

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.

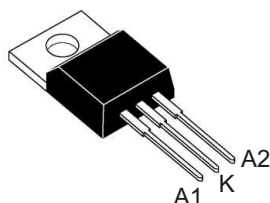
Major Ratings and Characteristics

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

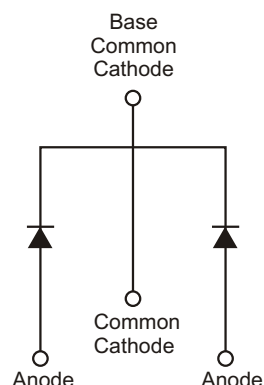
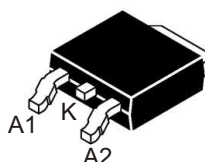
Features

- ◆ 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.

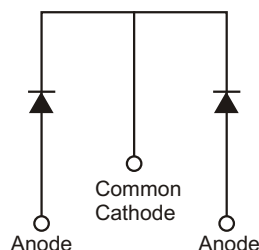
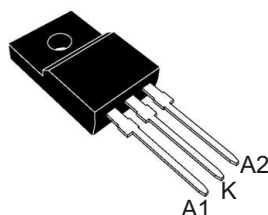
TO-220AB



TO-252(DPAK)

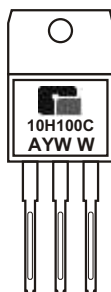


TO-220FPAB

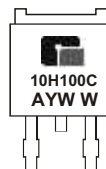


◆ MARKING INFORMATION

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 δ = 0.5	TO-220AB, TO-252	T _C = 165°C	per diode per device	5	A
		TO-220FPAB	T _C = 160°C		10	
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

* : $\frac{dP_{tot}}{dT_J} < \frac{1}{R_{th(j-a)}}$ thermal runaway condition for a diode on its own heatsink

◆ **Electrical Characteristics** ($T_C = 25^\circ\text{C}$ unless otherwise noted)

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

◆ **Thermal Characteristics** ($T_C = 25^\circ\text{C}$ 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	$^\circ\text{C/W}$

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 $\leq 4.9\text{ mm}(0.19")$
- (4) Pulse test, 300 μs pulse width, 1% duty cycle

