## Description

Schottky barrier rectifier designed for high frequency miniature Switched Mode Power Supplies such as adaptors and on board DC/ DC converters. Packaged in TO-252(DPAK), TO-220AB and TO-220FPAB.

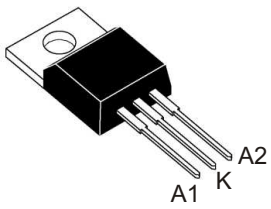
### Major Ratings and Characteristics

| Characteristics | Values | Units |
|---|---|---|
| $I_{F(AV)}$ Rectangular waveform | 2 X 5 | A |
| $V_{RRM}$ | 100 | V |
| $V_F$ @5 Apk, $T_J$ = 125°C (per leg) | 0.64 | V |
| $T_J$ range | -55 ~ 175 | °C |

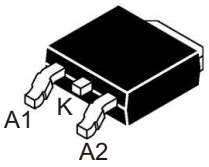
### Features

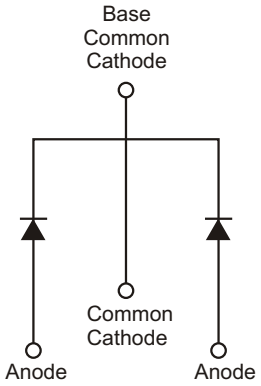
- **HIGH JUNCTION TEMPERATURE CAPABILITY FOR CONVERTERS LOCATED IN CONFINED ENVIRONMENT.**
- **LOW LEAKAGE CURRENT AT HIGH TEMPERATURE.**
- **LOW STATIC AND DYNAMIC LOSSES AS A RESULT OF THE SCHOTTKY BARRIER.**

**TO-220AB**

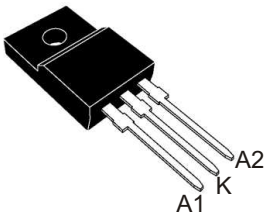


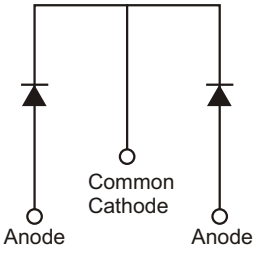

**TO-252(DPAK)**




**TO-220FPAB**



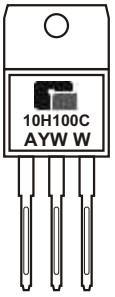





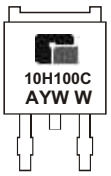

PRELIMINARY

## ◆ MARKING INFORMATION

**TO - 220**




**TO-252-3(DPAK)**




A : Assemble Location
Y : Year
WW : Work Week

## ◆ ORDERING INFORMATION

| Ordering Number | Package | Shipping |
|---|---|---|
| GMR10H100CTC3T | TO - 252 | 80 Units/ Tube |
| GMR10H100CTC3R | TO - 252 | 2,500 Units/ Tape & Reel |
| GMR10H100CTB3T | TO - 220AB | 50 Units/ Tube |
| GMR10H100CTBF3T | TO - 220FPAB | 50 Units/ Tube |

* For detail Ordering Number identification, please see last page.

## ◆ ABSOLUTE RATINGS

| Symbol | Parameter | | | | Value | Unit |
|---|---|---|---|---|---|---|
| $V_{RRM}$ | Repetitive peak reverse voltage | | | | 100 | V |
| $I_{F(RMS)}$ | RMS forward current | | | | 10 | A |
| $I_{F(AV)}$ | Average forward current $\delta = 0.5$ | TO-220AB, TO-252 | $T_C$ = 165°C | per diode<br>per device | 5<br>10 | A |
| | | TO-220FPAB | $T_C$ = 160°C | | | |
| $I_{FSM}$ | Surge non repetitive forward current | | tp = 10 ms sinusoidal | | 180 | A |
| $I_{RRM}$ | Repetitive peak reverse current | | tp = 2 µs square F = 1kHz | | 1 | A |
| $T_{stg}$ | Storage temperature range | | | | -65 to + 175 | °C |
| $T_J$ | Maximum operating junction temperature* | | | | 175 | °C |
| dV/dt | Critical rate of rise of reverse voltage | | | | 10000 | V/ µs |

* : $\frac{dPtot}{dTj} < \frac{1}{Rth(j-a)}$ thermal runaway condition for a diode on its own heatsink

## ◆ Electrical Characteristics ($T_c$= 25°C unless otherwise noted)

| Parameter | | | Symbol | Value | Unit |
|---|---|---|---|---|---|
| Maximum instantaneous forward voltage per leg at(4) | $I_F$ = 5.0A, | $T_C$ = 25°C | $V_F$ | 0.78 | V |
| | $I_F$ = 5.0A, | $T_C$ = 125°C | | 0.64 | |
| | $I_F$ = 10A, | $T_C$ = 25°C | | 0.86 | |
| | $I_F$ = 10A, | $T_C$ = 125°C | | 0.72 | |
| Maximum reverse current per leg at working peak reverse voltage(Note 4) | | $T_J$ = 25°C | $I_R$ | 8 | μA |
| | | $T_J$ = 125°C | | 8 | mA |

