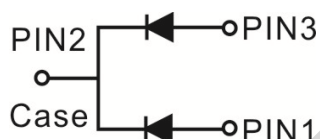
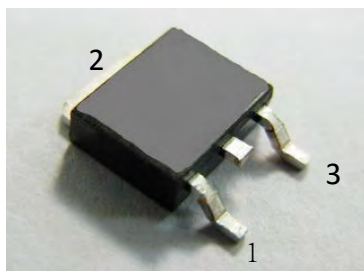


## SCHOTTKY BARRIER RECTIFIER

**MBR1045D  
TO-252**



### Features

- Low forward voltage drop
- Low power losses
- High efficiency operation
- Lead Free Finish, RoHS Compliant

### Applications

- DC/DC Converters
- AC/DC Adaptors
- Switching Power Supplies
- Freewheeling Diodes

### Maximum ratings and electrical characteristics (T<sub>J</sub> = 25°C unless otherwise noted)

| Parameter                                                                                     |           |          | Symbol   | Limit       |      | Unit |
|-----------------------------------------------------------------------------------------------|-----------|----------|----------|-------------|------|------|
| Maximum repetitive peak reverse voltage                                                       |           |          | VRRM     | 45          |      | V    |
| Maximum average forward rectified current                                                     | device    |          | IF(AV)   | 10          |      | A    |
|                                                                                               | per diode |          |          | 5           |      |      |
| Peak forward surge current 8.3 ms single half sine- wave superimposed on rated load per diode |           |          | IFSM     | 150         |      | A    |
| Operating junction and storage temperature range                                              |           |          | TJ, TSTG | -50 to +175 |      | °C   |
| Typical thermal resistance per leg                                                            |           | TO-252   | RθJC     | 6           |      | °C/W |
| Instantaneous forward voltage per diode                                                       |           |          | VF(1)    | TYP.        | MAX. | V    |
|                                                                                               | IF=2A     | TJ=25°C  |          | 0.42        | 0.45 |      |
|                                                                                               | IF=2A     | TJ=125°C |          | 0.38        | -    |      |
|                                                                                               | IF=5A     | TJ=25°C  |          | 0.49        | 0.55 |      |
|                                                                                               | IF=5A     | TJ=125°C |          | 0.43        | -    |      |
| Instantaneous reverse current per diode at rated reverse voltage                              |           | TJ=25°C  | IR(2)    | 1           | 50   | uA   |
|                                                                                               |           | TJ=125°C |          | 2           | -    | mA   |

Notes:

