

SCHOTTKY BARRIER RECTIFIER

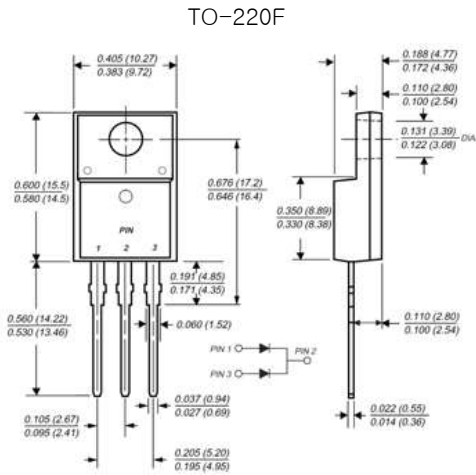
VOLTAGE RANGE: 30 --- 200 V
CURRENT:40.0A

FEATURES

- ◇ Metal-semiconductor junction with guard ring
- ◇ Epitaxial construction
- ◇ Low forward voltage drop, low switching losses
- ◇ High surge capability
- ◇ For use in low voltage, high frequency inverters free wheeling, and polarity protection applications
- ◇ The plastic material carries U/L recognition 94V-0

MECHANICAL DATA

- ◇ Case: JEDEC ITO-220AB, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-750, Method 2026
- ◇ Polarity: As marked
- ◇ Weight: 0.08 ounces, 2.24 grams
- ◇ Mounting position: Any



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

	Symbols	MBRF 4030CT	MBRF 4035CT	MBRF 4040CT	MBRF 4045CT	MBRF 4050CT	MBRF 4060CT	MBRF 40100CT	MBRF 40150CT	MBRF 40200CT	Units
Maximum repetitive peak reverse voltage	V_{RRM}	30	35	40	45	50	60	100	150	200	Volts
Maximum RMS voltage	V_{RMS}	21	25	28	32	35	42	70	105	140	Volts
Maximum DC blocking voltage	V_{DC}	30	35	40	45	50	60	100	150	200	Volts
Maximum average forward rectified current (see Fig.1)	Per leg	20.0									Amps
	Total device	40.0									
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	300.0									Amps
Maximum instantaneous forward voltage at 20.0A	V_F	0.60			0.75		0.85	0.95			Volts
Maximum instantaneous reverse current at rated DC blocking voltage (Note 1)	$T_c = 25^\circ\text{C}$	0.2									mA
	$T_c = 125^\circ\text{C}$	30			50						
Typical thermal resistance (Note 2)	$R_{\theta JC}$	3.0									°C/W
Operating junction temperature range	T_J	-65 to +150									°C
Storage temperature range	T_{STG}	-65 to +150									°C

NOTE: 1. Pulse test: 300us pulse width, 1% duty cycle.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
3. Thermal resistance junction to ambient



MBRF4030CT ~ MBRF40200CT

FIG.1-FORWARD CURRENT DERATING CURVE

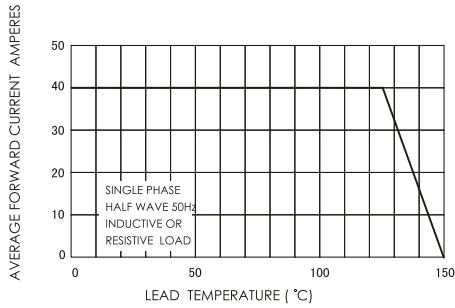


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

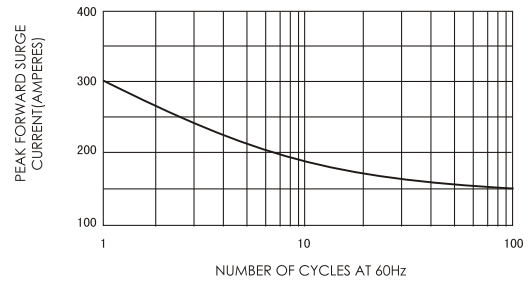


Fig.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC

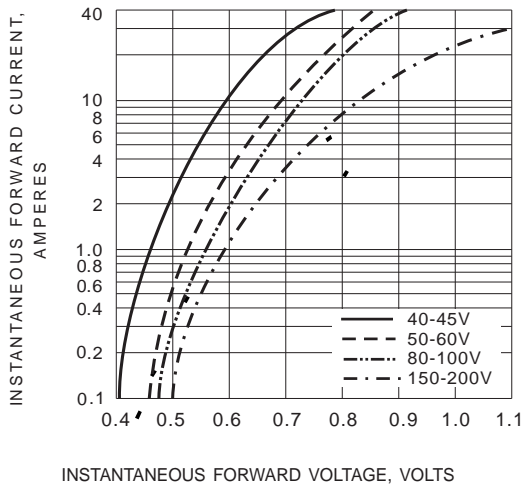


FIG.4-TYPICAL REVERSE CHARACTERISTICS

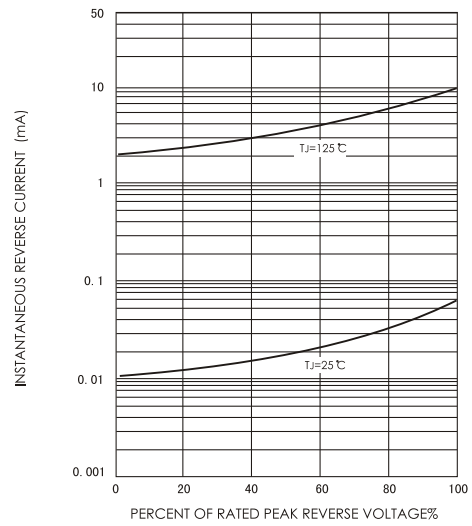


FIG.5-TYPICAL JUNCTION CAPACITANCE

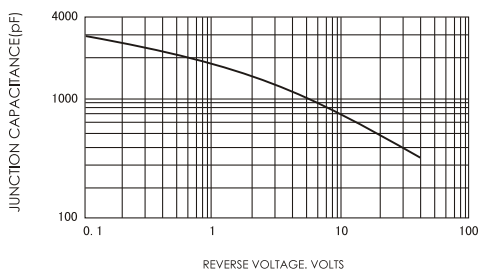


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

