

## 20A SCHOTTKY BARRIER RECTIFIERS

Fig 1. TO-220AB FOR MBR20xxxCT

Dim.	Value Inch[mm]	
	Min.	Max.
A	0.139 [3.55]	---
B	0.387 [9.85]	0.419 [10.66]
C	0.226 [5.75]	0.269 [6.85]
D	0.548 [13.93]	0.624 [15.87]
E	0.50 [12.70]	---
F	---	0.177 [4.50]
G	0.095[2.41]	0.105[2.67]
H	0.019 [0.50]	0.038 [0.96]
J	0.163 [4.16]	0.196 [5.00]
K	0.045 [1.15]	0.054 [1.39]
L	---	0.025 [0.65]

### PRODUCT FEATURES

1. FLAMMABILITY CLASSIFICATION 94V-0
2. EXTREMELY LOW  $V_f$
3. LOW STORED CHARGE
4. MAJORITY CARRIER CONDUCTION
5. LOW POWER LOSS/HIGH EFFICIENCY
6. CASE: TRANSFER MOLDED  
TO-220AB FOR MBR20xxxCT  
ITO-220AB FOR MBR20xxxFCT
7. DIMENSIONS IN INCHES AND (MILLIMETERS)
8. LEADS: SOLDERABILITY PER MIL-STD-202 METHOD 208
9. WEIGHT: 2.15 GRAMS (TO-220AB)  
1.55GRAMS (ITO-220AB)
10. RoHS COMPLIANT AND HALOGEN FREE

Fig 2. ITO-220AB FOR MBR20xxxFCT

Dim.	Value Inch[mm]	
	Min.	Max.
A	0.118 [3.0]	0.134 [3.4]
B	0.381 [9.7]	0.406[10.3]
C	0.248 [6.3]	0.272 [6.9]
D	0.583 [14.8]	0.606 [15.4]
E	0.512 [13.0]	0.548 [13.9]
F	---	0.161 [4.1]
G	0.095[2.41]	0.105[2.67]
H	0.019 [0.50]	0.028 [0.7]
J	0.165 [4.2]	0.189 [4.8]
K	0.099 [2.5]	0.130 [3.3]
L	---	0.032 [0.8]

## ELECTRICAL CHARACTERISTICS

### MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED ) AND ELECTRICAL CHARACTERISTICS

RATING	SYMBOL	UNITS
MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT, SEE FIG.1	$I_o$	20 PER DEVICE (10 PER LEG) A
PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD	$I_{FSM}$	150 A
TYPICAL THERMAL RESISTANCE	$R_{\theta jC}$	2.2 (4.0 FOR $\geq 100\text{V}$ DEVICE) $^\circ\text{C/W}$
STORAGE TEMPERATURE RANGE	$T_{STG}$	- 65 TO +175 $^\circ\text{C}$
MAXIMUM REVERSE CURRENT AT $25^\circ\text{C}$ PER LEG (NOTE 1)	$I_R$	0.05 (0.01mA FOR $\geq 100\text{V}$ DEVICE) mA
MAXIMUM REVERSE CURRENT AT $125^\circ\text{C}$ PER LEG (NOTE 1)	$I_R$	10 mA
ISOLATION VOLTAGE FROM TERMINAL TO HEATSINK $T=1\text{MIN}$		1500 (FOR MBR20xxxFCT ONLY) VAC

PART NUMBER	MAX RECURRENT PK REVERSE VOLTAGE/DC BLOCKING $V_{RRM}/V_R$ (V)	MAX $V_{RMS}$ (V)	OPERATING TEMPERATURE RANGE ( $^\circ\text{C}$ )	MAXIMUM FORWARD VOLTAGE $V_f$ @ $I_F=10\text{A}$ @ $25^\circ\text{C}$	MAXIMUM FORWARD VOLTAGE $V_f$ @ $I_F=10\text{A}$ @ $125^\circ\text{C}$	MAXIMUM FORWARD VOLTAGE $V_f$ @ $I_F=20\text{A}$ @ $25^\circ\text{C}$	MAXIMUM FORWARD VOLTAGE $V_f$ @ $I_F=20\text{A}$ @ $125^\circ\text{C}$
MBR2040(F)CT	40	28	- 55 TO +150	0.65V	0.57V	0.84V	0.72V
MBR2045(F)CT	45	31.5	- 55 TO +150	0.65V	0.57V	0.84V	0.72V
MBR2060(F)CT	60	42	- 55 TO +150	0.75V	0.70V	0.85V	0.75V
MBR20100(F)CT	100	70	- 55 TO +150	0.85V	0.75V	0.95V	0.85V
MBR20150(F)CT	150	105	- 55 TO +175	0.92V	0.80V	1.00V	0.90V
MBR20200(F)CT	200	140	- 55 TO +175	0.92V	0.80V	1.00V	0.90V

NOTE : 1. PULSE TEST: 300 $\mu\text{s}$  PULSE WIDTH, 1% DUTY CYCLE.

