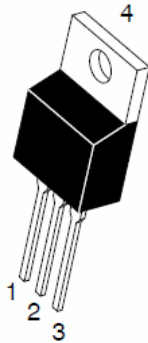
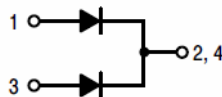
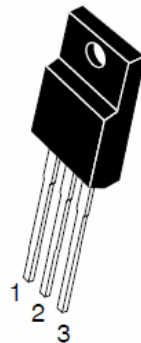


## SCHOTTKY BARRIER RECTIFIER

**TO-220AB  
MBR2045CT**



**ITO-220AB  
MBR2045CTF**



### 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                                                     | per device | IF(AV)   | 20       |             | A    |      |
|                                                                                               | per diode  |          | 10       |             |      |      |
| Peak forward surge current 8.3 ms single half sine- wave superimposed on rated load per diode |            |          | IFSM     | 260         |      | A    |
| Operating junction and storage temperature range                                              |            |          | TJ, TSTG | -50 to +150 |      | °C   |
| Typical thermal resistance per leg                                                            | TO-220AB   |          | RθJC     | 2           |      | °C/W |
|                                                                                               | ITO-220AB  |          |          | 4           |      | °C/W |
| Instantaneous forward voltage per diode                                                       |            |          | VF(1)    | TYP.        | MAX. | V    |
|                                                                                               | IF=3A      | TJ=25°C  |          | 0.42        | 0.48 |      |
|                                                                                               | IF=3A      | TJ=125°C |          | 0.37        | -    |      |
|                                                                                               | IF=10A     | TJ=25°C  |          | 0.56        | 0.60 |      |
|                                                                                               | IF=10A     | TJ=125°C |          | 0.49        | -    |      |
| Instantaneous reverse current per diode at rated reverse voltage                              |            | TJ=25°C  | IR(2)    | 10          | 50   | uA   |
|                                                                                               |            | TJ=125°C |          | 5           | -    | 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)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

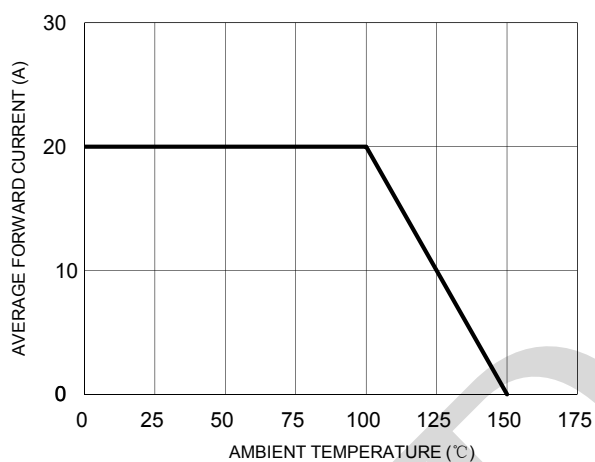


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

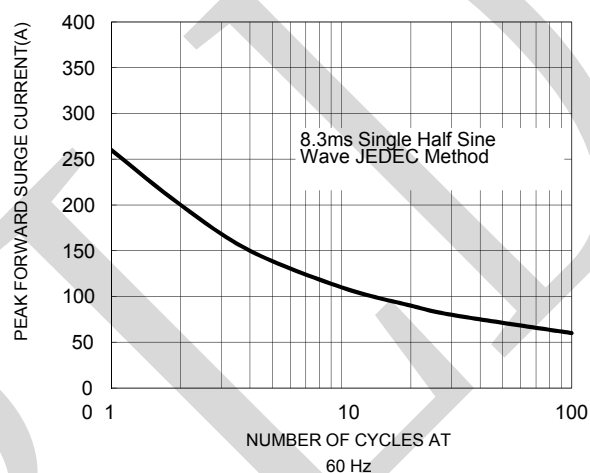


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

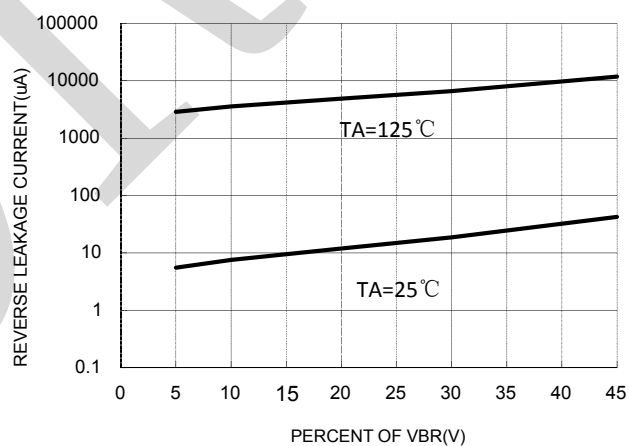
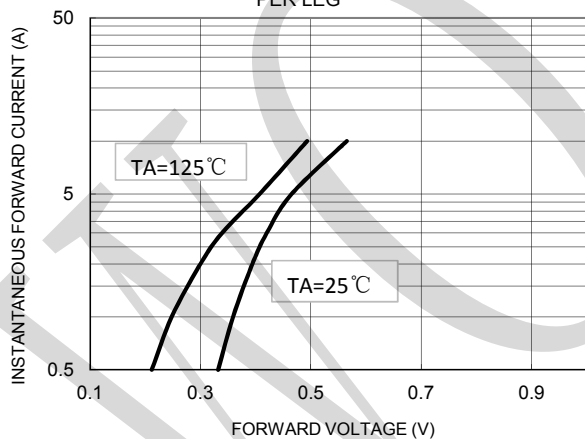


