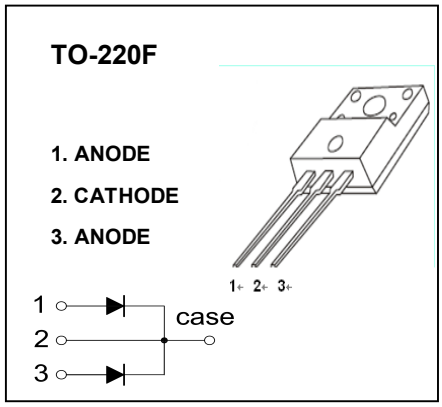
JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-220F Plastic-Encapsulate Diodes

MBR1060, 70, 80, 90, 100FCT

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℃ unless otherwise noted)

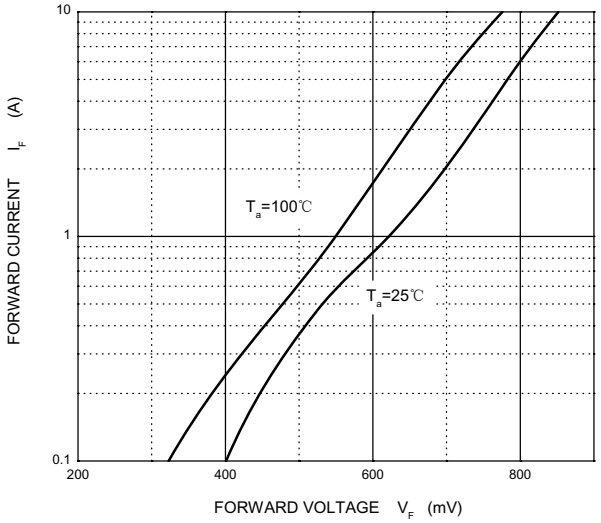
Symbol	Parameter	Value					Unit
		MBR10 60FCT	MBR10 70FCT	MBR10 80FCT	MBR10 90FCT	MBR10 100FCT	
V_{RRM}	Peak repetitive reverse voltage	60	70	80	90	100	V
V_{RWM}	Working peak reverse voltage						
V_R	DC blocking voltage						
$V_{R(RMS)}$	RMS reverse voltage	42	49	56	63	70	V
I_O	Average rectified output 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					℃/W
T_j	Junction temperature	125					℃
T_{stg}	Storage temperature	-55~+150					℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

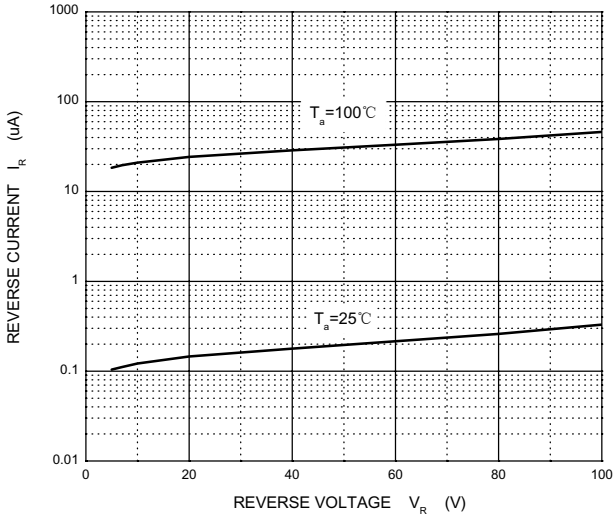
Parameter	Symbol	Device	Test conditions	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	MBR1060FCT	I_R=0.1mA	60			V
		MBR1070FCT		70			
		MBR1080FCT		80			
		MBR1090FCT		90			
		MBR10100FCT		100			
Reverse current	I_R	MBR1060FCT	V_R=60V			0.1	mA
		MBR1070FCT	V_R=70V				
		MBR1080FCT	V_R=80V				
		MBR1090FCT	V_R=90V				
		MBR10100FCT	V_R=100V				
Forward voltage	$V_{F(1)}$	MBR1060FCT	I_F=5A			0.8	V
		MBR1070-100FCT				0.85	
	$V_{F(2)}$	MBR1060-100FCT	I_F=10A			0.95	
Typical total capacitance	C_{tot}	MBR1060FCT	V_R=4V,f=1MHz		150		pF
		MBR1070-100FCT			150		

