

### Features

- Ultra small package: 1.6x0.8x0.5mm
- Protects one data or power line
- Ultra low leakage: nA level
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test  
Air discharge:  $\pm 25\text{kV}$   
Contact discharge:  $\pm 25\text{kV}$
  - IEC61000-4-4 (EFT) 65A (5/50ns)
  - IEC61000-4-5 (Lightning) 65A (8/20)
- RoHS Compliant

### Applications

- Mobile Phones
- Battery Protection
- Power Line Protection
- Vbat pin for Mobile Devices
- Hand Held Portable Applications

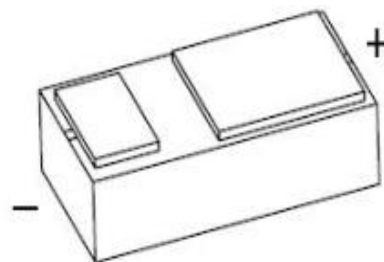
### Mechanical Characteristics

- Package: **WBFBP-02L**
- Lead Finish: NiPdAu
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Quantity Per Reel: 3,000pcs
- Reel Size: 7 inch

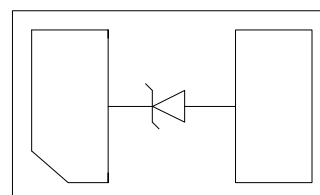
### Absolute Maximum Ratings (T<sub>amb</sub>=25°C unless otherwise specified)

| Parameter                       | Symbol           | Value       | Unit |
|---------------------------------|------------------|-------------|------|
| Peak Pulse Power (8/20 $\mu$ s) | P <sub>pp</sub>  | 1300        | W    |
| ESD per IEC 61000-4-2 (Air)     | V <sub>ESD</sub> | $\pm 25$    | Kv   |
| ESD per IEC 61000-4-2 (Contact) |                  | $\pm 25$    |      |
| Operating Temperature Range     | T <sub>J</sub>   | -55 to +150 | °C   |
| Storage Temperature Range       | T <sub>STJ</sub> | -55 to +150 | °C   |

### Dimensions WBFBP-02L



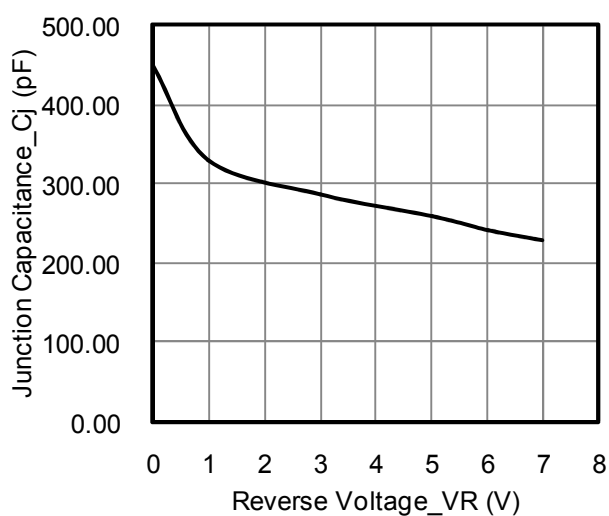
### Pin Configuration



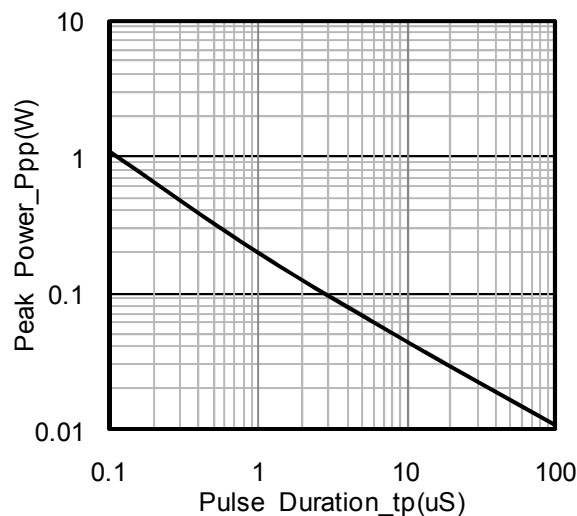
## Electrical Characteristics (TA=25°C unless otherwise specified)

