

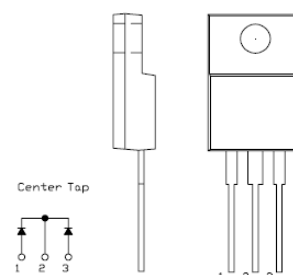
## MBRF2050/2060CT SCHOTTKY RECTIFIER

### Applications:

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

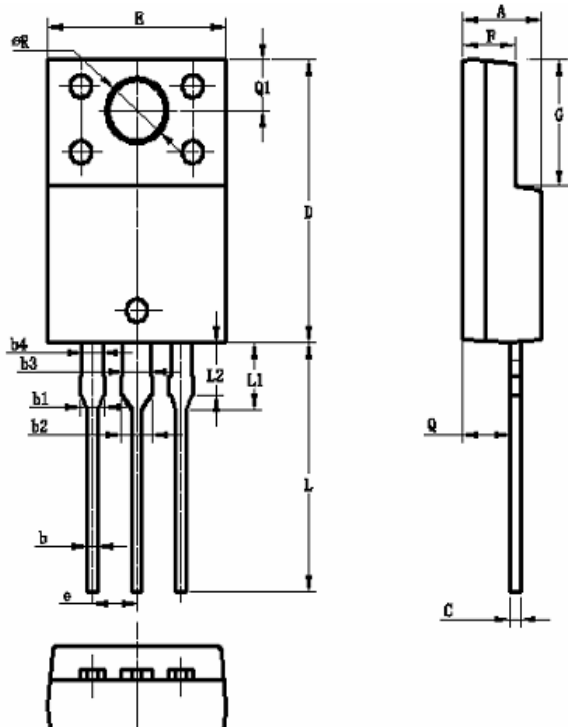
### Features:

- 150°C T<sub>J</sub> operation
- Center tap configuration
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

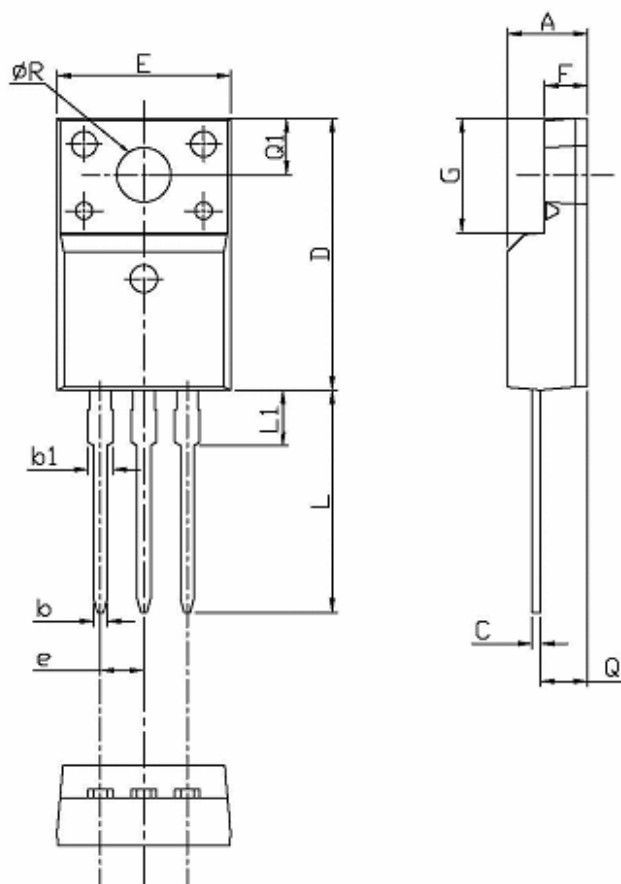


OUTLINE DRAWING

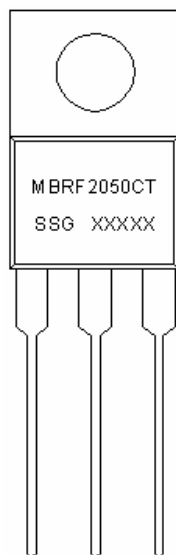
### Mechanical Dimensions (In mm)



