

### 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.

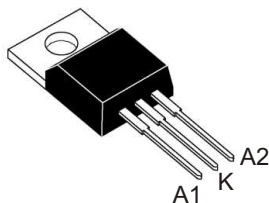
### Major Ratings and Characteristics

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	$^\circ\text{C}$

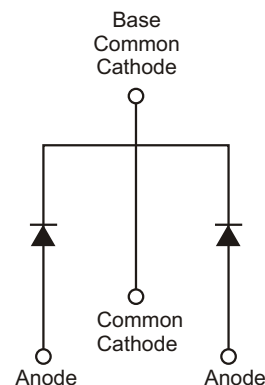
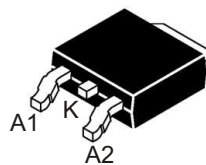
### Features

- ◆ 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.

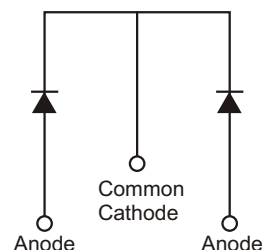
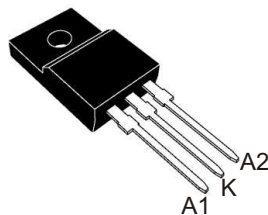
TO-220AB



TO-252(DPAK)

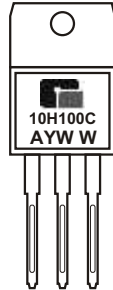


TO-220FPAB

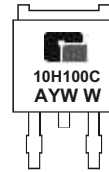


◆ **MARKING INFORMATION**

**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 $\delta = 0.5$	TO-220AB, TO-252	$T_C = 165^\circ\text{C}$	per diode per device	5 10	A
		TO-220FPAB	$T_C = 160^\circ\text{C}$			
$I_{FSM}$	Surge non repetitive forward current		$t_p = 10 \text{ ms sinusoidal}$	180	A	
$I_{RRM}$	Repetitive peak reverse current		$t_p = 2 \mu\text{s square } F = 1\text{kHz}$	1	A	
$T_{stg}$	Storage temperature range			-65 to + 175	$^\circ\text{C}$	
$T_J$	Maximum operating junction temperature*			175	$^\circ\text{C}$	
dV/dt	Critical rate of rise of reverse voltage			10000	V/ $\mu\text{s}$	

\* :  $\frac{dP_{tot}}{dT_j} < \frac{1}{R_{th(j-a)}}$  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 <sup>(4)</sup>	$I_F = 5.0\text{A}, T_C = 25^\circ\text{C}$	$V_F$	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	$\mu\text{A}$
	$T_J = 125^\circ\text{C}$		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  $\leq 4.9$  mm(0.19")
- (4) Pulse test, 300 $\mu\text{s}$  pulse width, 1% duty cycle

