

OM SENI

**H5VU10B**

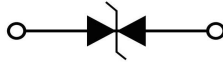
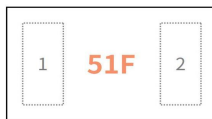
Bi-directional 5.0V Ultra Small Capacitance ESD

**DFN1006-2L Plastic-Encapsulate ESD Protection Diodes****Features**

- Low leakage current
- Low clamping voltage
- IEC 61000-4-2 (ESD Air):  $\pm 30\text{kV}$
- IEC 61000-4-2 (ESD Contact):  $\pm 25\text{kV}$
- IEC 61000-4-5 (Lightning 8/20 $\mu\text{s}$ ): 4A

**Applications**

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation, Digital Cameras
- Peripherals, Audio Players, Industrial Equipment

**Function Diagram**

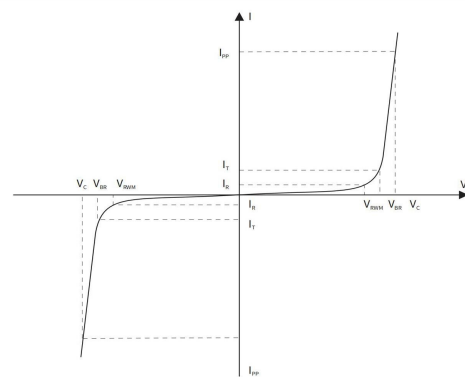
**Reverse Working Voltage**  
5.0V Max.  
**Ultra Small capacitance**  
0.3 pF(Typ.)

**Maximum Ratings** (Ta=25°C Unless otherwise specified)

| SYMBOL           | PARAMETER                            | CONDITIONS                       | VALUE       | UNIT |
|------------------|--------------------------------------|----------------------------------|-------------|------|
| $V_{\text{ESD}}$ | Electrostatic Discharge Voltage      | ESD per IEC 61000-4-2( Air )     | $\pm 30$    | KV   |
|                  |                                      | ESD per IEC 61000-4-2( Contact ) | $\pm 25$    | KV   |
| $P_{\text{PP}}$  | Peak Pulse Power                     | $t_p = 8/20 \mu\text{s}$         | 60          | W    |
| $I_{\text{PP}}$  | Rated Peak Pulse Current             | $t_p = 8/20 \mu\text{s}$         | 4           | A    |
| $T_J$            | Operating Junction Temperature Range | —                                | -55 to +150 | °C   |
| $T_{\text{STG}}$ | Operating Junction Temperature Range | —                                | -55 to +150 | °C   |

**Electrical Parameter**

| SYMBOL           | PARAMETER                                             |
|------------------|-------------------------------------------------------|
| $V_C$            | Clamping Voltage @ $I_{\text{PP}}$                    |
| $V_{\text{BR}}$  | Breakdown Voltage @ $I_T$                             |
| $I_{\text{PP}}$  | Peak Pulse Current                                    |
| $I_T$            | Test Current                                          |
| $I_R$            | Reverse Leakage Current @ VRWM                        |
| $V_{\text{RWM}}$ | Peak Reverse Working Voltage                          |
| $P_{\text{PP}}$  | Peak Pulse Power Dissipation                          |
| $C_J$            | Junction Capacitance @ $V_R=0\text{V}, f=1\text{MHz}$ |
| $I_F$            | Forward Current                                       |
| $V_F$            | Forward Voltage @ $I_F$                               |

