



## FEATURES

- ✧ High current capability, low forward voltage
- ✧ Excellent high temperature stability
- ✧ Low power loss, and high efficiency
- ✧ High forward surge capability
- ✧ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.
- ✧ RoHS compliant

## MACHANICAL DATA

- ✧ Case: TO-220/TO-220F molded plastic package
- ✧ Terminal: Matte tin plated, solderable per MIL-STD-750, Method 2026
- ✧ Molding Compound Flammability Rating: UL94-0
- ✧ High temperature soldering guaranteed: 260°C/10second
- ✧ Polarity: As marked
- ✧ Mounting position: Any

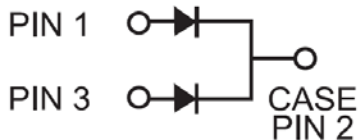
## ORDERING INFORMATION

- ✧ Device:  
MBR20H100CT, MBR20H150CT, MBR20H200CT  
MBR20H100FCT, MBR20H150FCT, MBR20H200FCT
- ✧ Package: TO-220/TO-220F
- ✧ Marking: As marked
- ✧ Material: RoHS compliant
- ✧ Packing: Plastic tube
- ✧ Quantity per tube: 50pcs

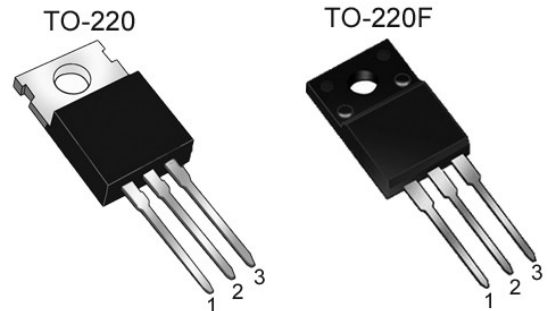
## APPLICATIONS

- ✧ Switching mode power supply applications
- ✧ Portable equipment battery applications
- ✧ High frequency rectification
- ✧ DC/DC converter

## PIN CONFIGURATION



## PACKAGE OUTLINE





**ABSOLUTE MAXIMUM RATING (Tamb=25°C, unless otherwise specified)**

Symbol	Parameter	MBR20H100CT MBR20H100FCT	MBR20H150CT MBR20H150FCT	MBR20H200CT MBR20H200FCT	Units
V <sub>RRM</sub>	Maximum Repetitive Peak Reverse Voltage	100	150	200	V
V <sub>RWM</sub>	Working Peak Reverse Voltage	100	150	200	V
V <sub>DC</sub>	Maximum DC Blocking Voltage	100	150	200	V
I <sub>F(AV)</sub>	Maximum Average Forward Rectified Current Total device Per leg	20 10			A
I <sub>FSM</sub>	Peak Forward Surge Current, 8.3ms single half sine-wave per leg	150			A
I <sub>RSM</sub>	Peak Repetitive Reverse Surge Current @2.0μs, f=1kHz, T <sub>J</sub> <125°C	3.5	3.0	2.5	A
dV/dt	Voltage Rate of Charge	10,000			V/μs
T <sub>J</sub>	Junction Temperature	-65~175			°C
T <sub>STG</sub>	Storage Temperature	-65~175			°C

**ELECTRICAL CHARACTERISTICS (Tamb=25°C, unless otherwise specified)**

Symbol	Parameter	Test Condition	MBR20H100CT MBR20H100FCT	MBR20H150CT MBR20H150FCT	MBR20H200CT MBR20H200FCT	Units
V <sub>F</sub>	Maximum Forward Voltage per leg	I <sub>F</sub> = 10A T <sub>a</sub> =25°C I <sub>F</sub> = 10A T <sub>a</sub> =125°C I <sub>F</sub> = 20A T <sub>a</sub> =25°C I <sub>F</sub> = 20A T <sub>a</sub> =125°C	0.84 0.74 0.94 0.84	0.87 0.77 0.97 0.87	0.88 0.78 0.98 0.88	V
V <sub>R</sub>	Minimum Reverse Breakdown Voltage	I <sub>R</sub> =0.5mA	100	150	200	V
I <sub>R</sub>	Maximum Reverse Leakage Current	V <sub>R</sub> =V <sub>RWM</sub> T <sub>a</sub> =25°C T <sub>a</sub> =125°C	5 2000	5 2000	5 2000	μA