Typical Characteristics

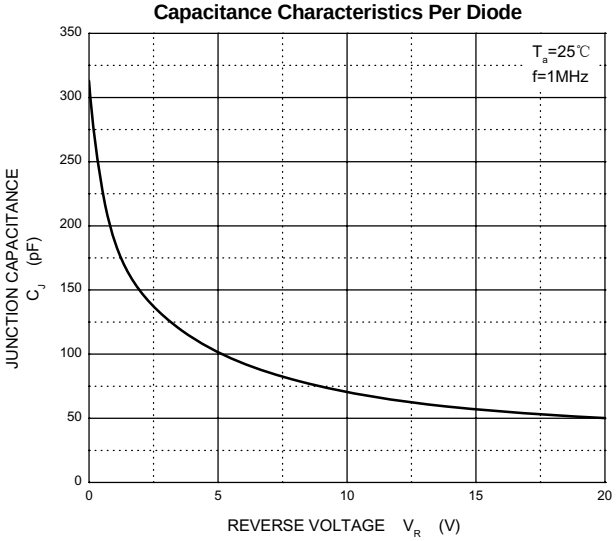
Forward Characteristics



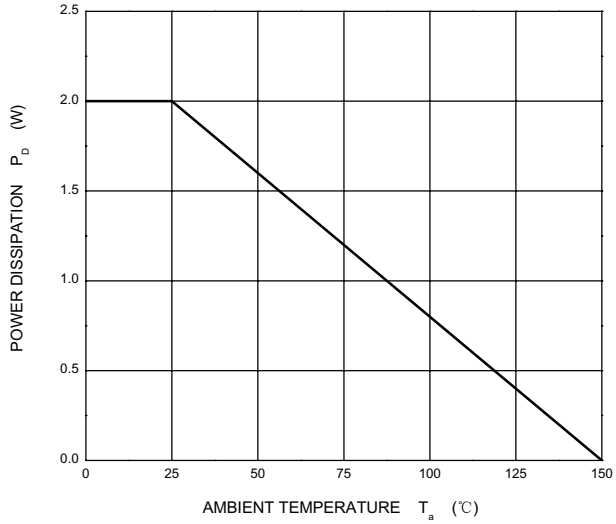
Reverse Characteristics



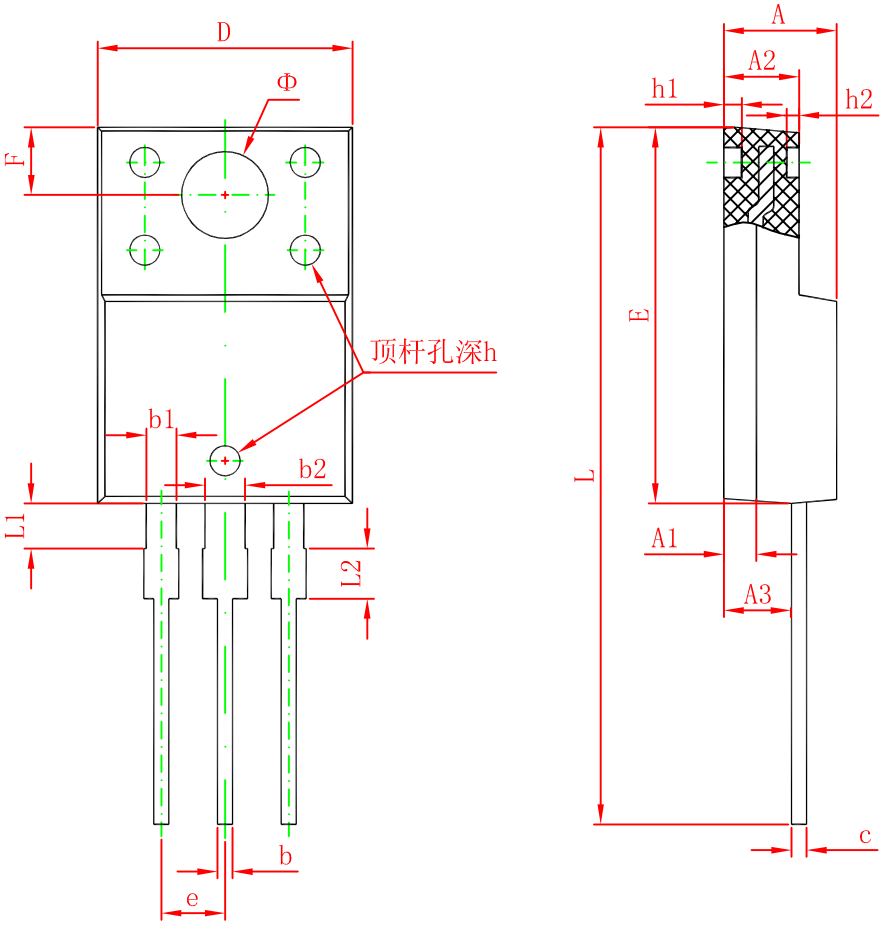
Capacitance Characteristics Per Diode



Power Derating Curve



TO-220F Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.300	4.700	0.169	0.185
A1	1.300 REF.		0.051 REF.	
A2	2.800	3.200	0.110	0.126
A3	2.500	2.900	0.098	0.114
b	0.500	0.750	0.020	0.030
b1	1.100	1.350	0.043	0.053
b2	1.500	1.750	0.059	0.069
c	0.500	0.750	0.020	0.030
D	9.960	10.360	0.392	0.408
E	14.800	15.200	0.583	0.598
e	2.540 TYP.		0.100 TYP.	
F	2.700 REF.		0.106 REF.	
Φ	3.500 REF.		0.138 REF.	
h	0.000	0.300	0.000	0.012
h1	0.800 REF.		0.031 REF.	
h2	0.500 REF.		0.020 REF.	
L	28.000	28.400	1.102	1.118
L1	1.700	1.900	0.067	0.075
L2	1.900	2.100	0.075	0.083