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Green Products

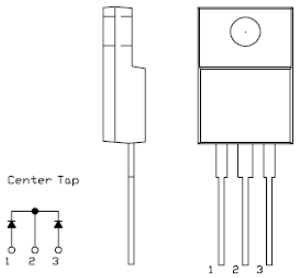
MBRF2050/2060CT SCHOTTKY RECTIFIER

Applications:

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

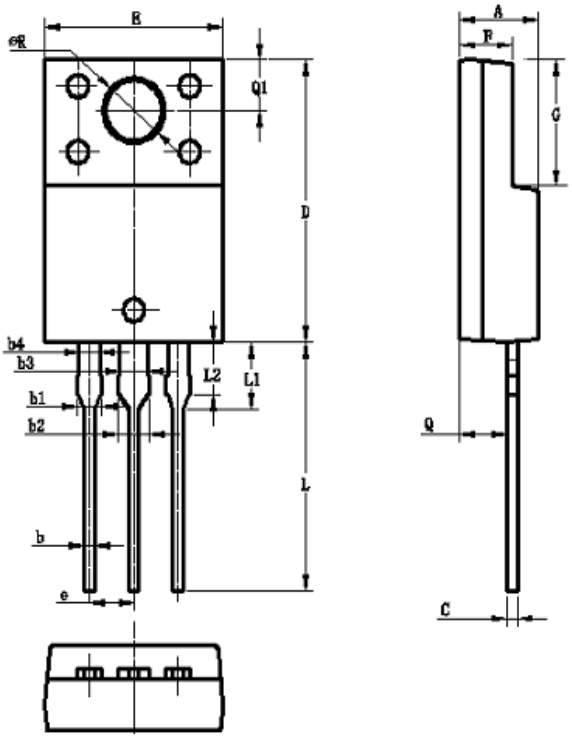
Features:

- **150°C T_J 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**
- **Terminals: pure tin plated, solderable per MIL-STD-750, Method 2026**
- **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)



	OPTION 1(CJ)		OPTION 2(HD)	
Dim	**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

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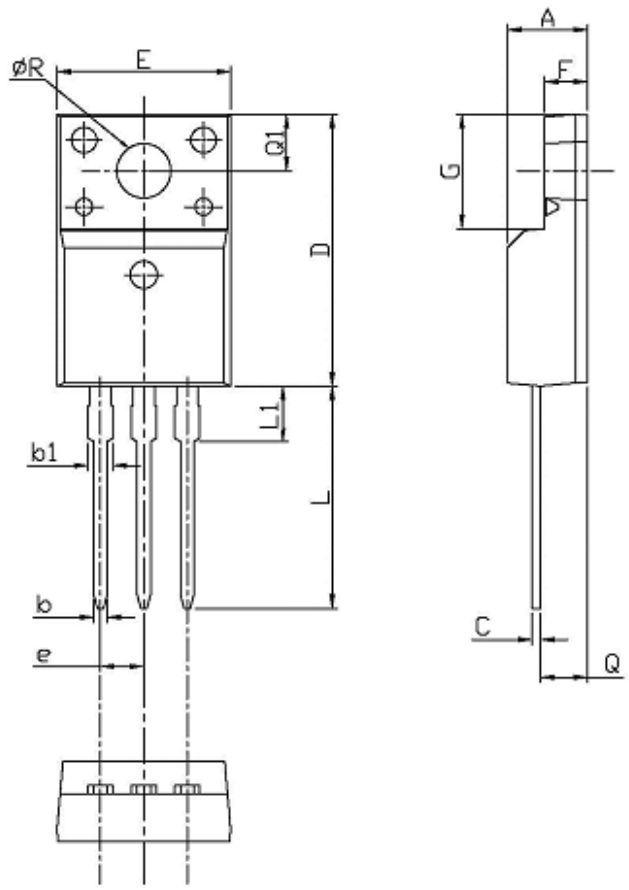

	OPTION 3		OPTION 4	
Dim	Min	Max	Min	Max
A	4.53	4.93	4.50	4.90
b	0.71	0.91	0.70	0.90
b1	1.15	1.39	1.33	1.47
C	0.36	0.53	0.45	0.60
D	15.67	16.07	15.67	16.07
E	9.96	10.36	9.96	10.36
e	2.54TYP		2.54 BSC	
F	2.34	2.76	2.34	2.74
G	6.50	6.90	6.48	6.88
L	12.37	12.77	12.78	13.18
L1	2.23	2.63	3.03	3.43
Q	2.56	2.96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

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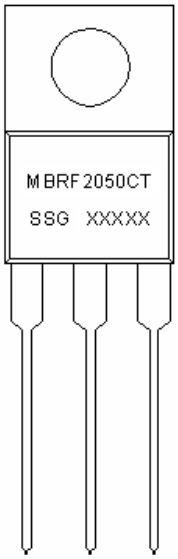
Marking Diagram:



