

## 60A SCHOTTKY BARRIER RECTIFIER

### General Description

MBR6045WT Device optimized for ultra-low forward voltage drop to maximize efficiency in Power Supply applications.

### Features

- Common Cathode
- Multilayer Metal -Silicon Potential Structure
- Have Over Voltage protect loop,high reliability
- RoHS Compliant

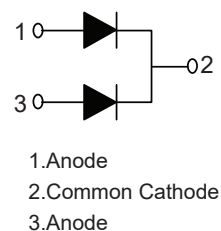
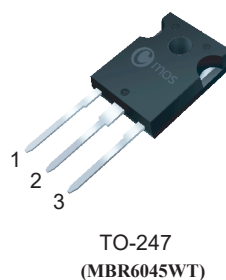
### Product Summary

| $V_{RRM}$ | $V_F$ | $I_{F(AV)}$ |
|-----------|-------|-------------|
| 45V       | 0.6V  | 60A         |

### Applications

- DC/DC converter
- Switched Mode Power Supplies (SMPS)
- Low Voltage High Frequency Invers Circuit

### TO-247 Pin Configuration



### Absolute Maximum Ratings

| Symbol      | Parameter                                                                               | Rating                     | Units |
|-------------|-----------------------------------------------------------------------------------------|----------------------------|-------|
| $V_{RRM}$   | Peak Repetitive Reverse Voltage                                                         | 45                         | V     |
| $I_{F(AV)}$ | Average Rectified Forward Current (Rated VR-20Khz Square Wave) - 50% duty cycle         | 30 (Per Leg)<br>60 (Total) | A     |
| dv/dt       | Voltage rate of change (Rated VR)                                                       | 10000                      | V/uS  |
| $I_{RRM}$   | Peak Repetitive Reverse Surge Current (2uS,1Khz)                                        | 0.5                        | A     |
| $I_{FSM}$   | Forward Peak Surge Current(Rated Load 8.3ms Half Mssine Wave-According to JEDEC Method) | 300                        | A     |
| $T_J$       | Operating Junction Temperature                                                          | -40 to 150                 | °C    |
| $T_{STG}$   | Storage Temperature                                                                     | -40 to 150                 | °C    |

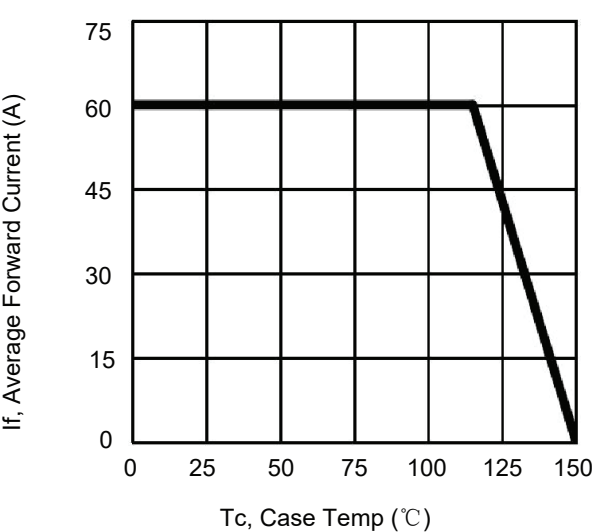
### Thermal Data

| Symbol          | Parameter                                     | Typ. | Max. | Unit |
|-----------------|-----------------------------------------------|------|------|------|
| $R_{\theta JC}$ | Thermal Resistance, Junction to Case(Per Leg) | 0.5  | ---  | °C/W |

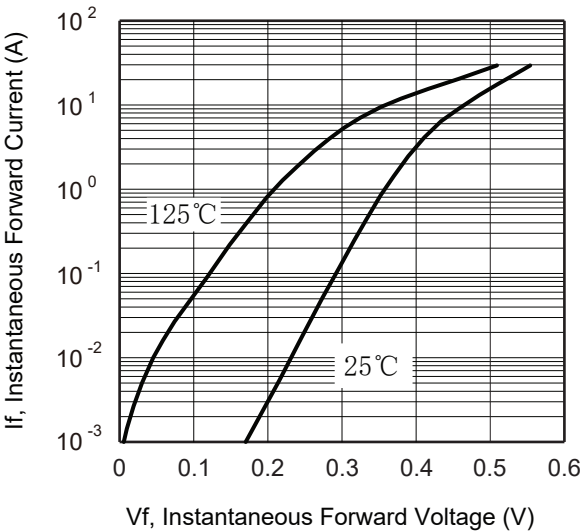
Electrical Characteristics

| Symbol | Parameter                         | Conditions                  | Min. | Typ. | Max. | Unit |
|--------|-----------------------------------|-----------------------------|------|------|------|------|
| $V_F$  | Forward Voltage Drop per diode    | $I_F=30A, T_c=25^{\circ}C$  | ---  | 0.55 | 0.60 | V    |
|        |                                   | $I_F=30A, T_c=125^{\circ}C$ | ---  | ---  | 0.55 |      |
| $I_R$  | Reverse Leakage Current per diode | $V_R=45V, T_c=25^{\circ}C$  | ---  | ---  | 0.1  | mA   |
|        |                                   | $V_R=45V, T_c=125^{\circ}C$ | ---  | ---  | 25   | mA   |

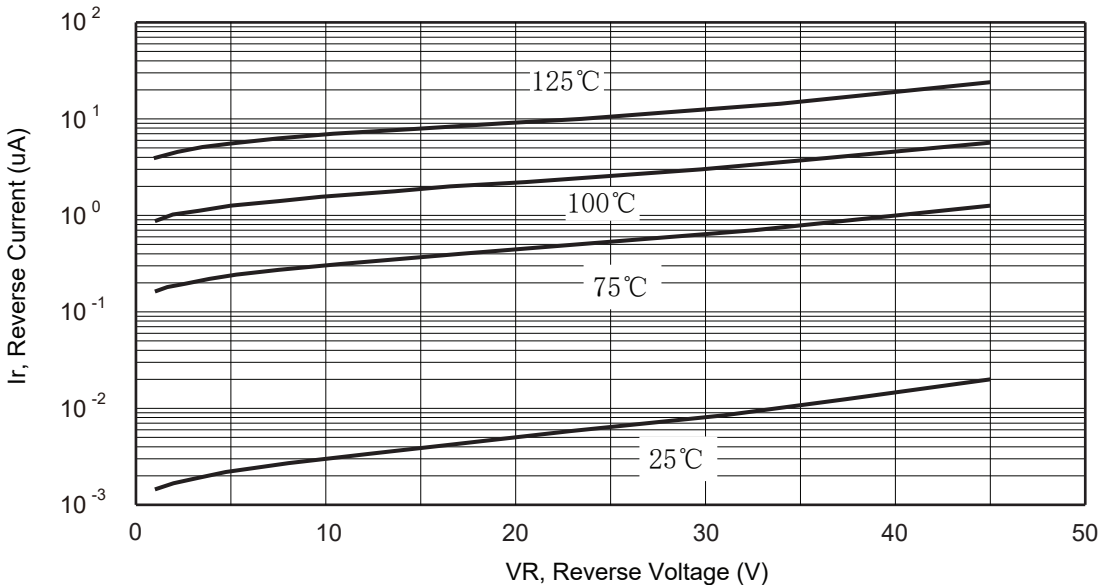
Typical Performance Characteristics



Current derating curve, per element



The forward voltage and forward current curve



The reverse leak current and the reverse voltage (single-device) curve

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