◆ Typical Performance Characteristics

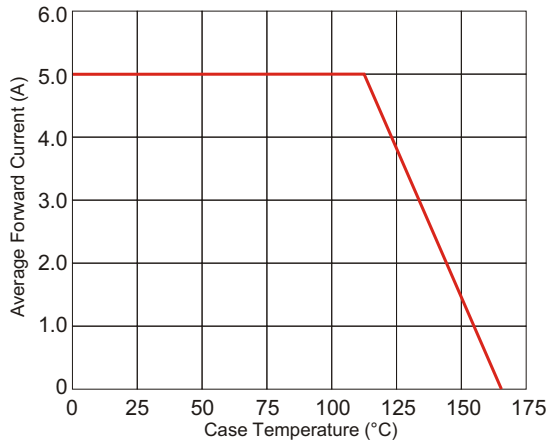


Figure 1. Forward Derating Curve

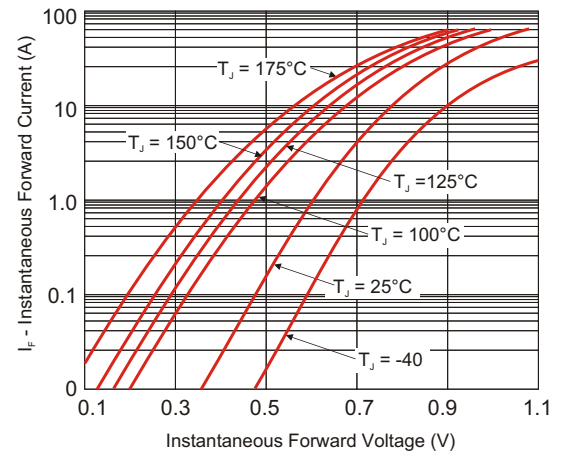


Figure 2. Typical Instantaneous Forward Characteristics

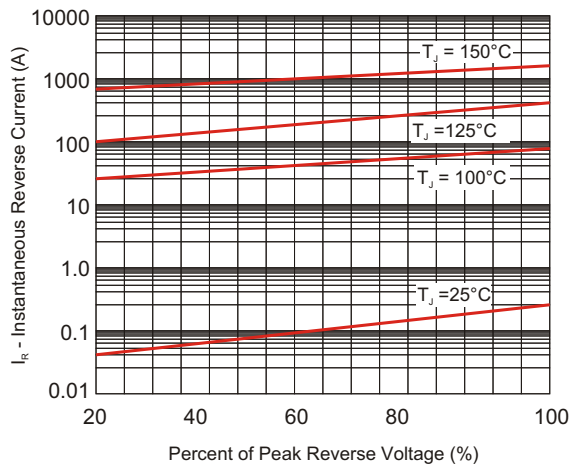


Figure 3. Typical Reverse Characteristics

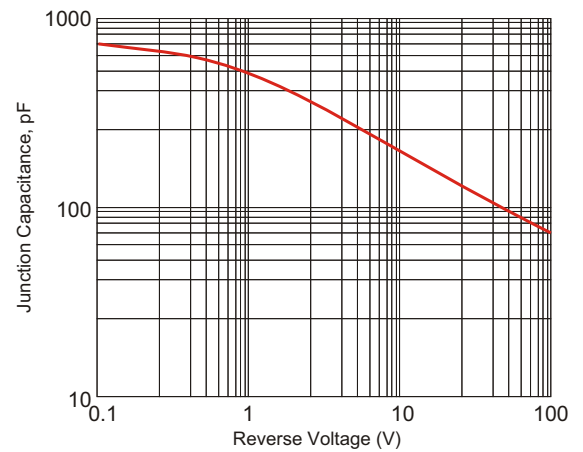


Figure 4. Typical Junction Capacitance

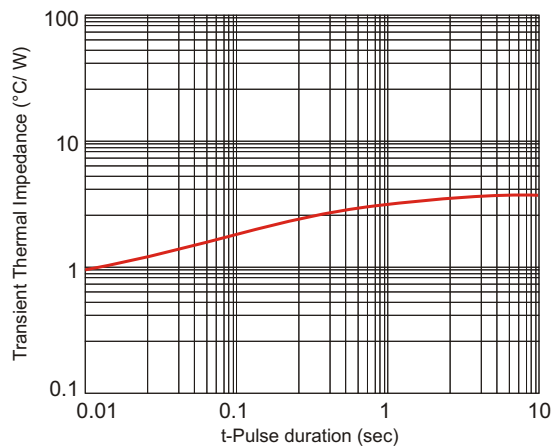
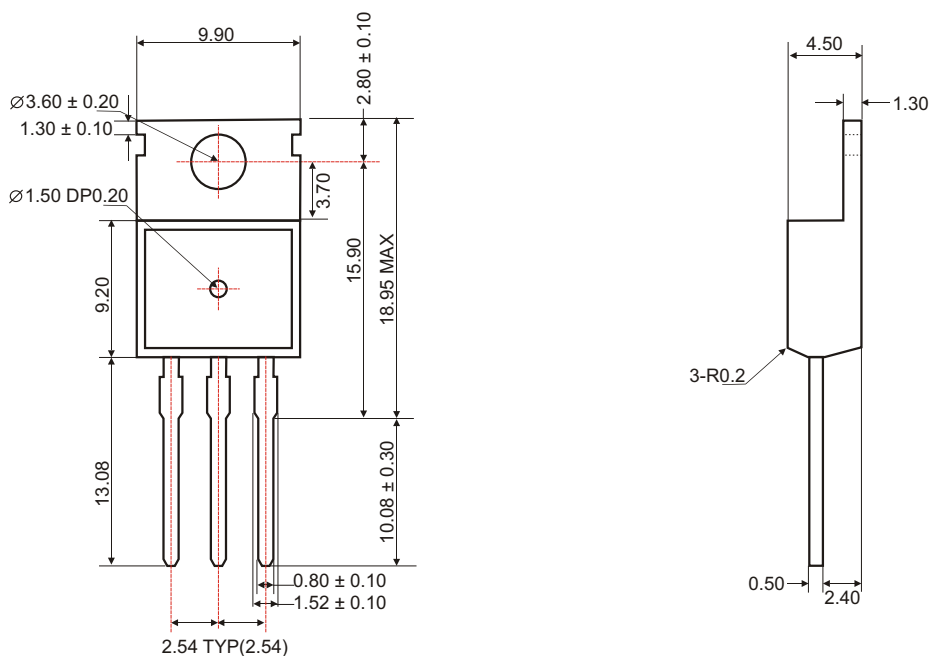


