



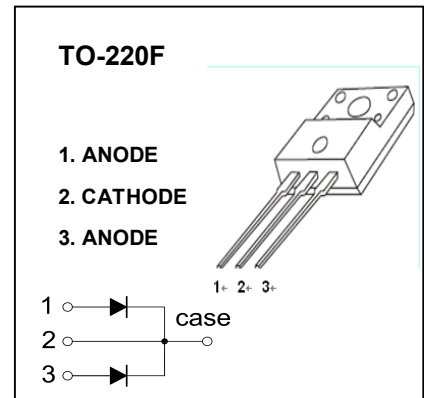
TO-220F Plastic-Encapsulate Diodes

MBR1030, 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
		MBR10 30FCT	MBR10 35FCT	MBR10 40FCT	MBR10 45FCT	MBR10 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	10					A
I_{FSM}	Non-Repetitive peak forward surge current 8.3ms half sine wave	120					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°C unless otherwise specified)

Parameter	Symbol	Device	Test conditions	Min	Typ	Max	Unit
Reverse voltage	V _(BR)	MBR1030FCT	I _R =0.1mA	30			V
		MBR1035FCT		35			
		MBR1040FCT		40			
		MBR1045FCT		45			
		MBR1050FCT		50			
Reverse current	I _R	MBR1030FCT	V _R =30V			0.1	mA
		MBR1035FCT	V _R =35V				
		MBR1040FCT	V _R =40V				
		MBR1045FCT	V _R =45V				
		MBR1050FCT	V _R =50V				
Forward voltage	V _{F(1)}	MBR1030FCT	I _F =5A			0.7	V
		MBR1035FCT					
		MBR1040FCT					
		MBR1045FCT					
		MBR1050FCT			0.8		
	V _{F(2)}	MBR1030FCT	I _F =10A			0.84	
		MBR1035FCT					
		MBR1040FCT					
		MBR1045FCT					
		MBR1050FCT			0.95		
Typical total capacitance	C _{tot}	MBR1030-50FCT	V _R =4V,f=1MHz		150		pF