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

(2) Pulse test: Pulse width ≤ 40 ms

## RATINGS AND CHARACTERISTICS CURVES (TA = 25 °C unless otherwise noted)

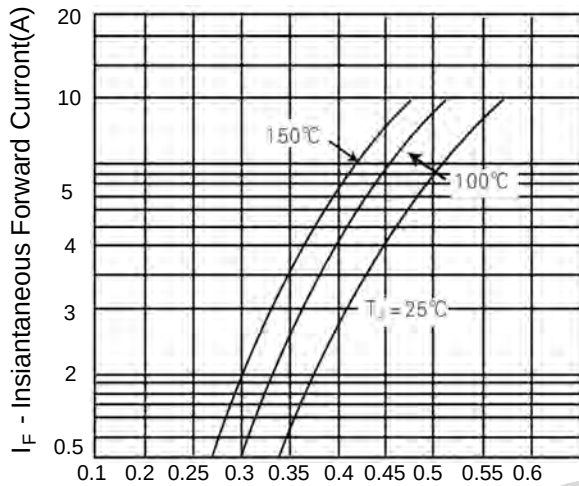


Figure 1. Typical Forward Voltage Per Diode

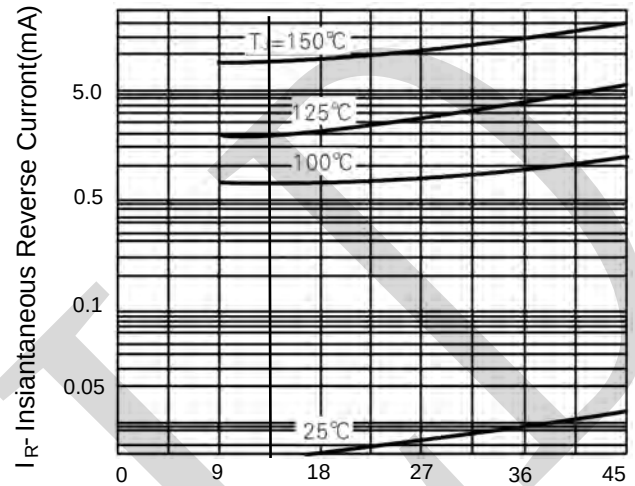


Figure 2. Typical Reverse Current Per Diode

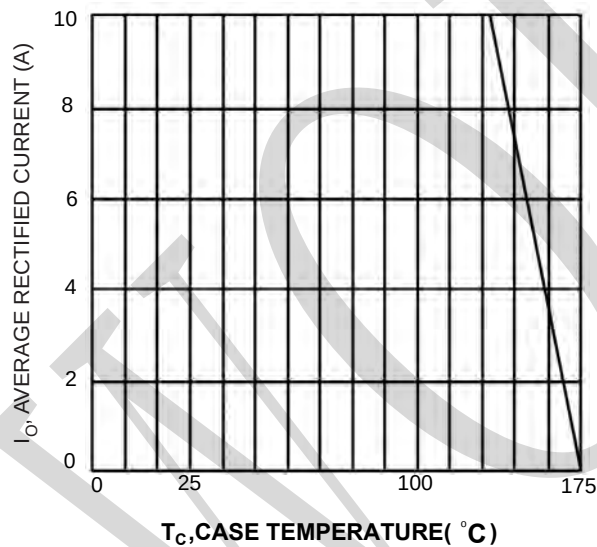


Fig.3 Forward Current Derating Curve

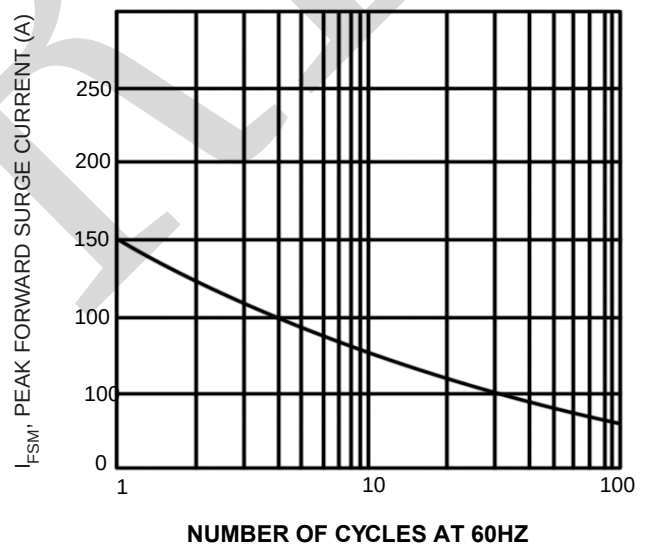
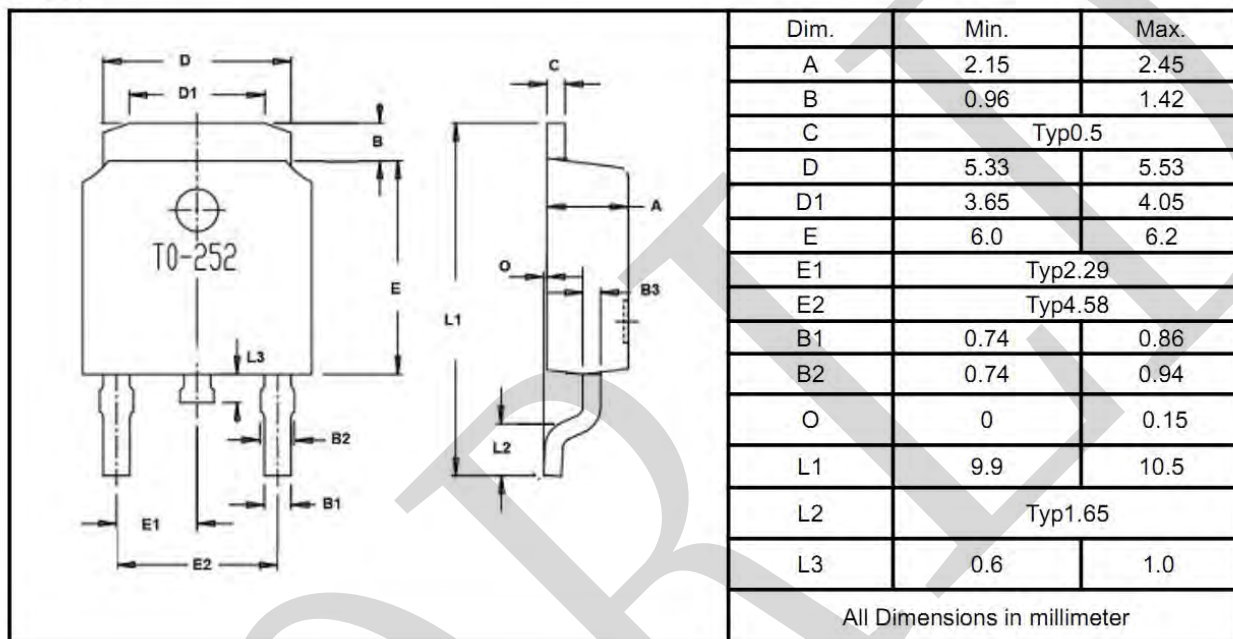