## ELECTRICAL CHARACTERISTICS CURVE

Fig 1 Typical Forward Current Derating Curve

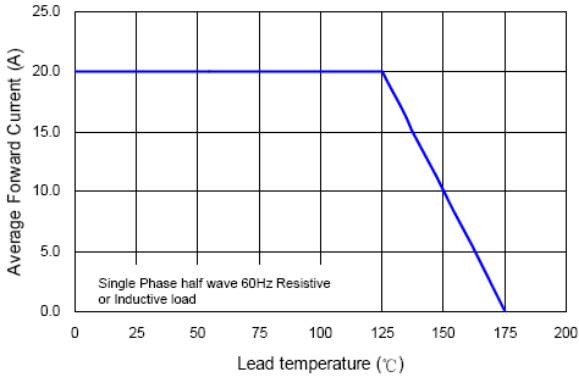


Fig 2 Typical Instantaneous Forward Characteristics per Leg

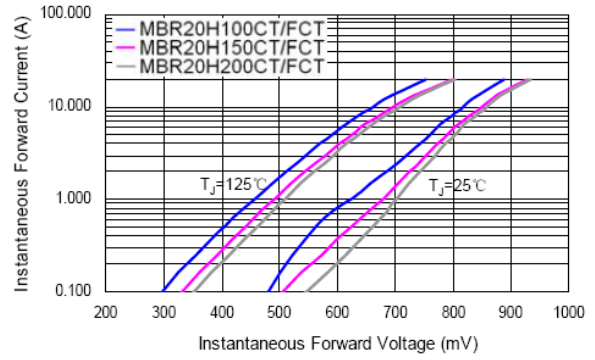


Fig 3 Max. Non-repetitive Forward Surge Current per Leg

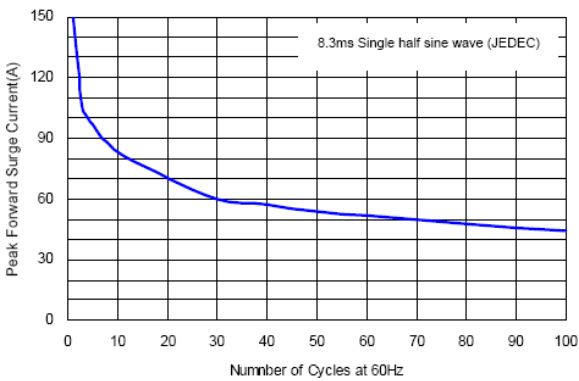


Fig 4 Typical Reverse Characteristics Per Leg

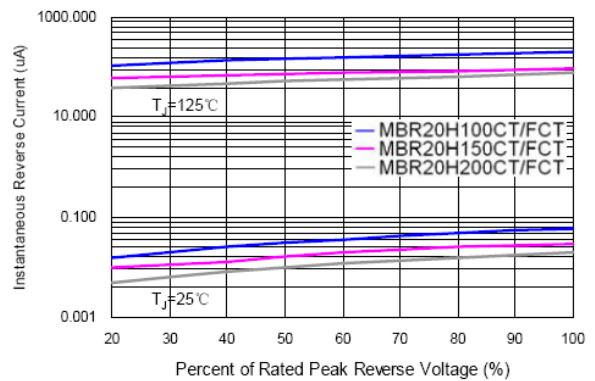
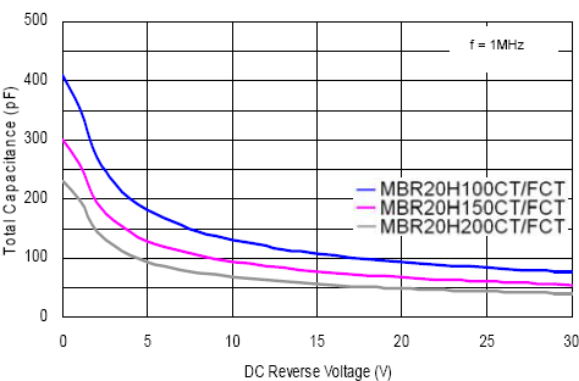
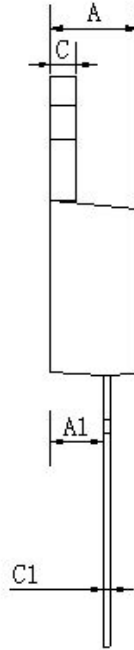
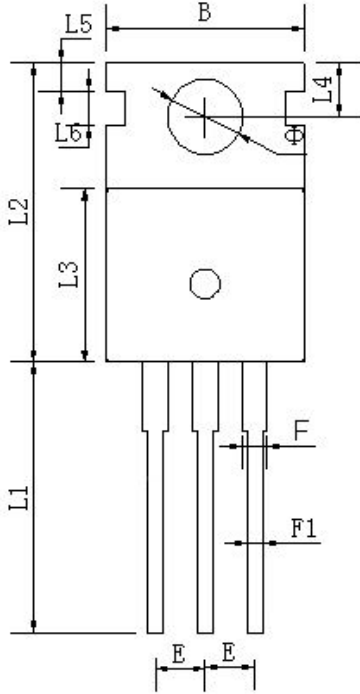


Fig 5 Junction Capacitance vs. Reverse Voltage per Leg





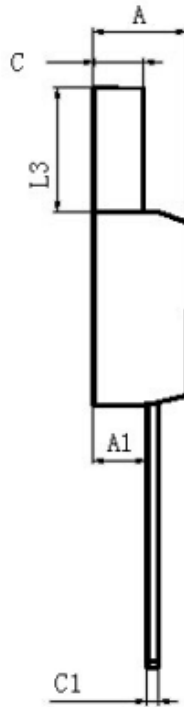
