

# MPEN-230AF

December, 2005

## ■General Description

High Voltage Schottky Barrier Diode (100V).

The low leakage current and low VF have been achieved by using the optimum barrier metal.

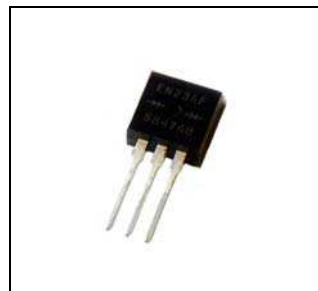
## ■Applications

- DC-DC converters
- AC adapter
- High frequency rectification circuit, etc.

## ■Features

- High Voltage 100V guarantee
- Steady operation is possible even at high temperature with a low leakage current.
- Ultrafast & low noise switching.
- Low forward voltage drop.

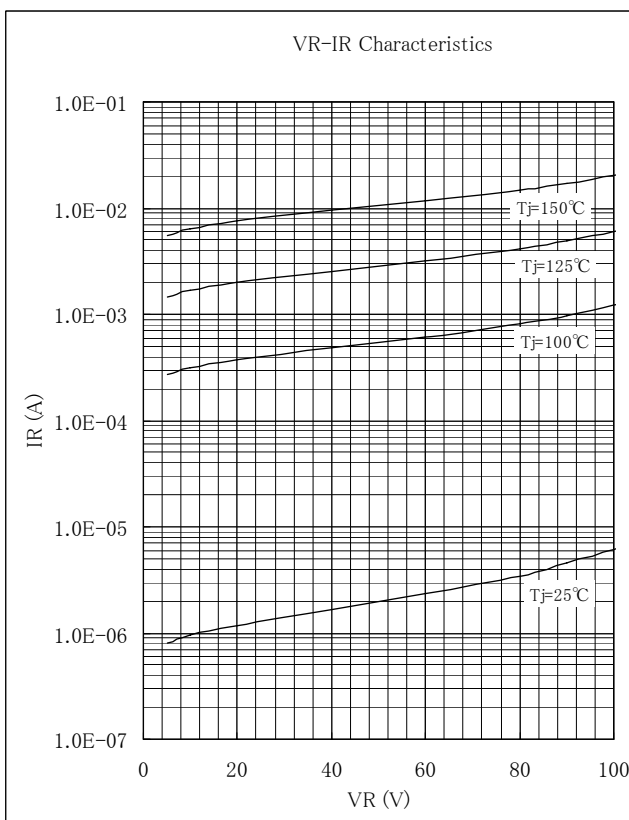
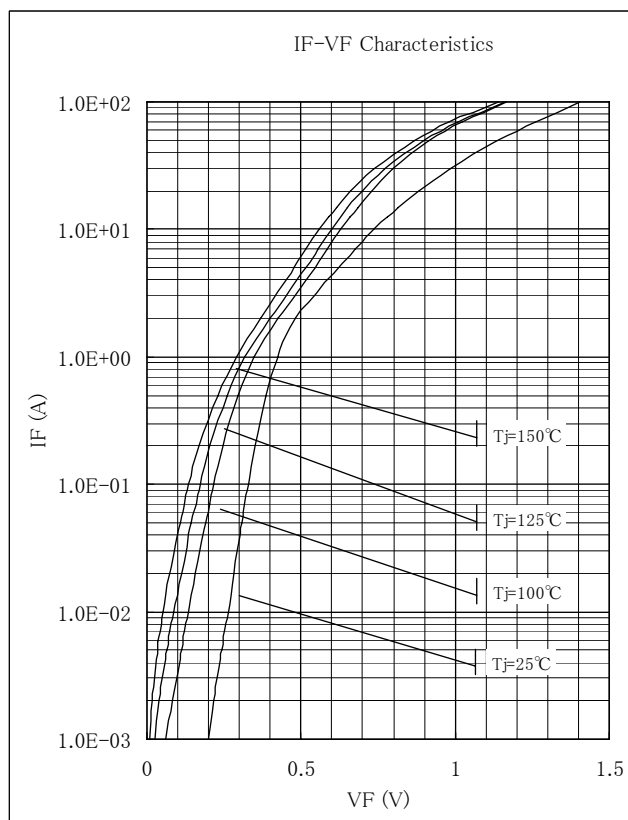
## ■Package---TO-262



