



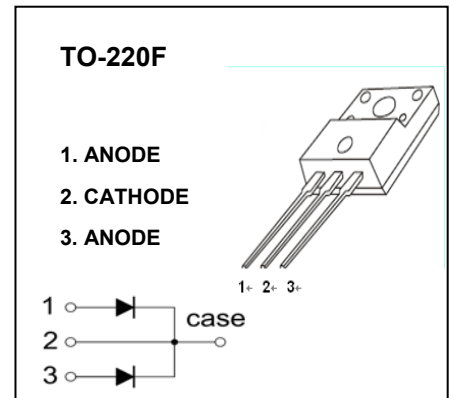
## TO-220F Plastic-Encapsulate Diodes

### MBRF3030, 35, 40, 45, 50CT

SCHOTTKY BARRIER RECTIFIER

#### FEATURES

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss,High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters,Free Wheeling, and Polarity Protection Applications



#### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted )

Symbol	Parameter	Value					Unit
		MBRF30 30CT	MBRF30 35CT	MBRF30 40CT	MBRF30 45CT	MBRF30 50CT	
$V_{RRM}$	Peak repetitive reverse voltage	30	35	40	45	50	V
$V_{RWM}$	Working peak reverse voltage						
$V_R$	DC blocking voltage						
$V_{R(RMS)}$	RMS reverse voltage	21	24.5	28	31.5	35	V
$I_O$	Average rectified output current	30					A
$I_{FSM}$	Non-Repetitive peak forward surge current 8.3ms half sine wave	200					A
$P_D$	Power dissipation	2					W
$R_{\theta JA}$	Thermal resistance from junction to ambient	50					$^{\circ}\text{C}/\text{W}$
$T_j$	Junction temperature	125					$^{\circ}\text{C}$
$T_{stg}$	Storage temperature	-55~+150					$^{\circ}\text{C}$

**ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}\text{C}$  unless otherwise specified)**

Parameter	Symbol	Device	Test conditions	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	MBRF3030CT	$I_R=1\text{mA}$	30			V
		MBRF3035CT		35			
		MBRF3040CT		40			
		MBRF3045CT		45			
		MBRF3050CT		50			
Reverse current	$I_R$	MBRF3030CT	$V_R=30\text{V}$			0.2	mA
		MBRF3035CT	$V_R=35\text{V}$				
		MBRF3040CT	$V_R=40\text{V}$				
		MBRF3045CT	$V_R=45\text{V}$				
		MBRF3050CT	$V_R=50\text{V}$				
Forward voltage	$V_{F1}$	MBRF3030-45CT	$I_F=15\text{A}$			0.7	V
		MBRF3050CT				0.8	
	$V_{F2}^*$	MBRF3030-45CT	$I_F=30\text{A}$			0.84	V
		MBRF3050CT				0.95	
Typical total capacitance	$C_{tot}^*$	MBRF3030-45CT	$V_R=4\text{V}, f=1\text{MHz}$		450		pF
		MBRF3050CT			400		

\*Pulse test: pulse width  $\leq 300\mu\text{s}$ , duty cycle  $\leq 2.0\%$ .