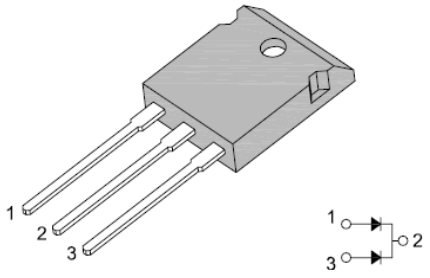
30A Schottky Barrier Rectifiers

Features

- Guarding for over voltage protection
- Lower power losses, high efficiency
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- Solder dip 260° C,40s
- RoHS compliance



TO-3P

RoHS Compliant

Mechanical Data

Case:	TO-3P, molded plastic body
Epoxy:	Plastic package has UL flammability classification 94V-0
Terminals:	Matte tin plated leads, solderable per J-STD-002 and JESD22-B102
Polarity	As marked
Mounting Position:	Any
Mounting Torque:	10 in-lbs maximum
Weight:	0.22 ounce, 6.2 gram

Maximum Ratings *(T Ambient=25ºC unless noted otherwise)*

Symbol	Description	MBR3035PT	MBR3045PT	MBR3050PT	MBR3060PT	Unit	Conditions
V_{RRM}	Maximum Repetitive Peak Reverse Voltage	35	45	50	60	V	
V_{RWM}	Working Peak Reverse Voltage	35	45	50	60	V	
V_{DC}	Maximum DC Blocking Voltage	35	45	50	60	V	
$I_{F(AV)}$	Maximum Average Forward Rectified Current	30				A	See Fig.1
I_{FSM}	Peak Forward Surge Current per Diode	200				A	8.3ms single half sine-wave superimposed on rated load (JEDEC Method)
I_{RRM}	Peak Repetitive Reverse Surge Current per Diode	2.0		1.0		A	tp=2.0µS, 1kHz
dV/dt	Voltage Rate of Change	10000				V/µS	rated V_R
T_J	Operating Junction Temperature Range	-65 to +150				° C	
T_{STG}	Storage Temperature Range	-65 to +175				° C	

Electrical Characteristics *($T_{Ambient}$=25ºC unless noted otherwise)*

Symbol	Description	MBR3035PT	MBR3045PT	MBR3050PT	MBR3060PT	Unit	Conditions
V_F	Maximum Instantaneous Forward Voltage per Diode (Note 1)	-		0.75		V	IF=20A, TC=25 °C
		0.60		0.65			IF=20A, TC=125 °C
		0.76		-			IF=30A, TC=25 °C
		0.72		-			IF=30A, TC=125 °C
I_R	Maximum Instantaneous Reverse Current at rated DC Blocking Voltage per Diode (Note 1)	1.0		5.0		mA	TC=25 °C
		60		100			TC=125°C
$R_{\theta-JC}$	Maximum Thermal Resistance per Diode	1.4				° C/W	

Note 1: Pulse test: 300µs pulse width, 1% duty cycle.