## ■Key Specifications

| Item        | Unit | Rating | Conditions |
|-------------|------|--------|------------|
| $V_{RM}$    | V    | 100    |            |
| $V_F$       | V    | 0.90   | $I_F=15A$  |
| $I_{F(AV)}$ | A    | 30     |            |

## Typical Characteristics



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## ★ Absolute maximum ratings

| No. | Item                           | Symbol      | Unit   | Rating      | Conditions                 |
|-----|--------------------------------|-------------|--------|-------------|----------------------------|
| 1   | Transient Peak Reverse Voltage | $V_{RSM}$   | V      | 100         |                            |
| 2   | Peak Reverse Voltage           | $V_{RM}$    | V      | 100         |                            |
| 3   | Average Forward Current        | $I_{F(AV)}$ | A      | 30          |                            |
| 4   | Peak Surge Forward Current     | $I_{FSM}$   | A      | 150         | Half sinewave, one shot    |
| 5   | $I^2t$ Limiting Value          | $I^2t$      | $A^2s$ | 112.5       | $1msec \leq t \leq 10msec$ |
| 6   | Junction Temperature           | $T_j$       | °C     | -40 to +150 |                            |
| 7   | Storage Temperature            | $T_{stg}$   | °C     | -40 to +150 |                            |

No.1, 2, 4 &amp; 5 show ratings per one chip.

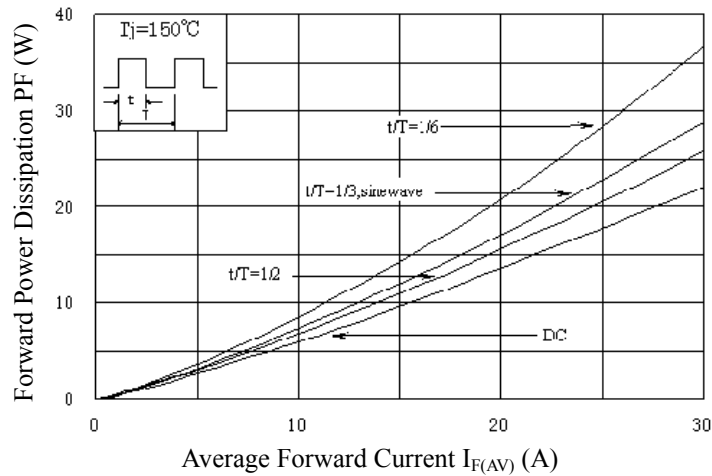
## ★ Electrical characteristics (Ta=25°C, unless otherwise specified)

| No. | Item   | Symbol        | Unit | Value     | Conditions                    |
|-----|--|---------------|------|-----------|-------------------------------|
| 1   | Forward Voltage Drop                           | $V_F$         | V    | 0.90 max. | $I_F=15A$                     |
| 2   | Reverse Leakage Current                        | $I_R$         | uA   | 250 max.  | $V_R=V_{RM}$                  |
| 3   | Reverse Leakage Current Under High Temperature | $H \cdot I_R$ | mA   | 125 max.  | $V_R=V_{RM}, T_j=150^\circ C$ |
| 4   | Thermal Resistance                             | $R_{th(j-c)}$ | °C/W | 1.5 max.  | Between Junction and case     |

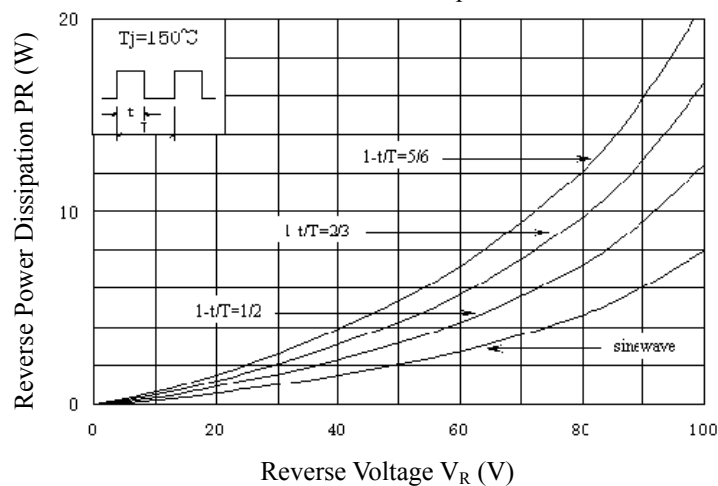
No.1, 2, &amp; 3 show characteristics per one chip.

