

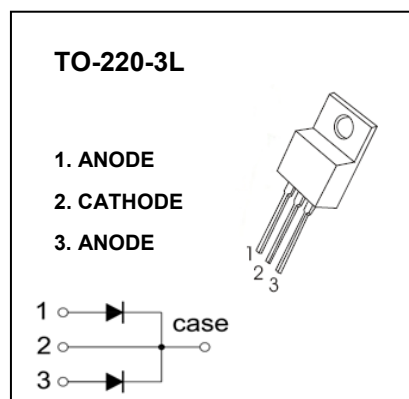
## TO-220-3L Plastic-Encapsulate Diodes

### MBR3030CT, 35CT, 40CT, 45CT, 50CT, 60CT

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
		MBR 3030CT	MBR 3035CT	MBR 3040CT	MBR 3045CT	MBR 3050CT	MBR 3060CT	
$V_{RRM}$	Peak repetitive reverse voltage	30	35	40	45	50	60	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	42	V
$I_O$	Average rectified output current@ $T_c=100^\circ\text{C}$	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<sub>a</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Device	Test conditions	Min	Typ	Max	Unit
Reverse voltage	V <sub>(BR)</sub>	MBR3030CT	I <sub>R</sub> =1mA	30			V
		MBR3035CT		35			
		MBR3040CT		40			
		MBR3045CT		45			
		MBR3050CT		50			
		MBR3060CT		60			
Reverse current	I <sub>R</sub>	MBR3030CT	V <sub>R</sub> =30V			0.2	mA
		MBR3035CT	V <sub>R</sub> =35V				
		MBR3040CT	V <sub>R</sub> =40V				
		MBR3045CT	V <sub>R</sub> =45V				
		MBR3050CT	V <sub>R</sub> =50V				
		MBR3060CT	V <sub>R</sub> =60V				
Forward voltage	V <sub>F1</sub>	MBR3030CT-3045CT	I <sub>F</sub> =15A			0.7	V
		MBR3050CT,3060CT				0.8	
	V <sub>F2</sub> *	MBR3030CT-3045CT	I <sub>F</sub> =30A			0.84	V
		MBR3050CT,3060CT				0.95	
Typical total capacitance	C <sub>tot</sub>	MBR3030CT-3045CT	V <sub>R</sub> =4V,f=1MHz		450		pF
		MBR3050CT,3060CT			400		

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