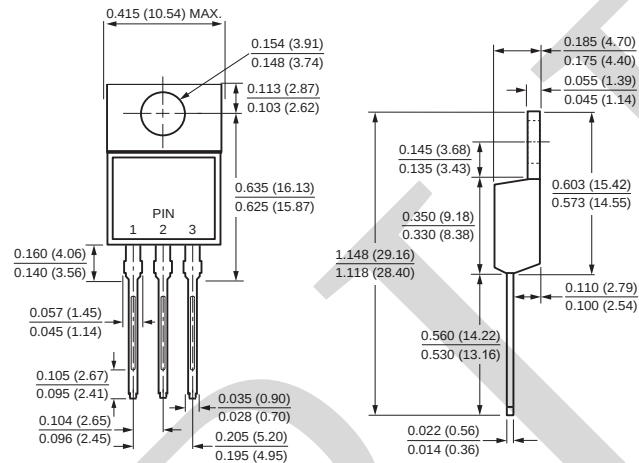
FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG



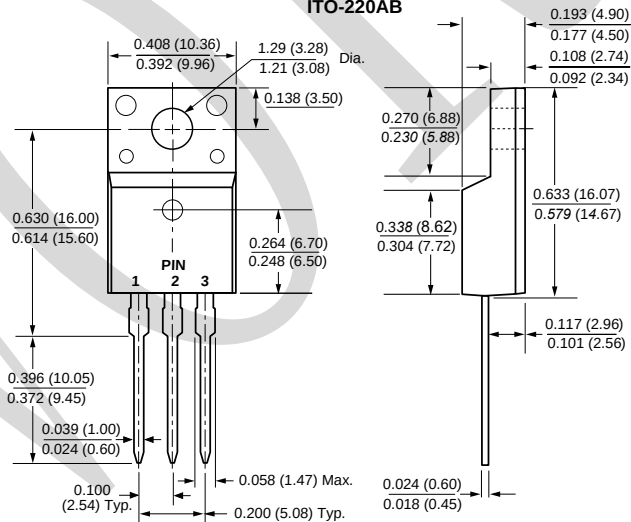
## PACKAGE OUTLINE DIMENSIONS

Note:unit In(mm)

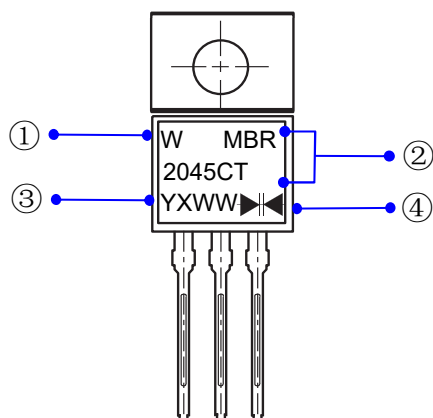
TO-220AB



ITO-220AB



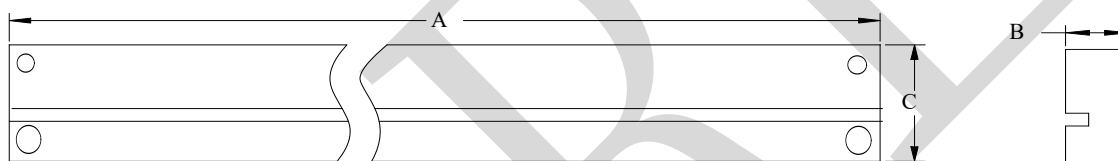
## Marking Information



- ①W : Company's trademark  
 ②Product model : MBR2045CT or MBR2045CTF  
 ③PDC information :  
 Y X WW  
 WW:Week code(01 to 53)  
 X:Internal identification code  
 Y:Year code(ex:0=2020)  
 ④ Double wafer

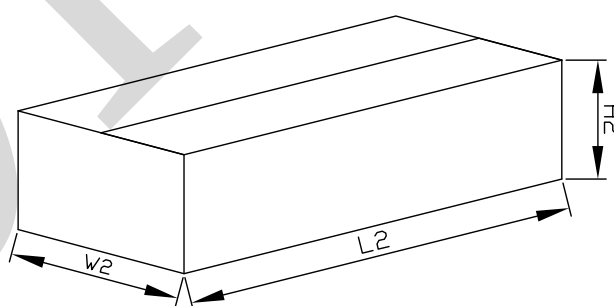
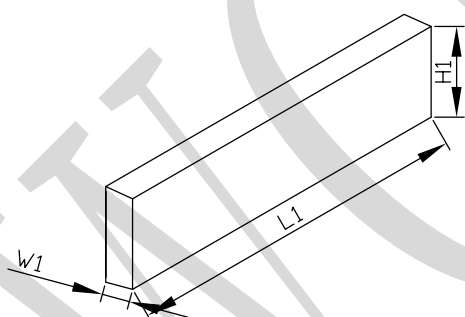
## Packaging Information

### 1.Tube Dimensions



### 2.Inside Box

### 3.Outside Box



## Packaging Information

| NO   | UNIT                                                          | Tube Dimensions |   |    | Inside Box                                    |    |     | Outside Box                      |     |     |
|------|---------------------------------------------------------------|-----------------|---|----|-----------------------------------------------|----|-----|----------------------------------|-----|-----|
| Size | mm                                                            | A               | B | C  | L1                                            | W1 | H1  | L2                               | W2  | H2  |
|      |                                                               | 530             | 7 | 33 | 570                                           | 46 | 150 | 590                              | 260 | 180 |
| QTY  | PCS                                                           | 50PCS/Tube      |   |    | Smallest package,1000PCS,<br>20 tube in total |    |     | 5,000PCS/carton,5 boxes in total |     |     |
| Note | Tolerance    ≤20mm,±3mm;    21-100mm,±5mm;    101-500mm,±10mm |                 |   |    |                                               |    |     |                                  |     |     |