## ◆ Thermal Characteristics ($T_c$ = 25°C unless otherwise noted)

| Parameter | Symbol | TO-220AB | TO-220FPAB | TO-252 | Unit |
|---|---|---|---|---|---|
| Typical thermal resistance per leg | $R_{\Theta JC}$ | 2.2 | 4.5 | 2.2 | °C/W |

**Notes:**
(1) Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset
(2) Clip mounting (on case), where leads do overlap heatsink
(3) Screw mounting with 4-40 screw, where washer diameter is≤ 4.9 mm(0.19")
(4) Pulse test,300μs pulse width,1% duty cycle

## ◆ Typical Performance Characteristics

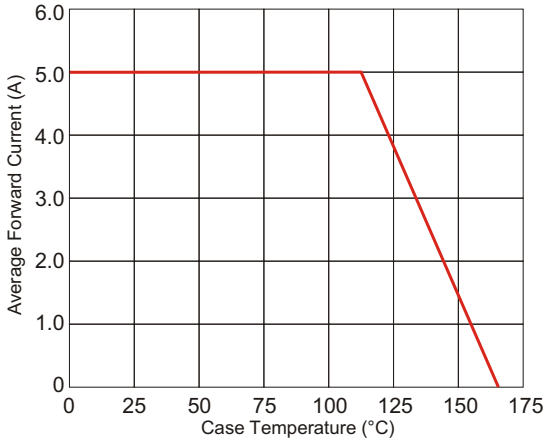



**Figure 1. Forward Derating Curve**

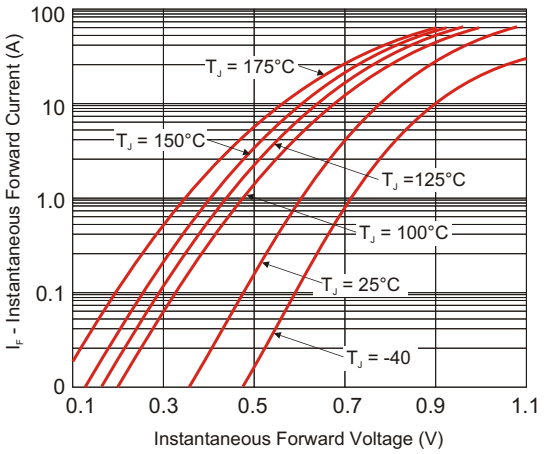



**Figure 2. Typical Instantaneous Forward Characteristics**

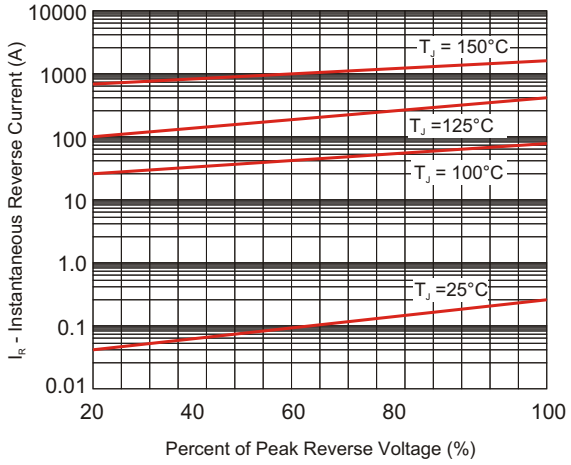