| Part Number | Device Marking | V <sub>RWM</sub><br>(V) | V <sub>BR</sub><br>(V) | I <sub>T</sub><br>(mA) | V <sub>C</sub><br>@1A | V <sub>C</sub> |      | I <sub>R</sub><br>μA<br>(Max) | C<br>(Pf)<br>(Typ.) |
|-------------|----------------|-------------------------|------------------------|------------------------|-----------------------|----------------|------|-------------------------------|---------------------|
|             |                |                         |                        |                        |                       | (Max)          | (@A) |                               |                     |
| ESDQ07P     | Q7             | 7                       | 8                      | 1                      | 10                    | 16             | 65   | 1                             | 500                 |

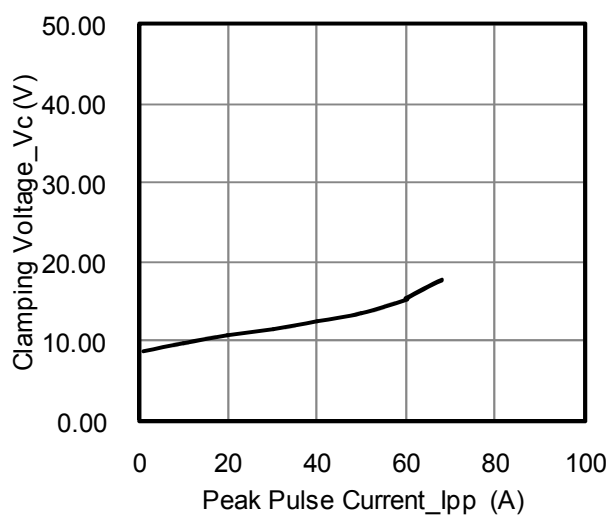
## Typical Performance Characteristics (TA=25°C unless otherwise Specified)



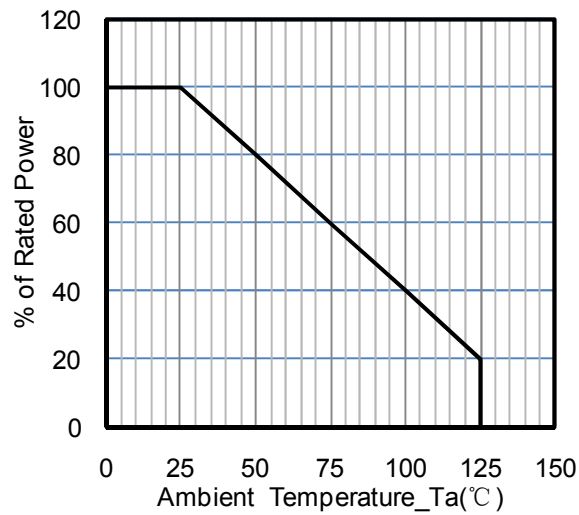
Junction Capacitance vs. Reverse Voltage