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 Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	50	MBRF2050CT	V
			60	MBRF2060CT	
Average Rectified Forward Current (per device)	$I_{F(AV)}$	50% duty cycle @T_C =80°C, rectangular wave form	20		A
Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	150		A

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Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (per leg) *	V_{F1}	@ 10A, Pulse, T_J = 25 °C	0.67	0.80	V
Reverse Current (per leg) *	I_{R1}	@V_R = rated V_R Pulse T_J = 25 °C	0.009	1.0	mA
Junction Capacitance (per leg)	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz	250	400	pF
Voltage Rate of Change	dv/dt	-	-	10,000	V/μs

* Pulse Width < 300μs, Duty Cycle <2%

Thermal-Mechanical Specifications:

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

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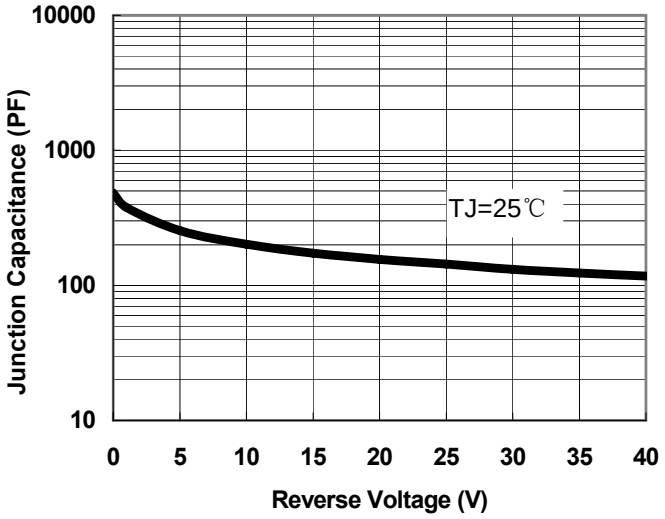

Fig.1-Typical Junction Capacitance

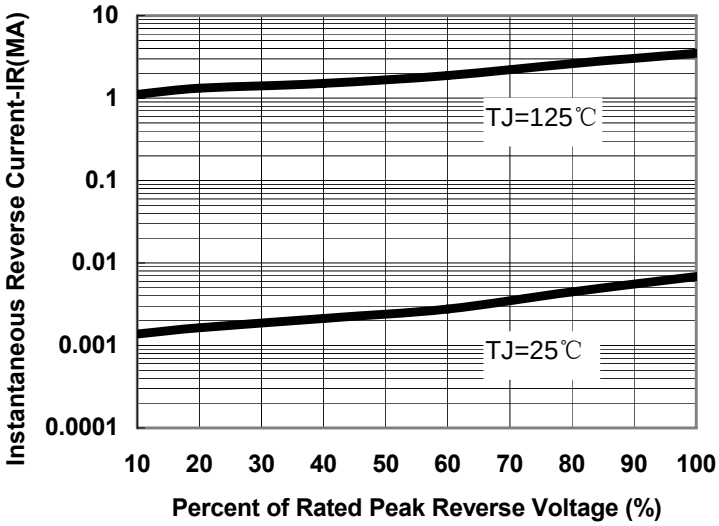

Fig.2-Typical Reverse Characteristics

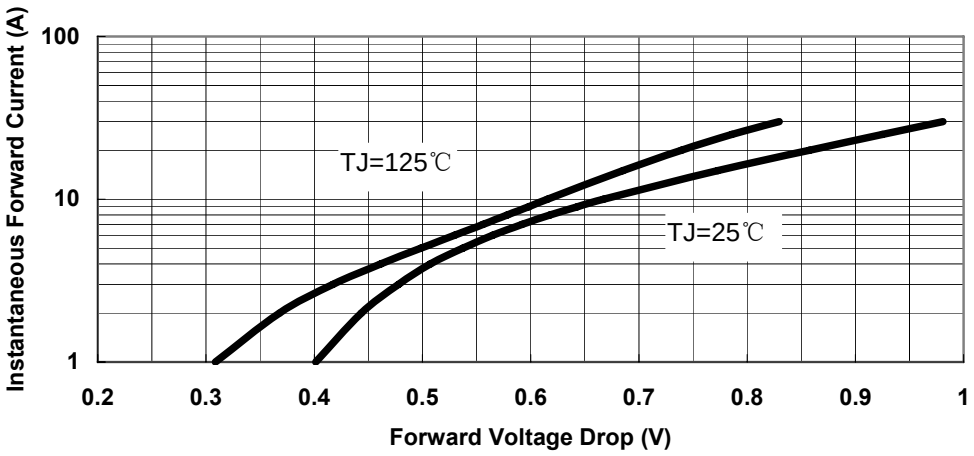

Fig.3-Typical Instantaneous Forward Voltage Characteristics

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