Typical Characteristics Curves

Fig.1- Forward Current Derating Curve

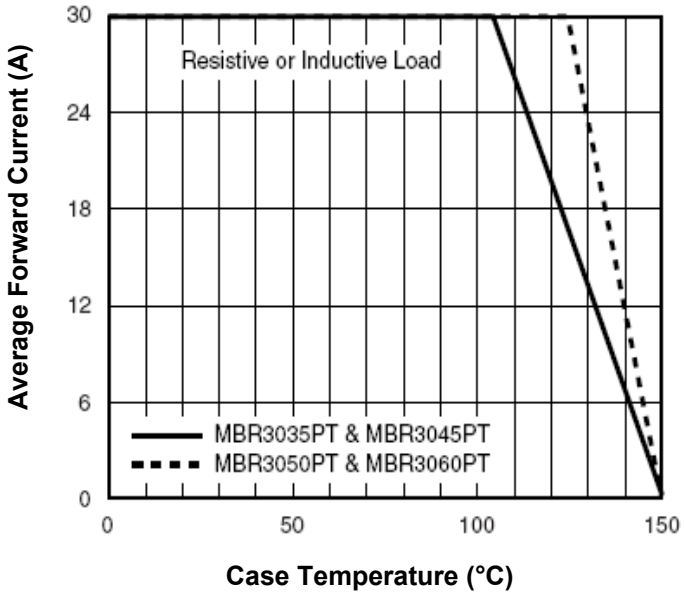


Fig.2- Max. Non-Repetitive Peak Forward Surge Current per Diode

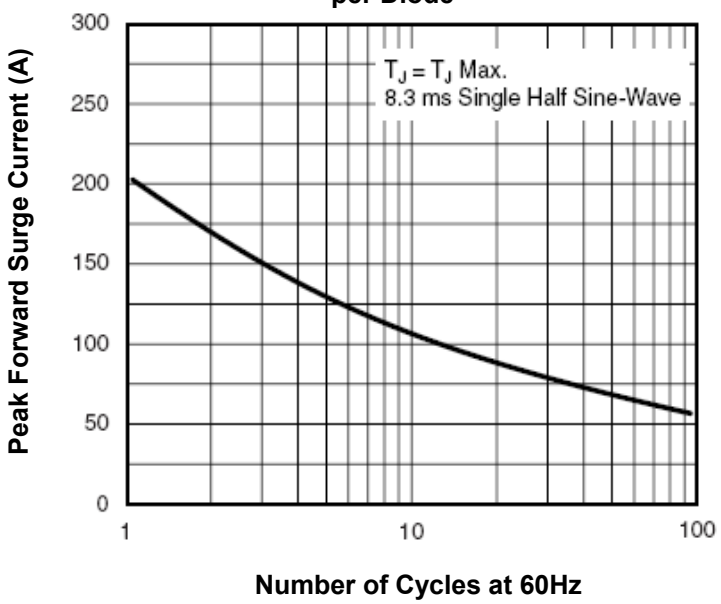


Fig.3- Typical Instantaneous Forward Characteristics per Diode

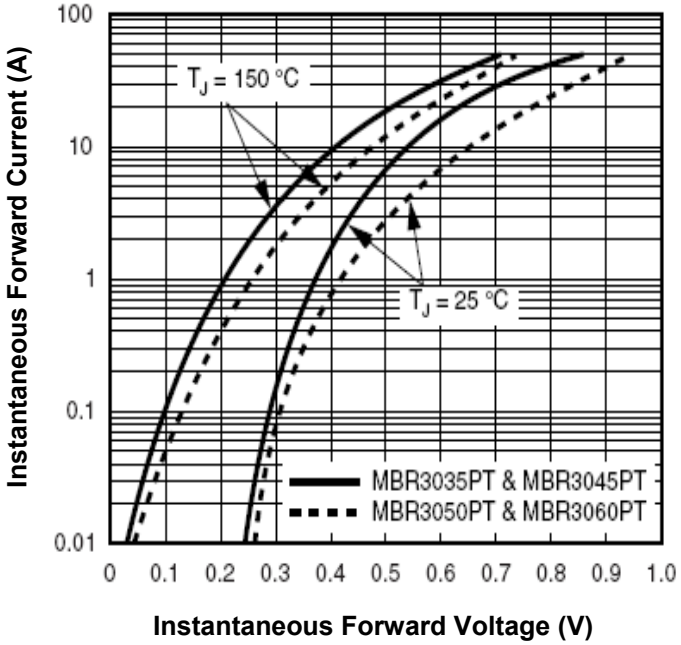


