

# MBR4035PT THRU MBR40200PT

## SCHOTTKY BARRIER RECTIFIER



**REVERSE VOLTAGE:** 35 to 200 VOLTS  
**FORWARD CURRENT:** 40.0 AMPERE

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- Metal silicon junction, majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss, high efficiency
- For use in low voltage, high frequency inverters, free whelling, and polarity protection applications
- High temperature soldering guaranteed: 250°C/10 seconds, 0.25" (6.35mm) from case

### MECHANICAL DATA

Case: Molded plastic, TO-3P/TO-247AD

Epoxy: UL 94V-O rate flame retardant

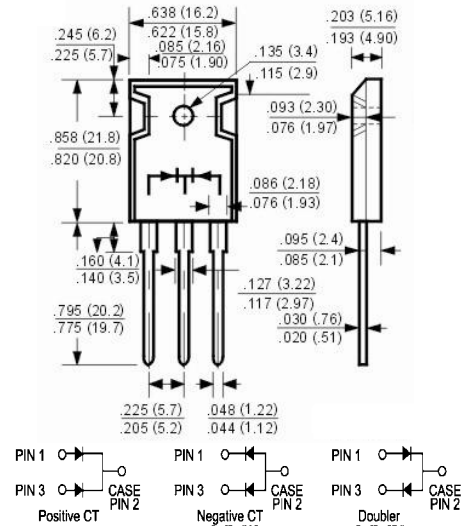
Terminals: Leads solderable per MIL-STD-202 method 208 guaranteed

Polarity: As marked

Mounting position: Any

Weight: 0.2ounce, 5.6gram

### TO-3P/TO-247AD



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	Symbols	MBR4035PT	MBR4045PT	MBR4050PT	MBR4060PT	MBR4080PT	MBR40100PT	MBR40150PT	MBR40200PT	Units	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	35	45	50	60	80	100	150	200	Volts	
Maximum RMS Voltage	$V_{RMS}$	24	31	35	42	56	70	105	140	Volts	
Maximum DC Blocking Voltage	$V_{DC}$	35	45	50	60	80	100	150	200	Volts	
Maximum Average Forward Rectified Current at $T_C = 125^\circ C$	$I_{(AV)}$	40.0								Amp	
Peak repetitive forward current at $T_C = 105^\circ C$ (rated VR, sq. wave, 20 KHz)	$I_{FRM}$	40.0								Amp	
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	400								Amp	
Maximum Forward Voltage (Note 1)	$V_F$	at $I_F = 20A, T_C = 25^\circ C$	0.70	0.80	0.85	0.95					Volts
		at $I_F = 20A, T_C = 125^\circ C$	0.65	0.70	0.75	0.85					
		at $I_F = 40A, T_C = 25^\circ C$	0.80	-	-	-					
at $I_F = 40A, T_C = 125^\circ C$		0.75	-	-	-						
Maximum Reverse Current at Rated DC Blocking Voltage	$I_R$	at $T_C = 25^\circ C$	1.0					0.2		mAmp	
		at $T_C = 125^\circ C$	100					50			
Typical Thermal Resistance	$R_{\theta JC}$	1.2								°C/W	
Operating Temperature Range	$T_J$	-55 to +150								°C	
Storage Temperature Range	$T_{stg}$	-55 to +150								°C	

### NOTES:

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

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## RATINGS AND CHARACTERISTIC CURVES

