



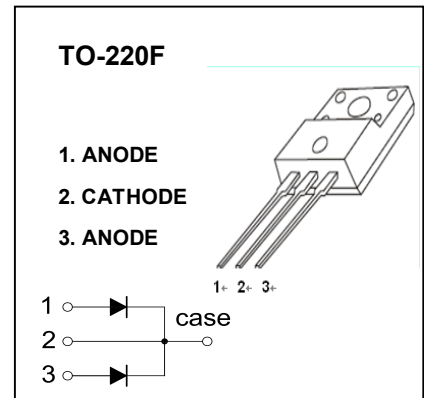
## TO-220F Plastic-Encapsulate Diodes

### MBR2030, 35, 40, 45, 50FCT

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
		MBR20 30FCT	MBR20 35FCT	MBR20 40FCT	MBR20 45FCT	MBR20 50FCT	
$V_{RRM}$	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	20					A
$I_{FSM}$	Non-Repetitive peak forward surge current 8.3ms half sine wave	150					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<sub>a</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Device	Test conditions	Min	Typ	Max	Unit
<b>Reverse voltage</b>	V <sub>(BR)</sub>	MBR2030FCT	I <sub>R</sub> =0.1mA	30			V
		MBR2035FCT		35			
		MBR2040FCT		40			
		MBR2045FCT		45			
		MBR2050FCT		50			
<b>Reverse current</b>	I <sub>R</sub>	MBR2030FCT	V <sub>R</sub> =30V			0.1	mA
		MBR2035FCT	V <sub>R</sub> =35V				
		MBR2040FCT	V <sub>R</sub> =40V				
		MBR2045FCT	V <sub>R</sub> =45V				
		MBR2050FCT	V <sub>R</sub> =50V				
<b>Forward voltage</b>	V <sub>F</sub>	MBR2030-45FCT	I <sub>F</sub> =10A			0.7	V
		MBR2050FCT				0.8	
<b>Typical total capacitance</b>	C <sub>tot</sub> *	MBR2030-50FCT	V <sub>R</sub> =4V,f=1MHz		650		pF

\*Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.