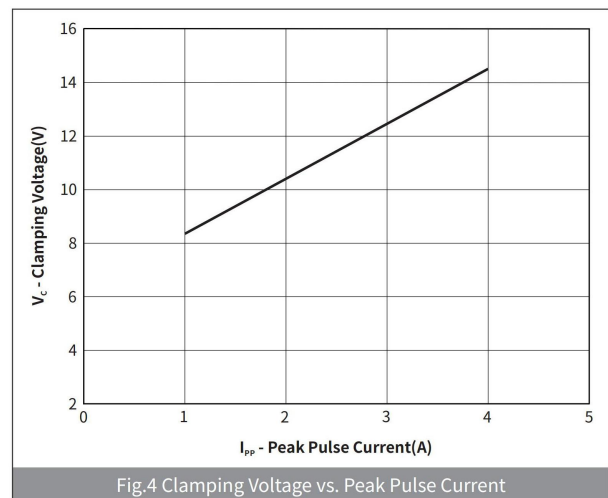
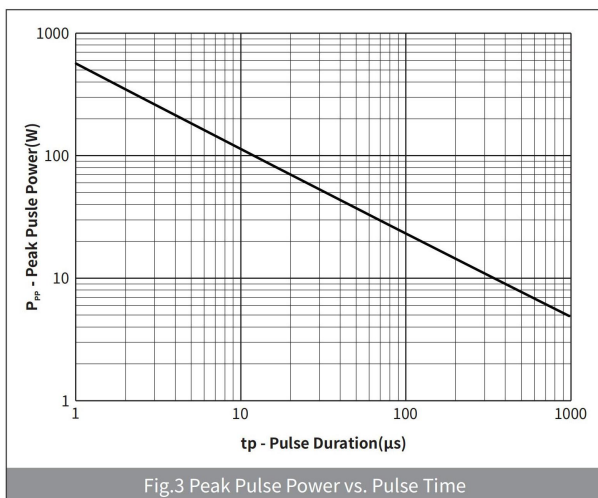
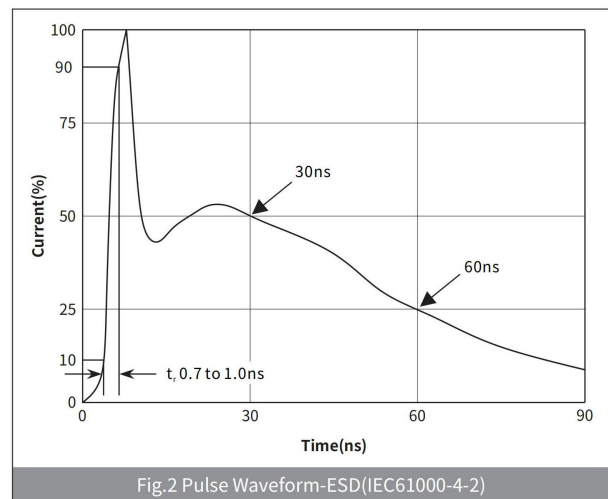
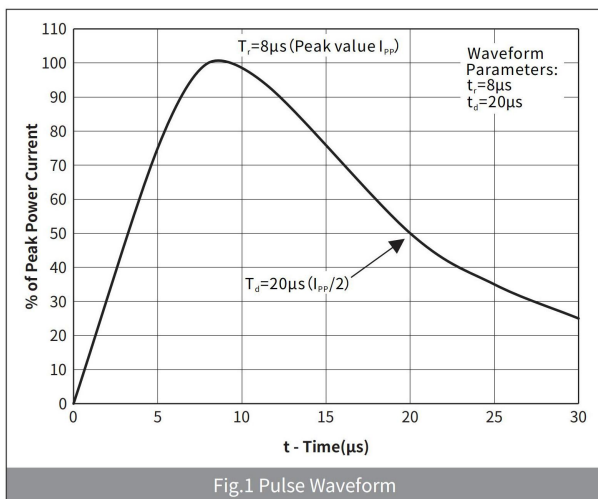


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## Electrical Characteristics (Ta=25°C Unless otherwise specified)

| PARAMETER                    | SYMBOL    | CONDITION                                   | Min | Typ | Max  | UNIT          |
|------------------------------|-----------|---------------------------------------------|-----|-----|------|---------------|
| Peak Reverse Working Voltage | $V_{RWM}$ | $T_a=25^\circ\text{C}$                      | —   | —   | 5.0  | V             |
| Breakdown Voltage            | $V_{BR}$  | $I_T=1.0\text{mA}, T_a=25^\circ\text{C}$    | 6.5 | 7.5 | 9.0  | V             |
| Reverse Leakage Current      | $I_R$     | $V_{RWM}=5.0\text{V}, T_a=25^\circ\text{C}$ | —   | —   | 0.08 | $\mu\text{A}$ |
| Clamping Voltage             | $V_C$     | $I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$     | —   | —   | 9    | V             |
| Clamping Voltage             | $V_C$     | $I_{PP}=4\text{A}, t_p=8/20\mu\text{s}$     | —   | —   | 15   | V             |
| Junction Capacitance         | $C_J$     | $V_{RWM}=0\text{V}, f=1\text{MHz}$          | —   | 0.3 | 0.45 | pF            |

## Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)



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## Ordering Information

| PREFERRED P/N | PACKAGE    | SIZE(mm)       | DELIVERY MODE | MPQ(PCS) |
|---------------|------------|----------------|---------------|----------|
|               | DFN1006-2L | 1.00×0.60×0.37 | 7" REEL       | 10,000   |

## Recommended Soldering Conditions



## Package Outline Dimensions (DFN1006-2L)



## Suggested Pad Layout