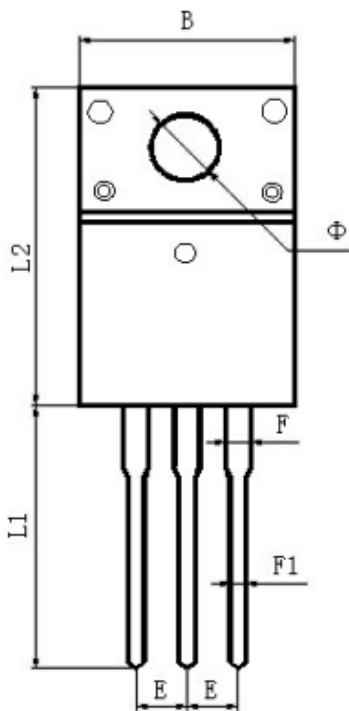
**TO-220 PACKAGE OUTLINE DIMENSIONS**



DIM	MIN	NOM	MAX
A	4.25	4.45	4.65
A1	2.47	2.67	2.87
B	9.86	10.16	10.46
C	1.22	1.27	1.37
C1	0.33	0.38	0.48
E	2.44	2.54	2.64
F	1.07	1.27	1.47
F1	0.7	0.8	0.9
L1	12.5	13.5	14.5
L2	14.94	15.24	15.54
L3	8.55	8.85	9.15
L4	2.54	2.74	2.94
L5	1.07	1.27	1.47
L6	1.45	1.65	1.85
$\Phi$	3.64	3.84	4.04

Unit: mm

**TO-220F PACKAGE OUTLINE DIMENSIONS**



DIM	MIN	NOM	MAX
A	4.50	4.70	4.90
A1	2.56	2.76	2.96
B	9.86	10.16	10.46
C	2.34	2.54	2.74
C1	0.45	0.50	0.60
E	2.34	2.54	2.74
F	1.08	1.28	1.48
F1	0.7	0.8	0.9
L1	11.98	12.98	13.98
L2	15.57	15.87	16.17
L3	6.48	6.68	6.88
$\Phi$	2.98	3.18	3.38

Unit: mm