Fig.4 Max Non- Repetitive Surge Current

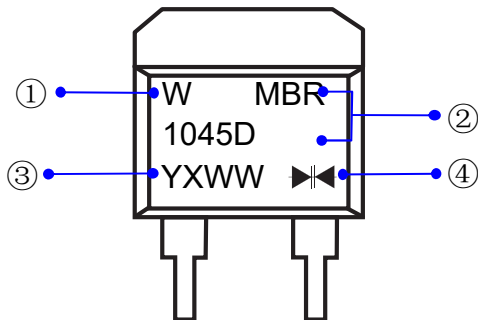
## PACKAGE OUTLINE DIMENSIONS

Note:unit In(mm)

### TO-252

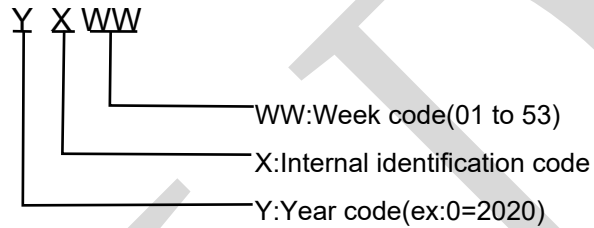


## Marking Information



- ①W : Company's trademark
- ②Product model : MBR1045D

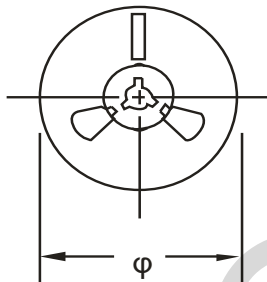
### ③PDC information:



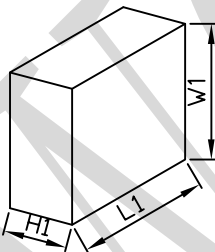
- ④ Double wafer

## Packaging Information

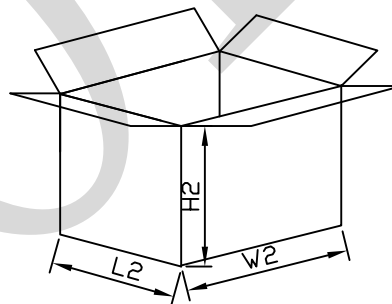
### 1.Reel Dimensions



### 2. Inside Box



### 3. Outside Box



## Packaging Information

| NO   | UNIT                                                 | Reel Dimensions               |     |    | Inside Box               |     |    | Outside Box                      |     |     |
|------|------------------------------------------------------|-------------------------------|-----|----|--------------------------|-----|----|----------------------------------|-----|-----|
| Size | mm                                                   | φ                             | A   | B  | L1                       | W1  | H1 | L2                               | W2  | H2  |
|      |                                                      | 330                           | 100 | 15 | 340                      | 335 | 45 | 370                              | 360 | 270 |
| QTY  | PCS                                                  | Smallest package,2500PCS/reel |     |    | 5,000PCS,2 reel in total |     |    | 25,000PCS/carton,5boxes in total |     |     |
| Note | Tolerance ≤20mm,±3mm; 21-100mm,±5mm; 101-500mm,±10mm |                               |     |    |                          |     |    |                                  |     |     |