Dim	OPTION 1(CJ)		OPTION 2(HD)	
	Min	Max	Min	Max
A	4.35	4.65	4.30	4.70
b	0.50	0.75	0.50	0.75
b1	1.15	1.402	1.20	1.45
b2	1.55	1.802	1.60	1.85
b3	1.55	1.65	1.50	1.75
b4	1.10	1.35	1.10	1.35
C	0.50	0.75	0.55	0.75
D	14.8	15.2	14.80	15.20
E	10.06	10.26	9.96	10.36
e	2.46	2.62	2.55TYP	
F	2.85	3.15	2.80	3.20
G	6.50	6.90	6.50	6.90
L	12.70	13.70	12.70	13.70
L1	3.40	3.80	3.40	4.00
L2	2.60	3.00	-	-
Q	2.60	2.80	2.50	2.90
Q1	2.50	2.90	2.50	2.90
ØR	3.40	3.60	3.30	3.70



Dim	OPTION 3		OPTION 4	
	Min	Max	Min	Max
A	4.53	4.93	4.50	4.90
b	0.71	0.91	0.70	0.90
b1	1.15	1.39	1.33	1.47
C	0.36	0.53	0.45	0.60
D	15.67	16.07	15.67	16.07
E	9.96	10.36	9.96	10.36
e	2.54TYP		2.54 BSC	
F	2.34	2.76	2.34	2.74
G	6.50	6.90	6.48	6.88
L	12.37	12.77	12.78	13.18
L1	2.23	2.63	3.03	3.43
Q	2.56	2.96	2.56	2.96
Q1	3.10	3.50	3.10	3.50
$\phi R$	2.98	3.38	3.08	3.28

**Marking Diagram:**


Where XXXXX is YYWWL

MBR	= Device Type
F	= Package type
20	= Forward Current (20A)
50/60	= Reverse Voltage (50/60V)
CT	= Configuration
SSG	= SSG
YY	= Year
WW	= Week
L	= Lot Number

**Cautions:** Molding resin  
 Epoxy resin UL:94V-0

**Ordering Information:**

Device	Package	Shipping
MBRF2050CT MBRF2060CT	ITO-220AB (Pb-Free)	50pcs / tube

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

**Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units	
Peak Inverse Voltage	$V_{RWM}$	-	50	MBRF2050CT	V
			60	MBRF2060CT	
Average Rectified Output Current	$I_o$	50Hz Full Sine Wave Resistive Load @ $T_C = 80\text{ }^\circ\text{C}$	20	A	
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	50Hz Full Sine Wave	150	A	

**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	$V_{F1}$	@ 10A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.80	V
Max. Reverse Current (per leg) *	$I_{R1}$	@ $V_R = \text{rated } V_R$ Pulse $T_J = 25\text{ }^\circ\text{C}$	1.0	mA
Max. Junction Capacitance (per leg)	$C_T$	@ $V_R = 4\text{V}$ , $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	400	pF
Max. Voltage Rate of Change	dv/dt	-	10,000	V/ $\mu\text{s}$

\* Pulse Width < 300 $\mu\text{s}$ , Duty Cycle <2%

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature Range	$T_J$	-	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-	-55 to +150	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	2.3	$^\circ\text{C/W}$
Typical Thermal Resistance Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased (only for ITO-220)	0.50	$^\circ\text{C/W}$
Approximate Weight	wt	-	2	g
Case Style	ITO-220AB			

