

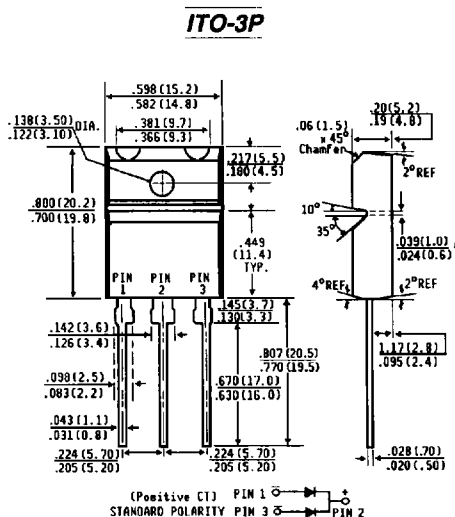
# MBRF4050PT AND MBRF4060PT

## SCHOTTKY RECTIFIER

VOLTAGE RANGE - 50 and 60 Volts CURRENT - 40.0 Amperes

### FEATURES

- ◆ Dual rectifier construction, positive center-tap
- ◆ Isoated plastic package has Underwriters Laboratory Flammability Classifications 94V-O
- ◆ Metal to silicon rectifier, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High current capability, low  $V_f$
- ◆ High surge capacity
- ◆ Epitaxial construction
- ◆ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆ Guardring for transient protection
- ◆ Internal Insulation: 1.5k VRMS
- ◆ High temperature soldering guaranteed: 250°C/10 seconds .17" (4.3mm) from case



Dimensions in inches and (millimeters)

### MECHANICAL DATA

**Case:** ITO-3P Fully Overmolded Plastic  
**Terminals:** Leads solderable per MIL-STD-750, Method 2026  
**Polarity:** As marked **Mounting Position:** Any  
**Mounting Torque:** 5 in. - lb. max.  
**Weight:** .47 ounces, 13.2 ounces

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.  
 Resistive or inductive load.

	SYMBOLS	MBRF4050PT	MBRF4060PT	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	60	Volts
Maximum Working Peak Voltage	$V_{RWM}$	50	60	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	60	Volts
Maximum Average Forward Rectified Current at $T_c=120^\circ\text{C}$	$I_{(AV)}$	40.0		Amps
Peak Repetitive Forward Current per leg (Rated $V_R$ , Square wave, 20 KHz) at $T_c=120^\circ\text{C}$	$I_{FRM}$	40.0		Amps
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	400.0		Amps
Peak Repetitive Reverse Surge Current (NOTE 3)	$I_{RRM}$	1.0		Amps
Maximum Instantaneous Forward Voltage per leg $I_F=20\text{A}$ , $T_c=25^\circ\text{C}$ (NOTE 2) $I_F=20\text{A}$ , $T_c=125^\circ\text{C}$	$V_F$	0.80 0.70		Volts
Maximum Instantaneous Reverse Current at $T_c=25^\circ\text{C}$ Rated DC Blocking Voltage per leg (NOTE 2) $T_c=125^\circ\text{C}$	$I_R$	10.0 100.0		mA
Typical Thermal Resistance (NOTE 1)	$R_{\theta JC}$	1.6		$^\circ\text{C}/\text{W}$
Voltage Rate of Change (Rated $V_R$ )	$dv/dt$	1000		$\text{V}/\mu\text{s}$
Operating Junction Temperature Range	$T_J$	-65 to +150		$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +175		$^\circ\text{C}$

NOTES: 1. Thermal Resistance from Junction to Case per leg.  
 2. Pulse Test: 300 $\mu\text{s}$  Pulse Width, 2% Duty Factor.  
 3. 2.0 $\mu\text{s}$  Pulse Width,  $f=1.0$  KHz.

# RATINGS AND CHARACTERISTIC CURVES MBRF4050PT AND MBRF4060PT