FIG.1- FORWARD CURRENT DERATING CURVE

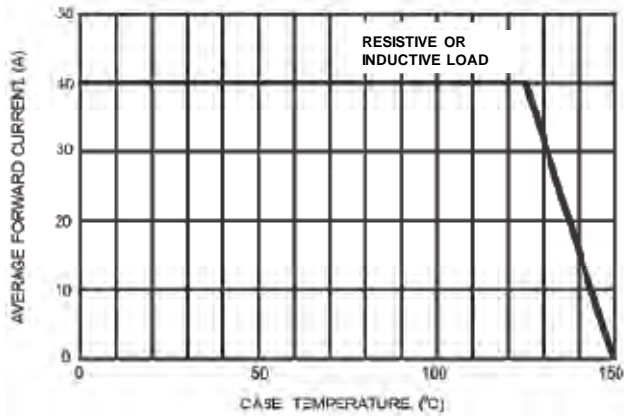


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Leg

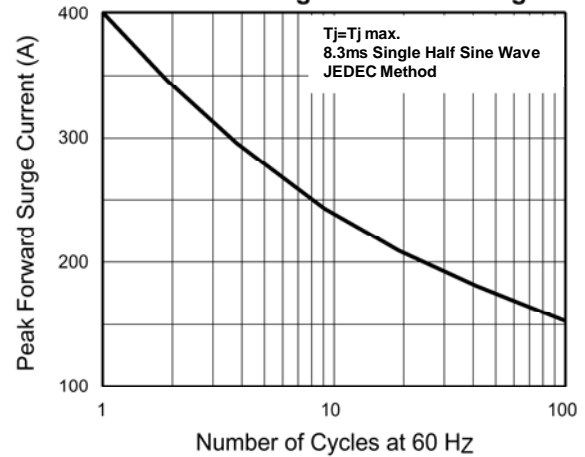


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

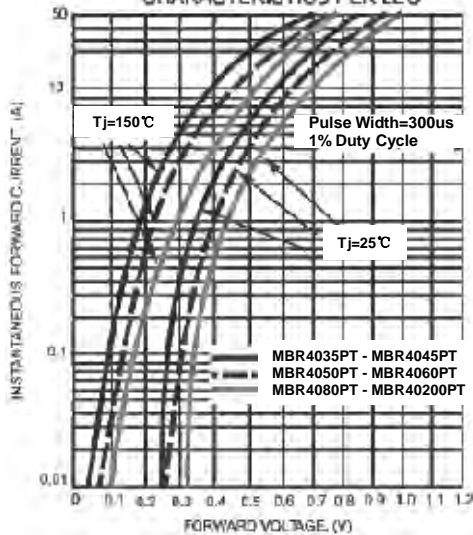


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

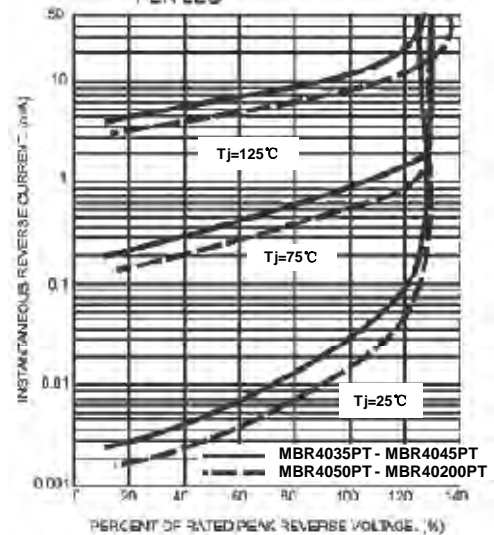


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

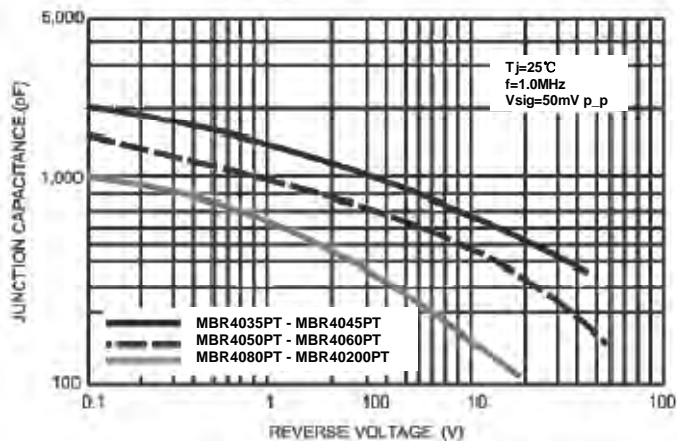


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