◆ Typical Performance Characteristics

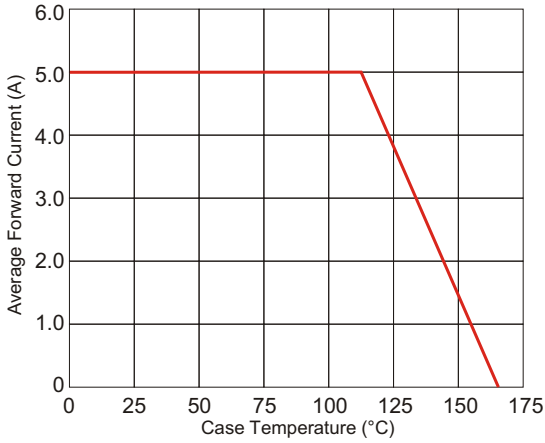


Figure 1. Forward Derating Curve

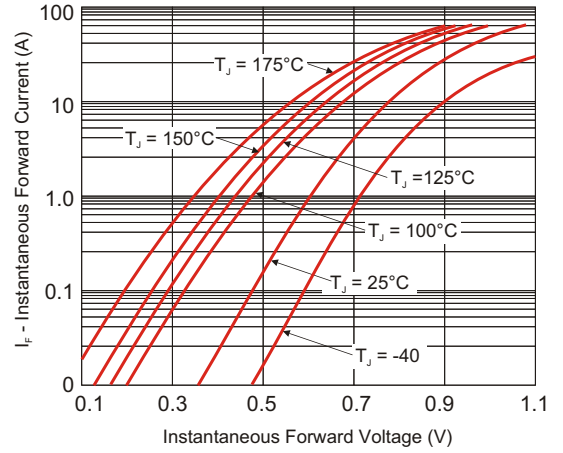


Figure 2. Typical Instantaneous Forward Characteristics

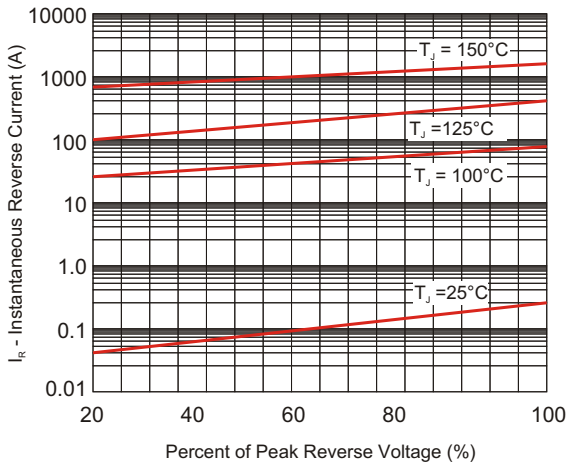


Figure 3. Typical Reverse Characteristics

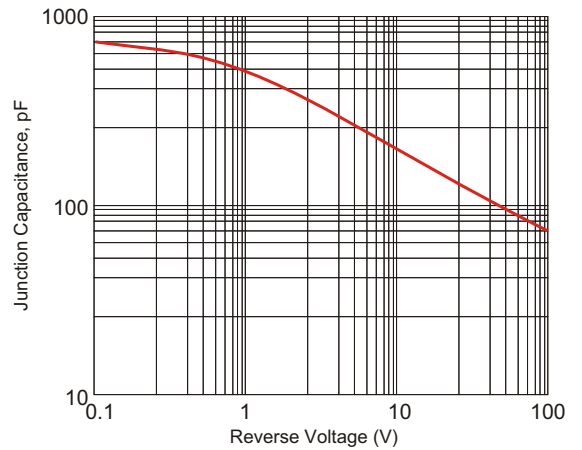


Figure 4. Typical Junction Capacitance

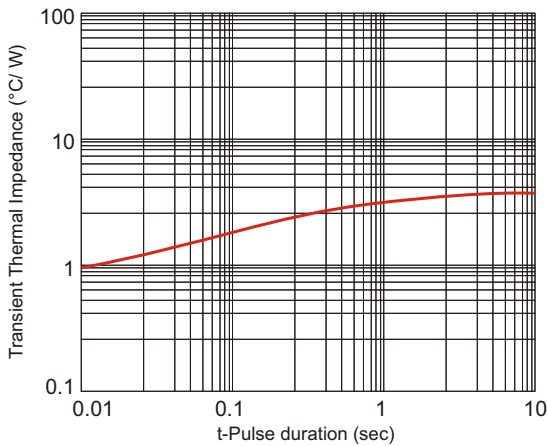
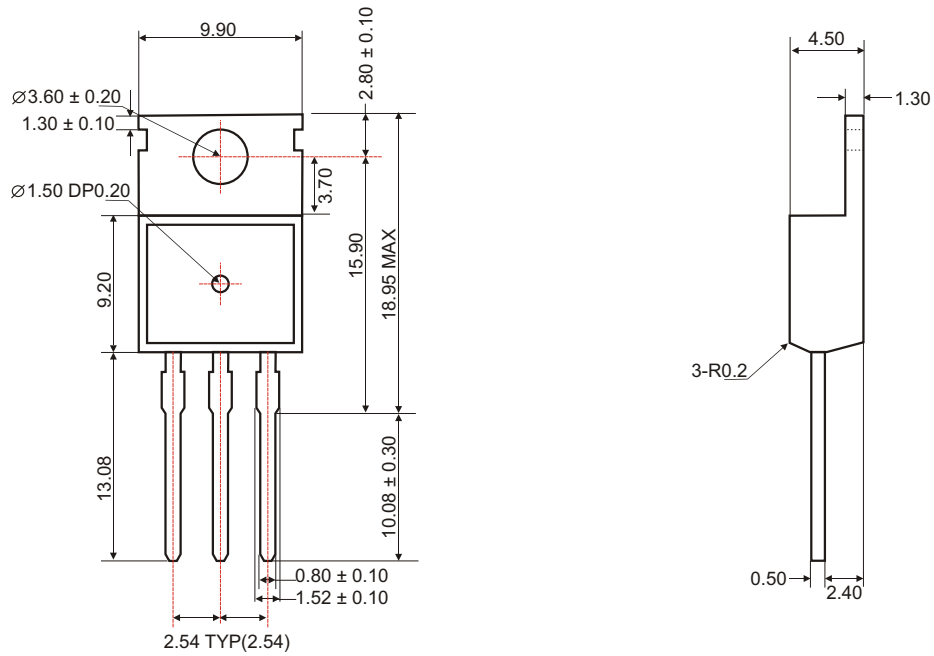


