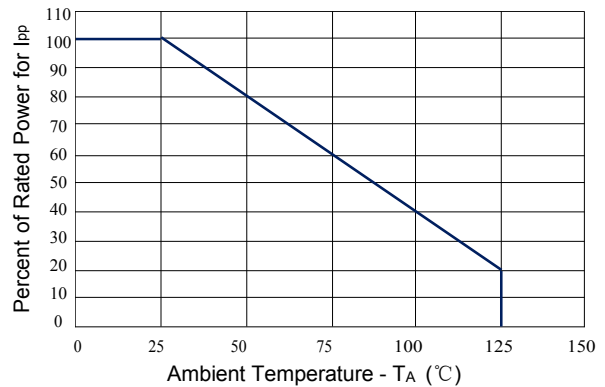


Figure 3: Clamping Voltage vs. Peak Pulse Current

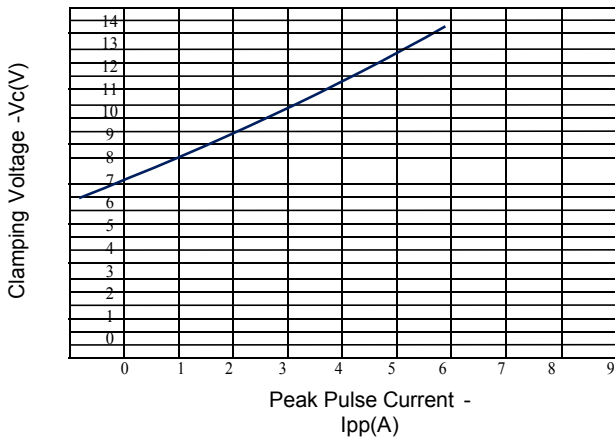


Figure 4: Normalized Junction Capacitance vs. Reverse Voltage

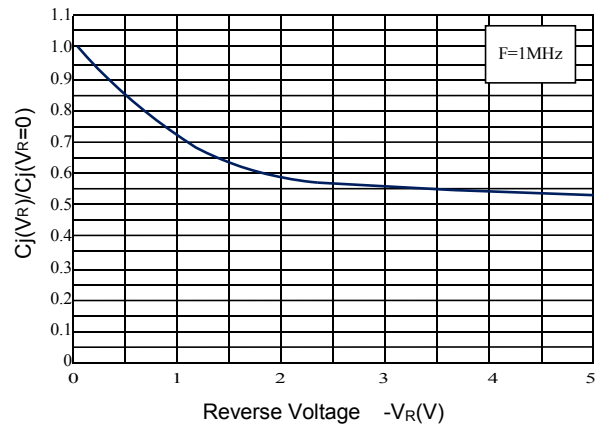


Figure 5: Pulse Waveform

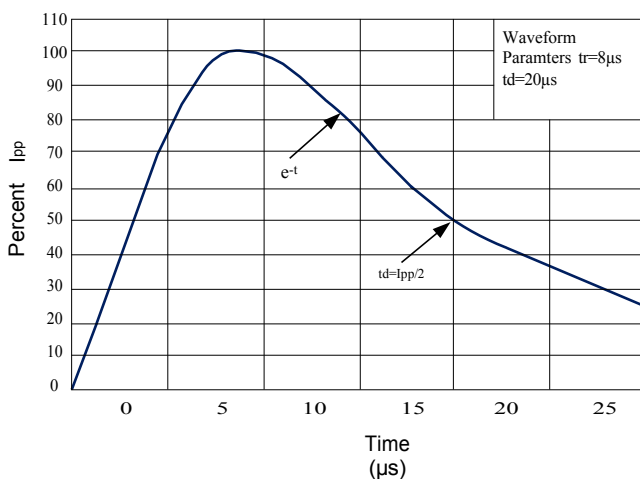
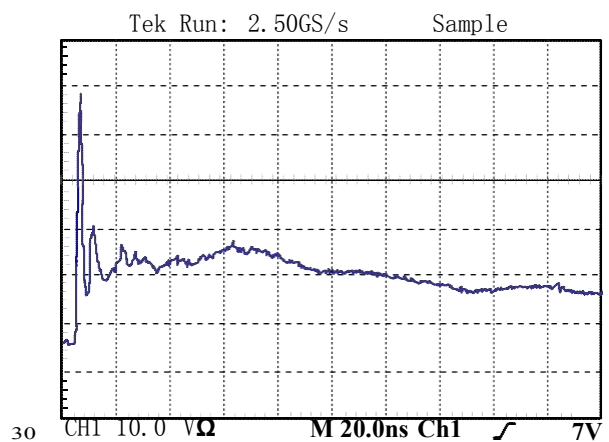


Figure 6: ESD Clamping (8kV Contact per IEC 61000-4-2)



Outline Drawing – DFN-2L

PACKAGE OUTLINE

BOTTOM VIEW

DFN-2L

| SYMB | MILIMETER | | |
|------|-----------|------|------|
| | MIN | NOM | MAX |
| OL | | | |
| A | 0.45 | 0.50 | 0.55 |
| A1 | 0 | 0.02 | 0.05 |
| b | 0.45 | 0.50 | 0.55 |
| C | 0.12 | 0.15 | 0.18 |
| D | 0.95 | 1.00 | 1.05 |
| e | 0.65BSC | | |
| E | 0.55 | 0.60 | 0.65 |
| L | 0.20 | 0.25 | 0.30 |
| L1 | 0.05REF | | |
| h | 0.07 | 0.12 | 0.17 |

Land Pattern

Marking Codes

| Part Number | Marking Code |
|---------------------|--------------|
| BDFN2C051V40 | M5 |

Package Information

Qty: 10k/Reel