**Figure 3. Typical Reverse Characteristics**

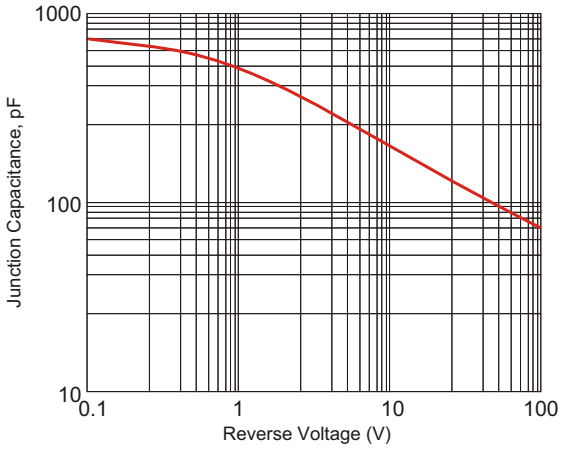



**Figure 4. Typical Junction Capacitance**

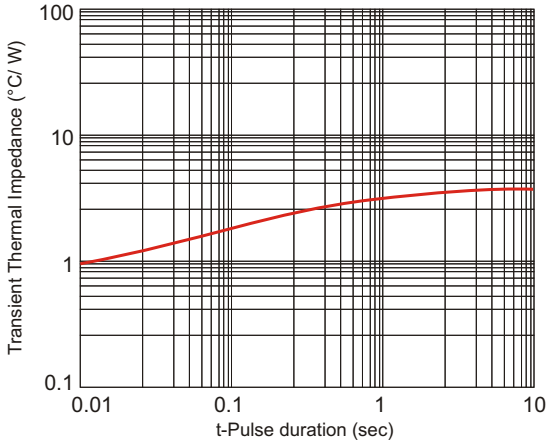
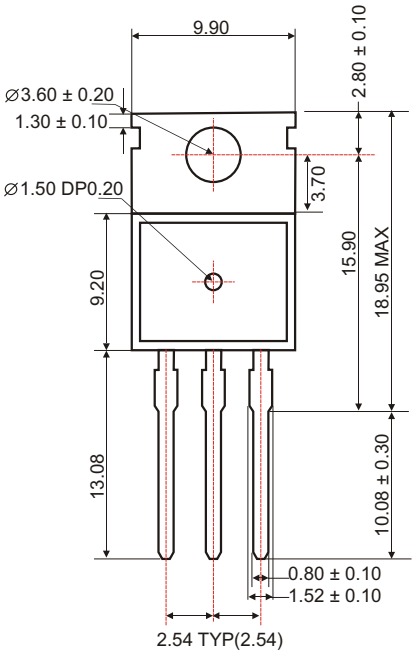
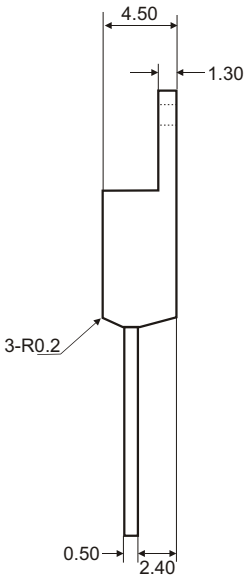



**Figure 5. Typical Transient Thermal Impedance**

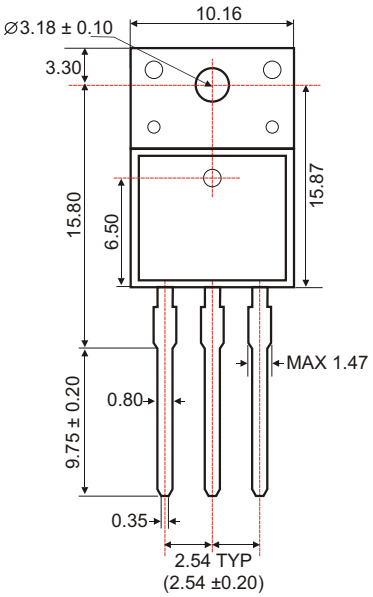
## ◆ TO-220AB PACKAGE OUTLINE DIMENSIONS

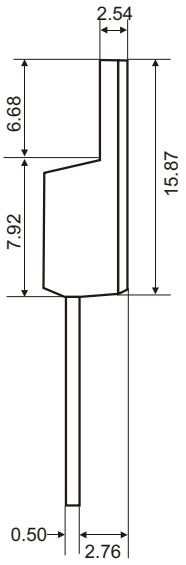



Units: mm

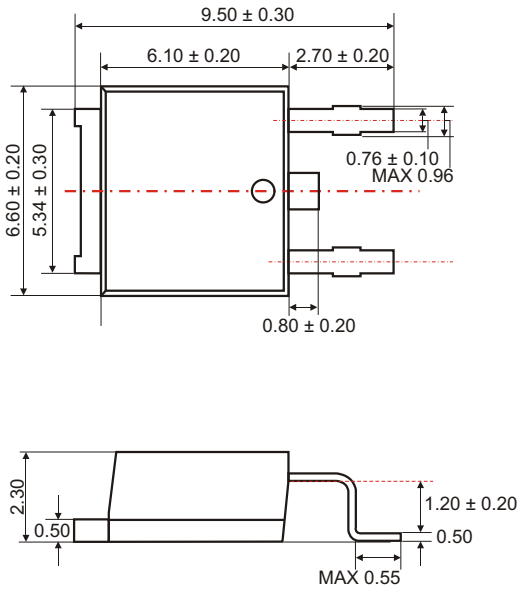
## ◆ TO-220FPAB PACKAGE OUTLINE DIMENSIONS

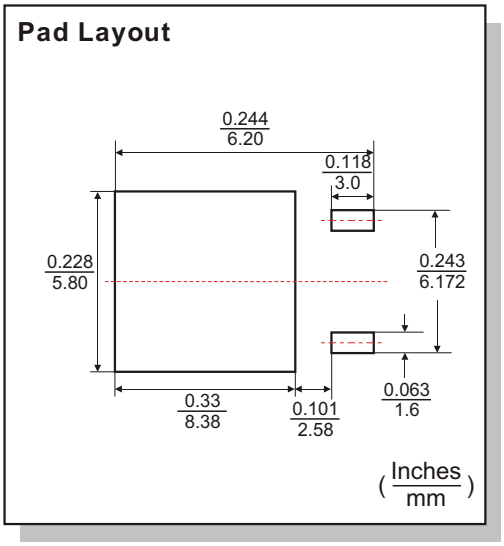



Units: mm

## ◆ TO-252-3 PACKAGE OUTLINE DIMENSIONS




Units: mm

## ◆ ORDERING NUMBER

