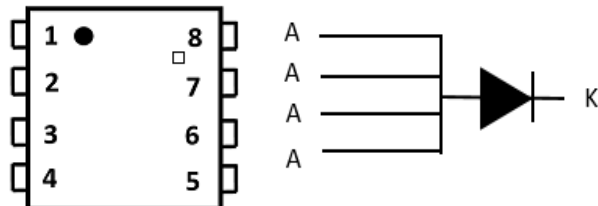
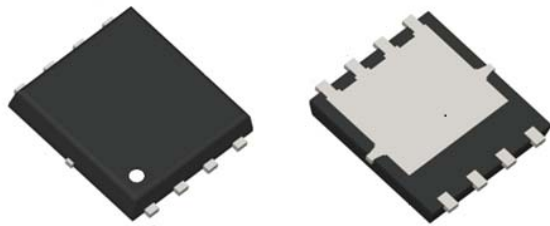


## Schottky Diodes



### Features

- High frequency operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Solder dip 275 °C max. 7 s, per JESD 22-B106

### Typical Applications

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

### Mechanical Data

- **Package:**PDFN5060-8L  
Molding compound meets UL 94 V-0 flammability rating, -
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked

### ■Maximum Ratings (T<sub>j</sub>=25°C Unless otherwise specified)

| PARAMETER                                                                                   | SYMBOL           | UNIT             | MBRL30100P5 |
|---------------------------------------------------------------------------------------------|------------------|------------------|-------------|
| Device marking code                                                                         |                  |                  | MBRL30100P5 |
| Repetitive Peak Reverse Voltage                                                             | V <sub>RRM</sub> | V                | 100         |
| Average Rectified Output Current<br>@60Hz sine wave, R-load, T <sub>c</sub> =121°C          | I <sub>O</sub>   | A                | 30          |
| Surge(Non-repetitive)Forward Current<br>@60Hz half sine-wave, 1 cycle, T <sub>j</sub> =25°C | I <sub>FSM</sub> | A                | 250         |
| Current Squared Time @1ms≤t≤8.3ms T <sub>j</sub> =25°C,                                     | I <sup>2</sup> t | A <sup>2</sup> s | 259         |
| Typical junction capacitance<br>@1MHz and Applied Reverse Voltage of 4.0 V.D.C.             | C <sub>j</sub>   | nF               | 1.4         |
| Storage Temperature                                                                         | T <sub>stg</sub> | °C               | -55 ~ +150  |
| Junction Temperature                                                                        | T <sub>j</sub>   | °C               | -55 ~ +150  |

### ■Electrical Characteristics (T<sub>j</sub>=25°C Unless otherwise specified)

| PARAMETER                                                            | SYMBOL            | UNIT | TEST CONDITIONS                                            | Min | Typ  | Max  |
|----------------------------------------------------------------------|-------------------|------|------------------------------------------------------------|-----|------|------|
| Peak Forward Voltage                                                 | V <sub>FM</sub>   | V    | I <sub>FM</sub> =30.0A<br>T <sub>j</sub> =25°C             | 0.5 | 0.81 | 0.85 |
|                                                                      |                   |      | I <sub>FM</sub> =30.0A<br>T <sub>j</sub> =125°C            | -   | 0.75 | 0.80 |
| Maximum DC reverse current<br>at rated DC blocking voltage per diode | I <sub>RRM1</sub> | mA   | V <sub>RM</sub> =V <sub>RRM</sub><br>T <sub>j</sub> =25°C  | -   | -    | 0.10 |
|                                                                      | I <sub>RRM2</sub> |      | V <sub>RM</sub> =V <sub>RRM</sub><br>T <sub>j</sub> =125°C | -   | -    | 20   |

## ■ Thermal Characteristics (T<sub>j</sub>=25°C Unless otherwise specified)

| PARAMETER          |                           | SYMBOL           | UNIT | MBRL30100P5 |
|--------------------|---------------------------|------------------|------|-------------|
| Thermal Resistance | Between junction and case | R <sub>θJC</sub> | °C/W | 2.0         |