## ★ Characteristics

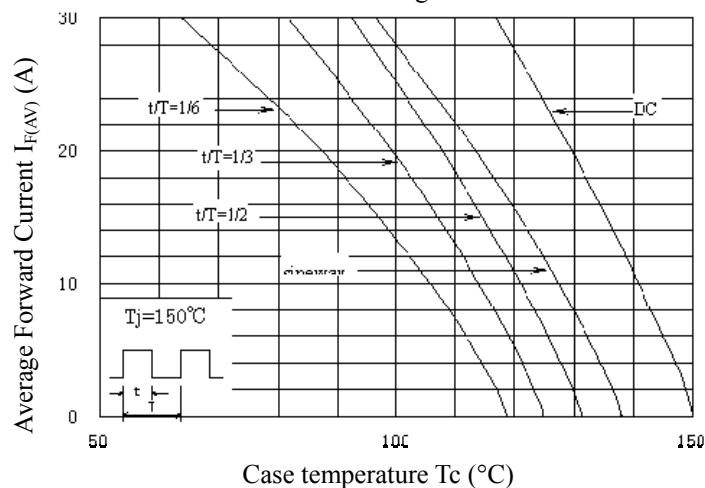
Forward Power Dissipation



Reverse Power Dissipation



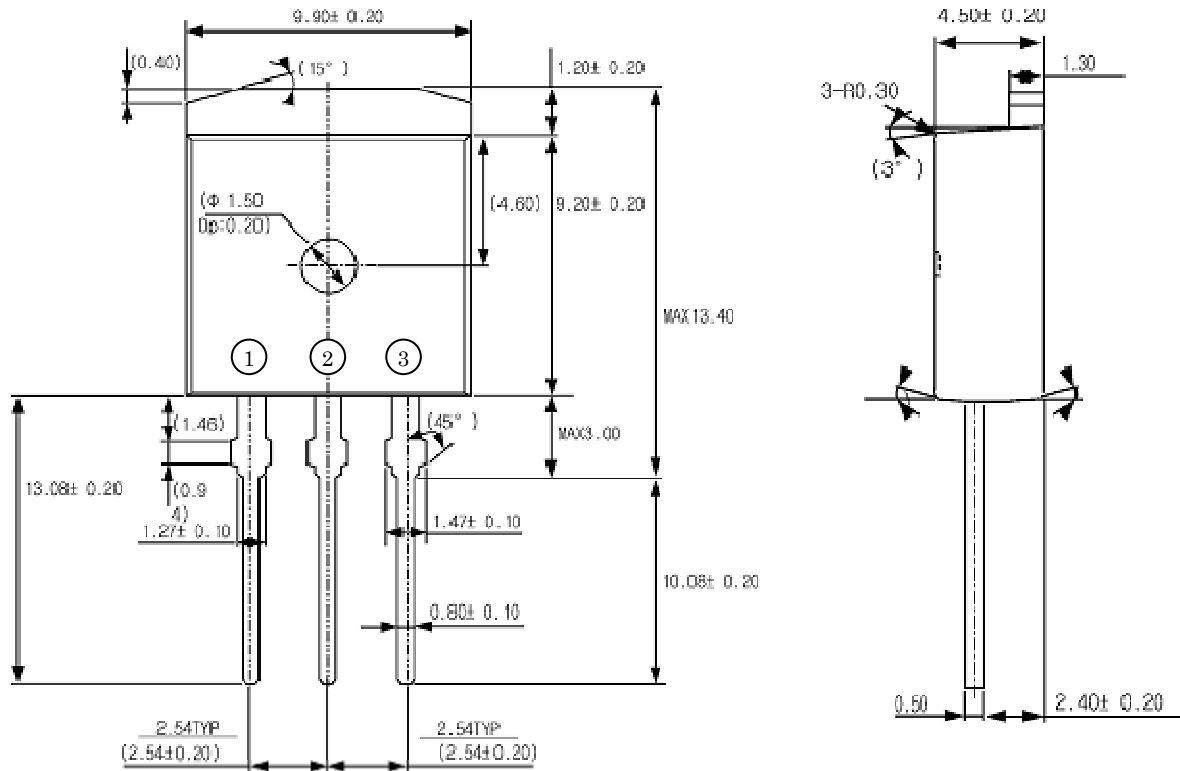
Current Derating



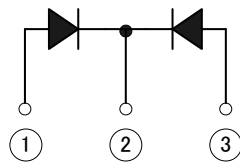
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## ★ Outline drawings, mm



## ★ Connection Diagram



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