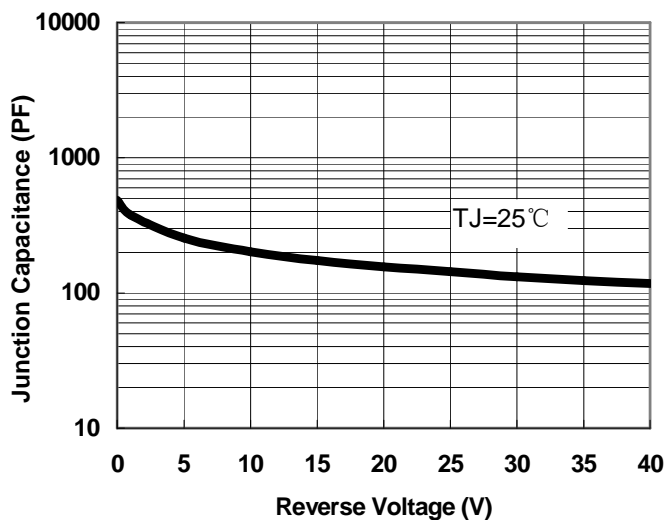


Fig.1-Typical Junction Capacitance

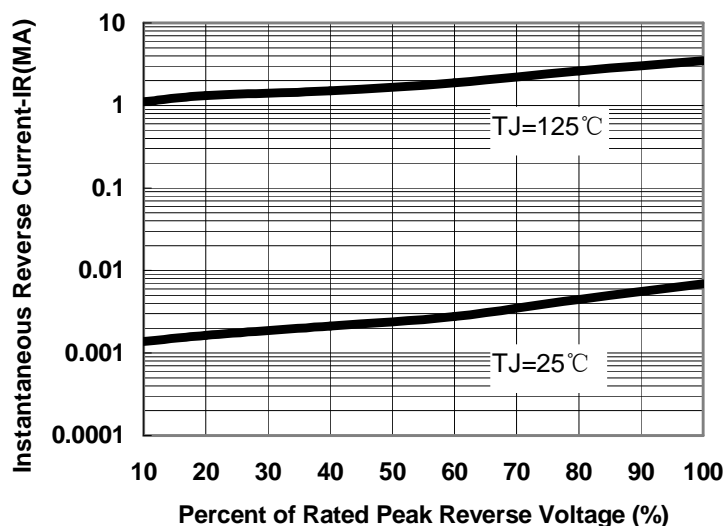


Fig.2-Typical Reverse Characteristics

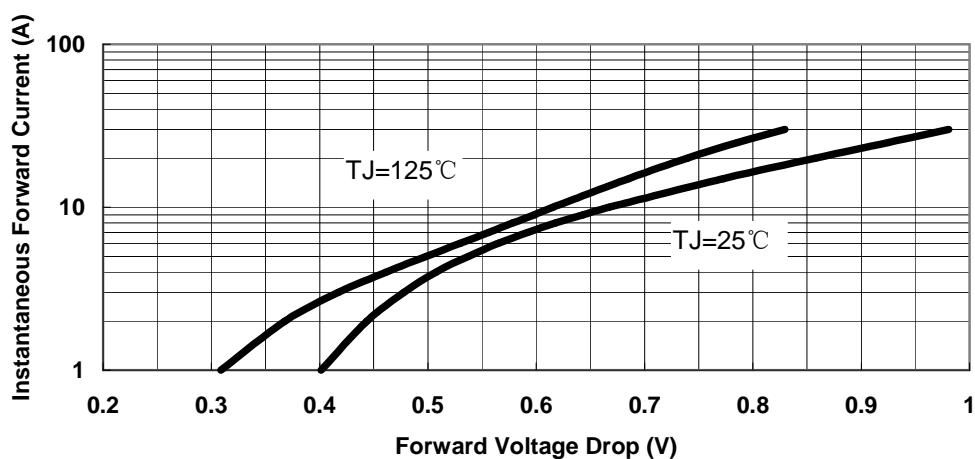


Fig.3-Typical Instantaneous Forward Voltage Characteristics

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