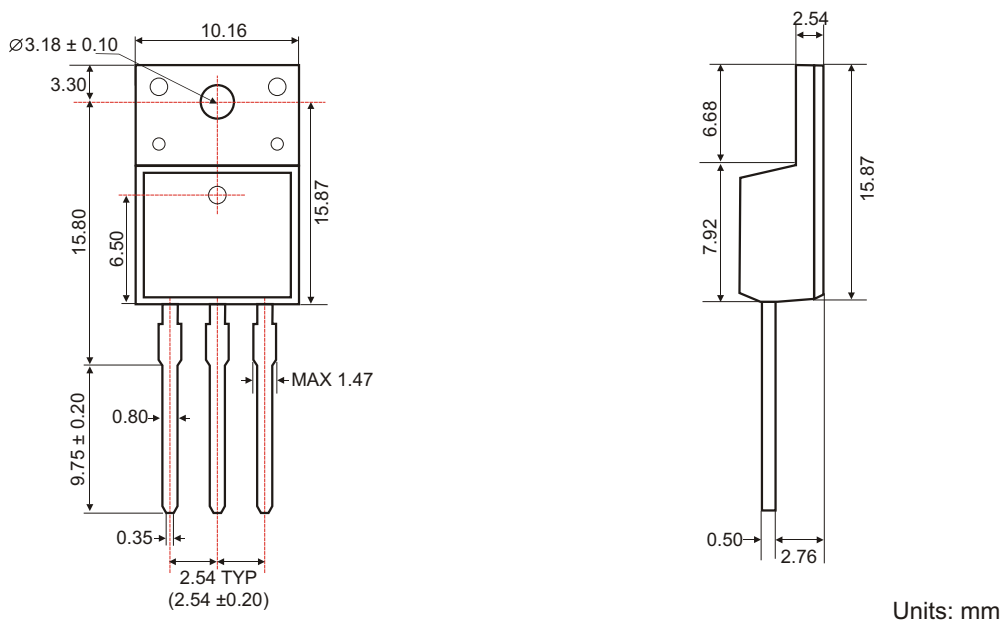
Figure 5. Typical Transient Thermal Impedance

◆ TO-220AB PACKAGE OUTLINE DIMENSIONS



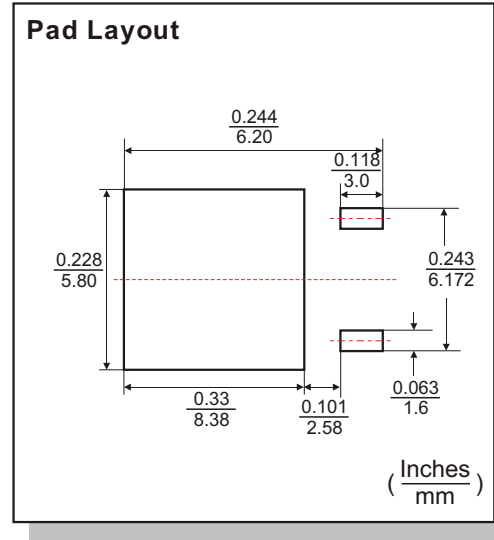
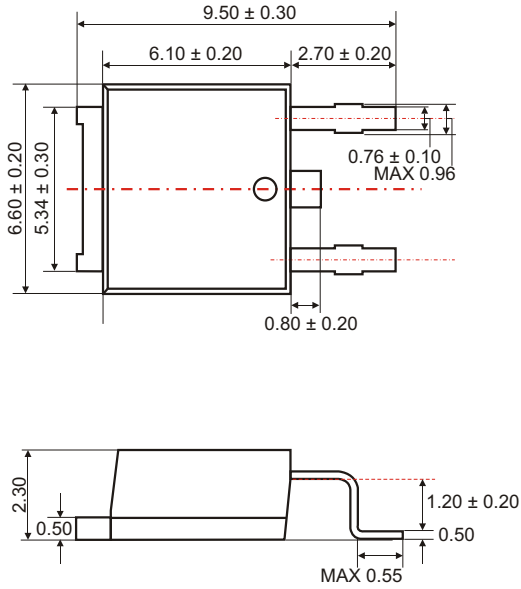
Units: mm

◆ TO-220FPAB PACKAGE OUTLINE DIMENSIONS



Units: mm

◆ TO-252-3 PACKAGE OUTLINE DIMENSIONS



Units: mm

◆ ORDERING NUMBER