## ■ Characteristics (Typical)

FIG1: I<sub>o</sub> -T<sub>c</sub> Curve

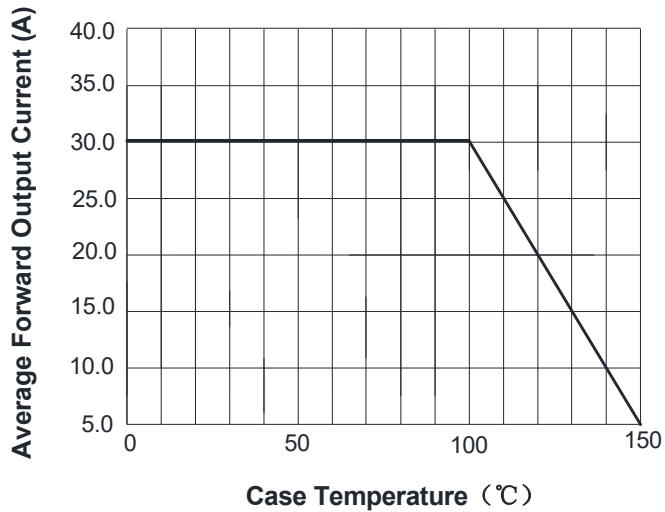


FIG2: Surge Forward Current Capability

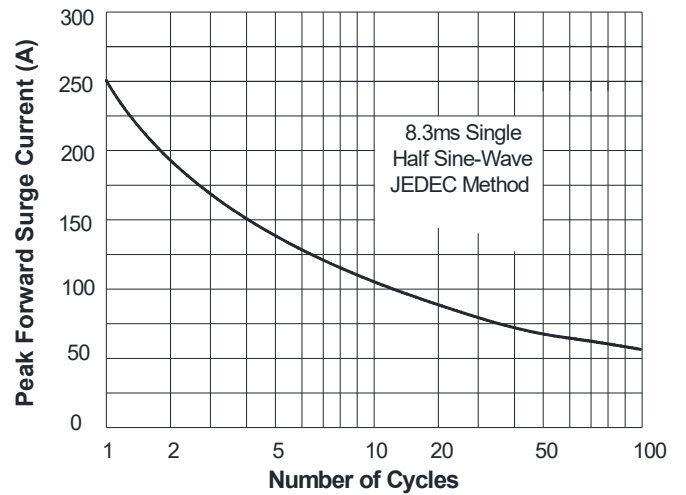


FIG3: Forward Voltage

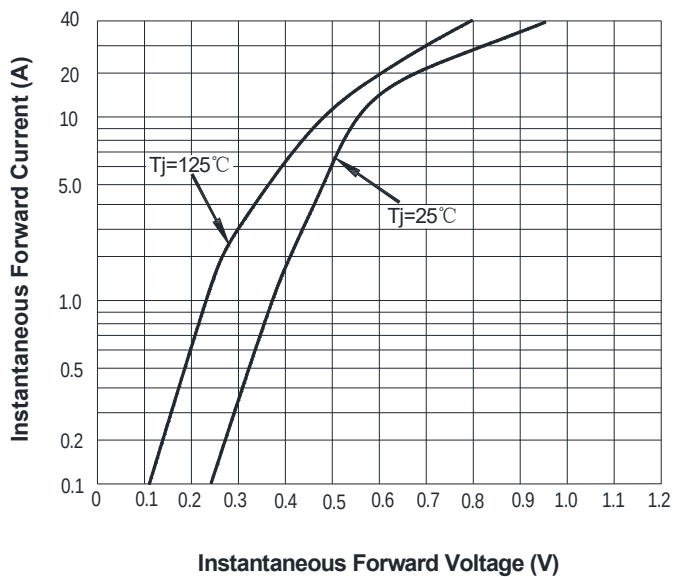
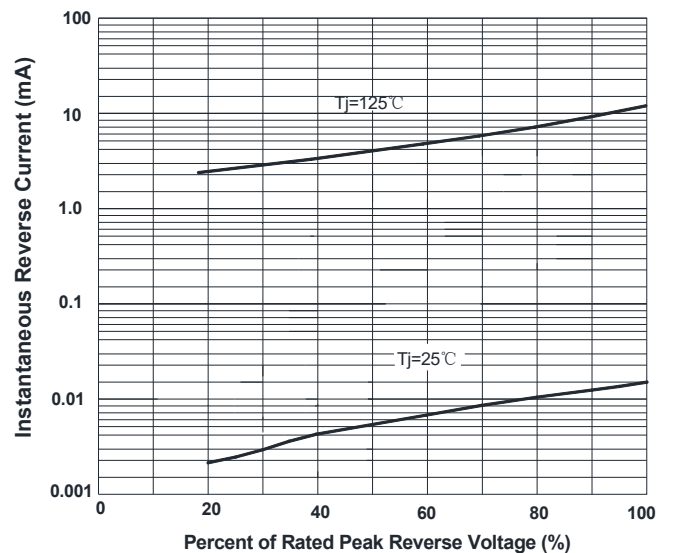
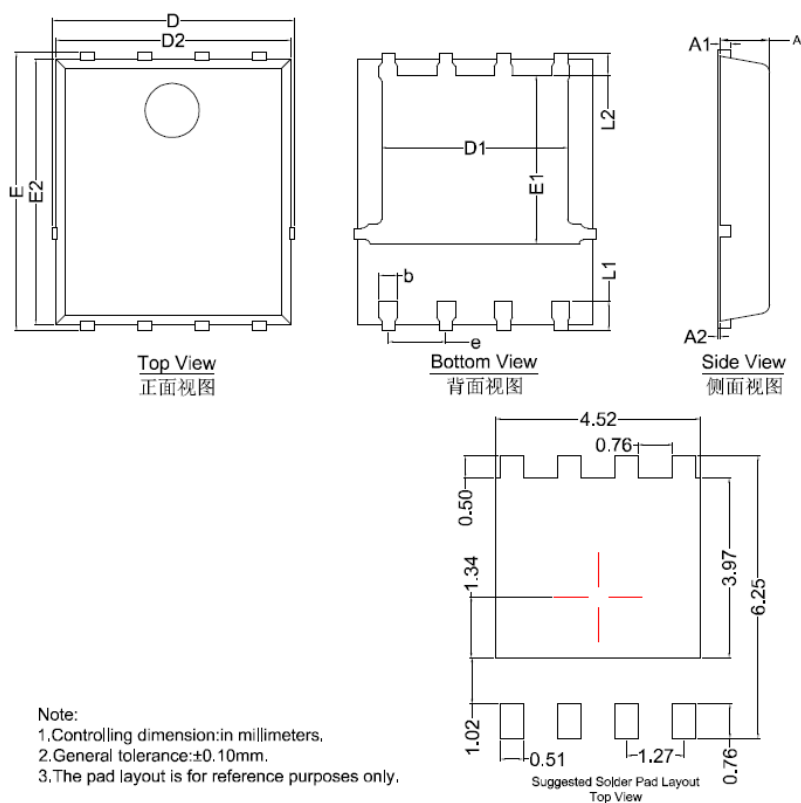


FIG4: Instantaneous Reverse Characteristics



## ■Outline Dimensions



Note:  
 1. Controlling dimension: in millimeters.  
 2. General tolerance:  $\pm 0.10\text{mm}$ .  
 3. The pad layout is for reference purposes only.

| SYMBOL | MILLIMETER |      |      |
|--------|------------|------|------|
|        | MIN        | NOM  | MAX  |
| D      | 5.15       | 5.35 | 5.55 |
| E      | 5.95       | 6.15 | 6.35 |
| A      | 1.00       | 1.10 | 1.20 |
| A1     | 0.254 BSC  |      |      |
| A2     |            |      | 0.10 |
| D1     | 3.92       | 4.12 | 4.32 |
| E1     | 3.52       | 3.72 | 3.92 |
| D2     | 5.00       | 5.20 | 5.40 |
| E2     | 5.66       | 5.86 | 6.06 |
| L1     | 0.56       | 0.66 | 0.76 |
| L2     | 0.50 BSC   |      |      |
| b      | 0.31       | 0.41 | 0.51 |
| e      | 1.27 BSC   |      |      |

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