Fig.4- Typical Reverse Characteristics per Diode

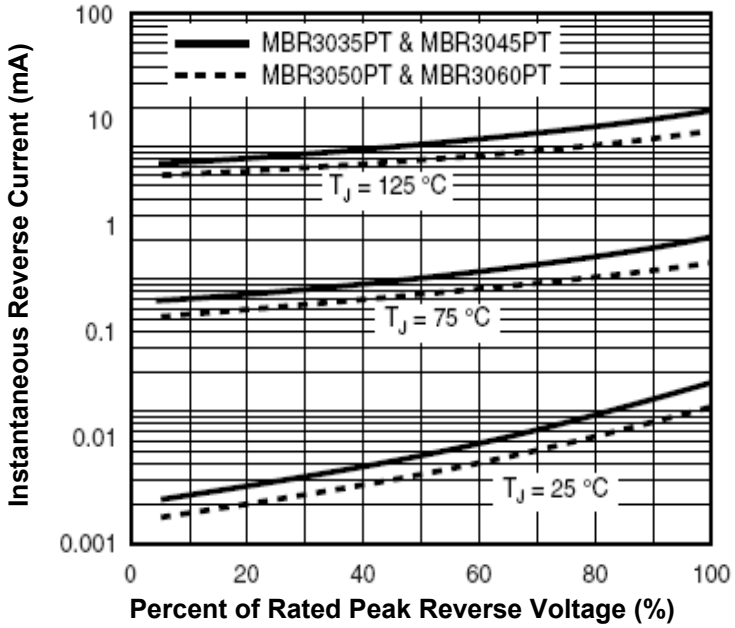
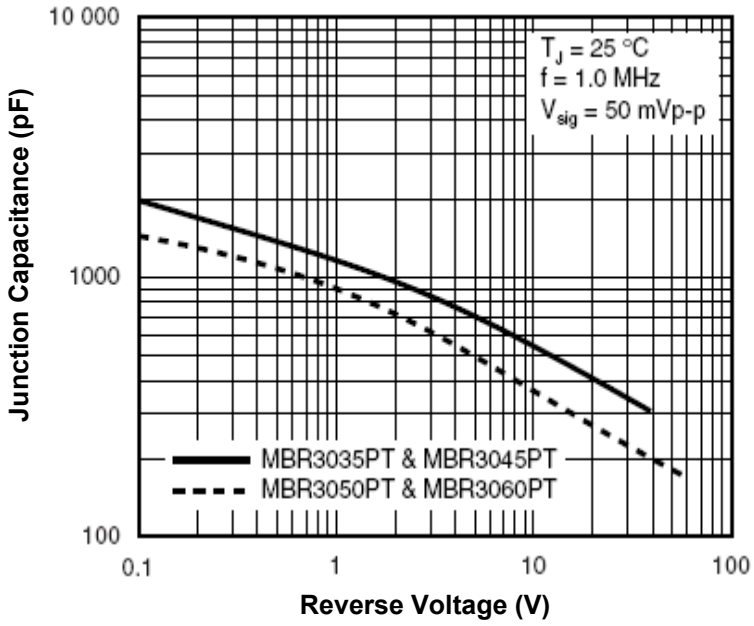
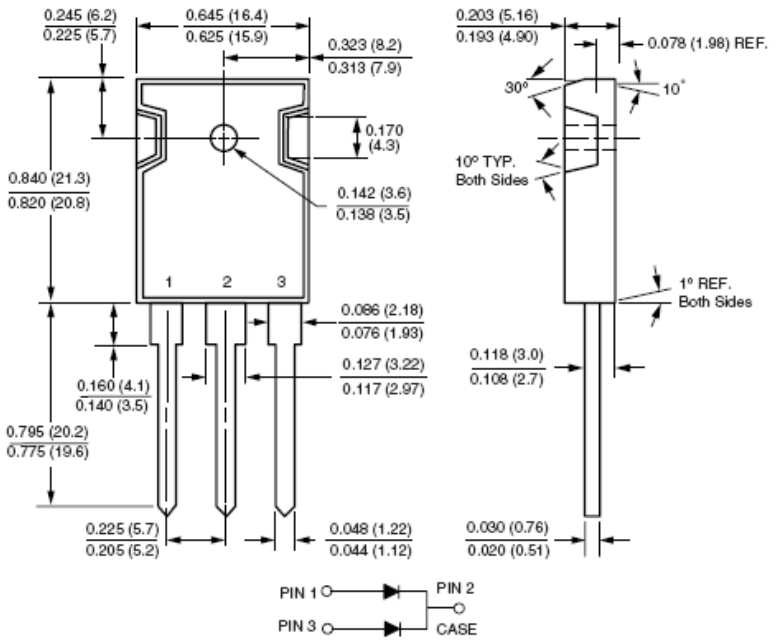


Fig.5- Typical Junction Capacitance per Diode



Dimensions in inches (mm)



TO-3P

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