2. CURRENT RATING IS BASED ON SINGLE PHASE, 1/2 WAVE, 60HZ, RESISTIVE OR INDUCTIVE LOAD. FOR CAPACITIVE LOAD, DERATE CURRENT BY 20%.

## RATINGS AND CHARACTERISTIC CURVES

FIG. 1 - FORWARD DERATING CURVE

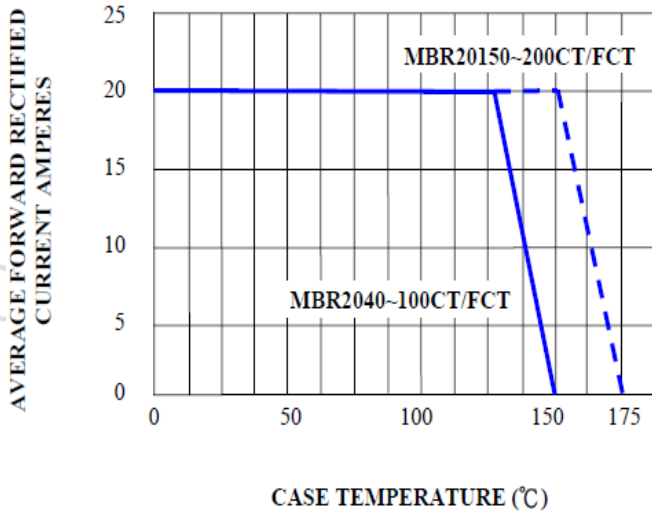


FIG. 2 - PEAK FORWARD SURGE CURRENT

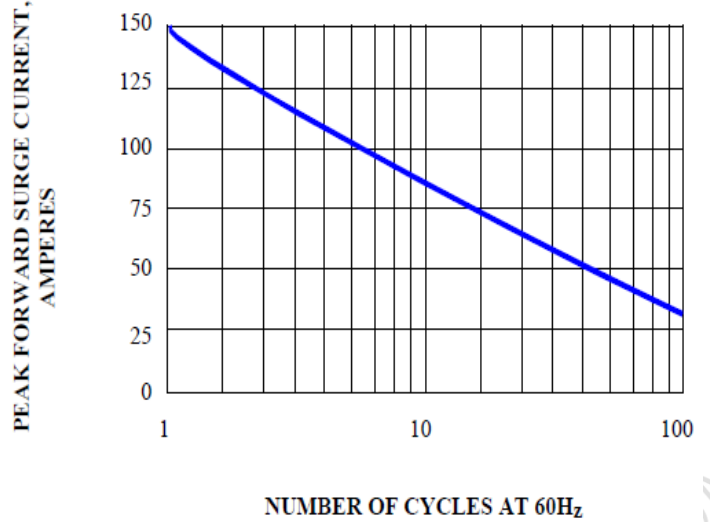


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

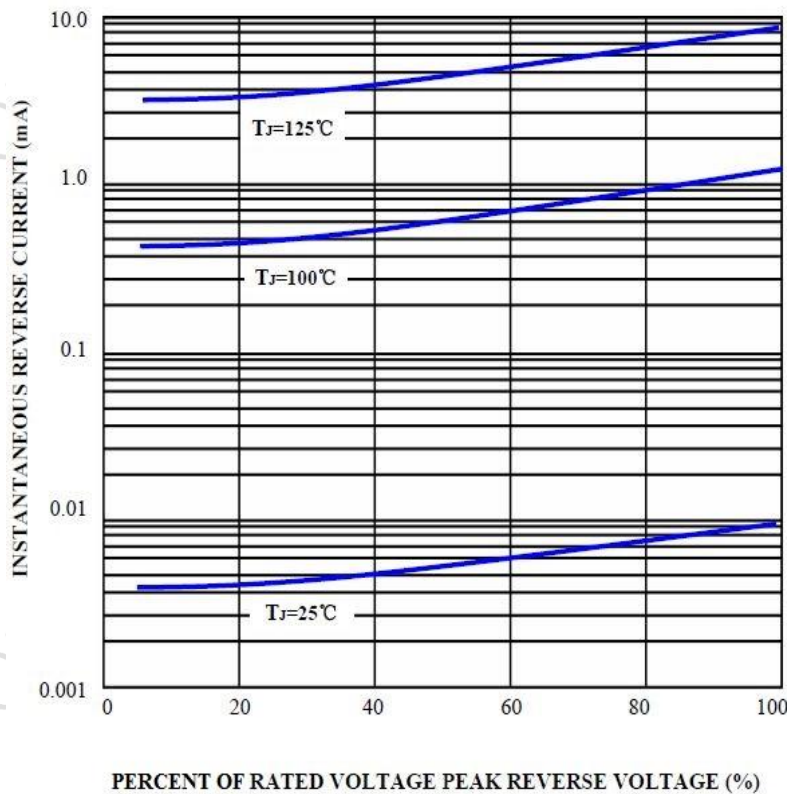


FIG. 4 - TYPICAL FORWARD CHARACTERISTIC PER LEG