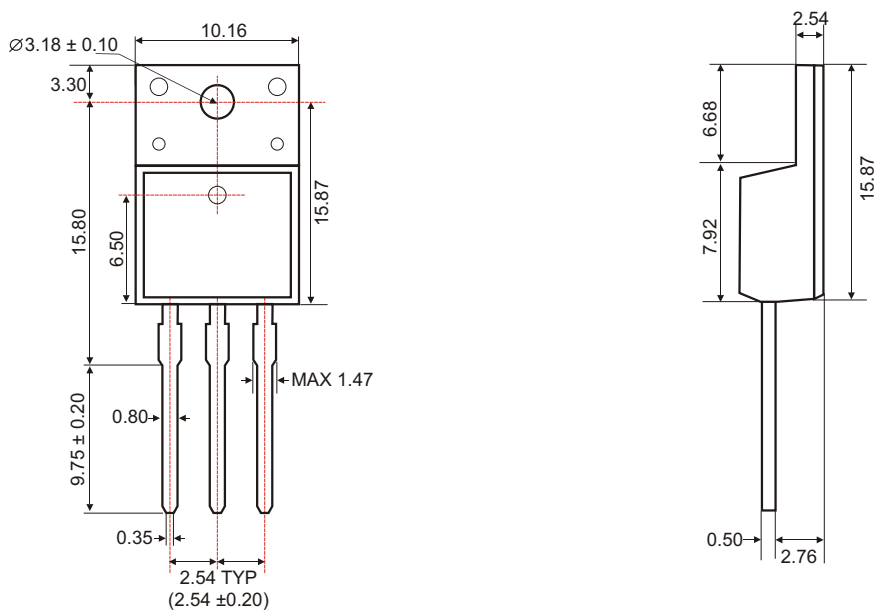
Figure 5. Typical Transient Thermal Impedance

◆ TO-220AB PACKAGE OUTLINE DIMENSIONS



Units: mm

◆ TO-220FPAB PACKAGE OUTLINE DIMENSIONS



Units: mm

Technical drawing showing the front and side views of a rectangular component with dimensions in millimeters.

Front View Dimensions:

- Overall width: 9.50 ± 0.30
- Distance from left edge to center of hole: 6.10 ± 0.20
- Distance from center of hole to right edge: 2.70 ± 0.20
- Overall height: 6.60 ± 0.20
- Distance from top edge to center of hole: 5.34 ± 0.30
- Distance from center of hole to right edge of mounting tab: 0.80 ± 0.20
- Height of mounting tab: 0.76 ± 0.10 (MAX 0.96)

Side View Dimensions:

- Overall height: 2.30
- Distance from left edge to right edge of mounting tab: 0.50
- Distance from right edge of mounting tab to right edge of component: 1.20 ± 0.20
- Distance from right edge of component to right edge of mounting tab: 0.50
- MAX 0.55

Pad Layout

0.244
6.20

0.118
3.0

0.228
5.80

0.243
6.172

0.33
8.38

0.101
2.58

0.063
1.6

(Inches)
mm

GM R 10 H 100 C T A 3 T

- G**: Gamma Micro.
- M**: Micro.
- R**: Rectifier
- 10**: Current Rating 10: 10A
- H**: Low V_f family
- 100**: Voltage Rating 100: 100V
- C**: Common Cathode
- T**: Shipping
T: Tube
R: Tape & Reel
- A**: Package
TC3: TO-252
TB3: TO-220AB
TBF3: TO-220FPAB
- 3**: Package