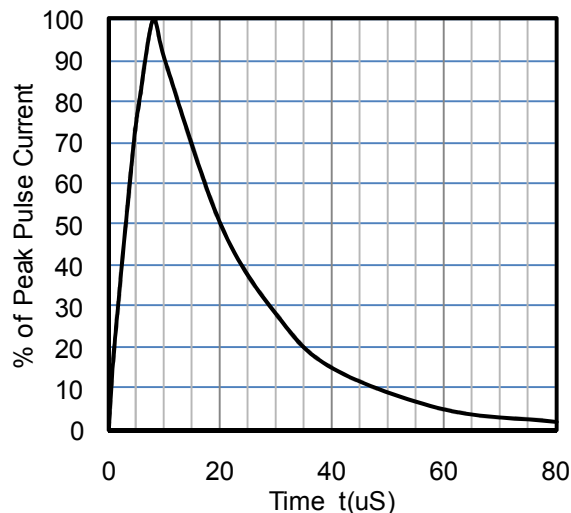
Peak Pulse Power vs. Pulse Time



Clamping Voltage vs. Peak Pulse Current

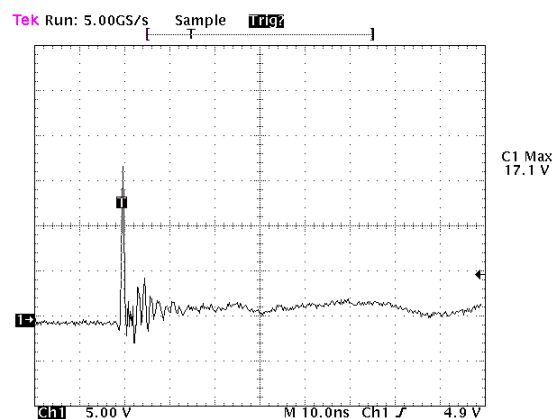


Power Derating Curve



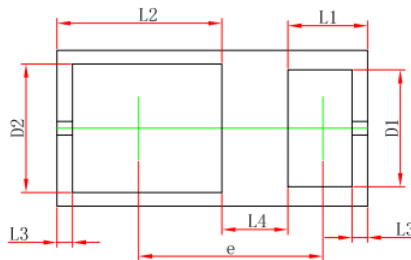
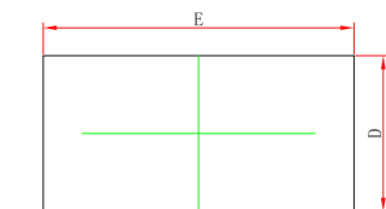
**8 X 20uS Pulse Waveform**

**WBFBP-02L Package Outline Dimensions**

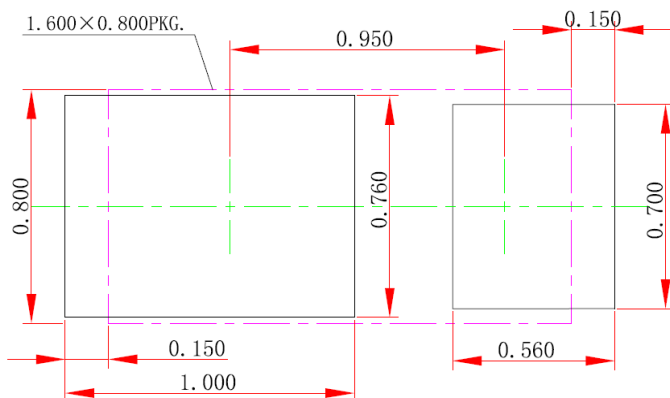


**ESD Clamping Voltage**

**8 kV Contact per IEC61000-4-2**



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min.                      | Max.  | Min.                 | Max.  |
| A      | 0.450                     | 0.550 | 0.018                | 0.022 |
| A1     | 0.010                     | 0.090 | 0.000                | 0.004 |
| D      | 0.750                     | 0.850 | 0.030                | 0.033 |
| D1     | 0.520                     | 0.680 | 0.020                | 0.027 |
| D2     | 0.600                     | 0.760 | 0.024                | 0.030 |
| E      | 1.550                     | 1.650 | 0.061                | 0.065 |
| L1     | 0.410 REF.                |       | 0.016 REF.           |       |
| L2     | 0.850 REF.                |       | 0.033 REF.           |       |
| L3     | 0.080 REF.                |       | 0.003 REF.           |       |
| L4     | 0.340 REF.                |       | 0.013 REF.           |       |
| e      | 0.900                     | 1.000 | 0.035                | 0.039 |



**Note:**

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.050\text{mm}$ .
3. The pad layout is for reference purposes only.