

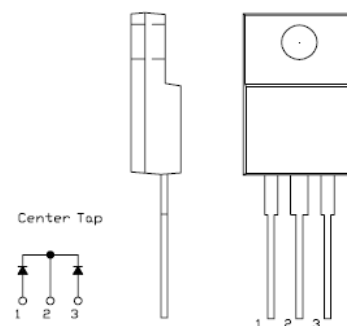
## MBRF2060CTL SCHOTTKY RECTIFIER

### Applications:

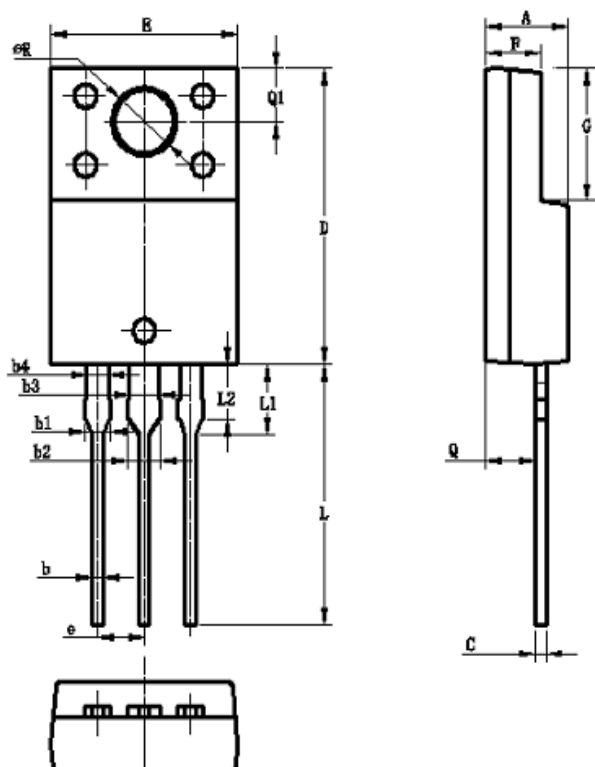
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

### Features:

- 125 °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



	OPTION 1(CJ)		OPTION 2(HD)	
Dim	Min	Max	Min	Max
A	4.4	4.6	4.30	4.70
b	0.6TYP		0.50	0.75
b1	1.3TYP		1.30	1.40
b2	1.7TYP		1.70	1.80
b3	1.6TYP		1.50	1.75
b4	1.2TYP		1.10	1.35
C	0.60TYP		0.50	0.75
D	14.8	15.1	14.80	15.20
E	10.06	10.26	9.96	10.36
e	2.55TYP		2.54TYP	
F	2.9	3.1	2.80	3.20
G	6.5	6.9	6.50	6.90
L	12.7	13.7	12.8	13.2
L1	3.4	3.8	3.60	4.00
L2	2.6	3.0	-	-
Q	2.5	2.9	2.50	2.90
Q1	2.5	2.9	2.70REF	
ØR	3.5REF		3.50REF	

### ITO-220AB

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - [sales@smc-diodes.com](mailto:sales@smc-diodes.com) •

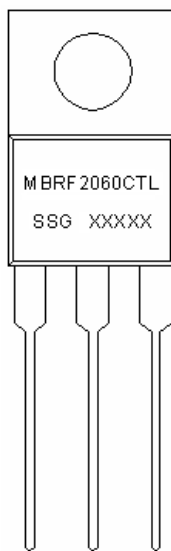


## MBRF2060CTL

Technical Data  
Data Sheet N0149, Rev. B

*Green Products*

### Marking Diagram:



Where XXXXX is YYWWL

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

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

### Ordering Information:

Device	Package	Shipping
MBRF2060CTL	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	$V_{RRM}$		60	V
Working Peak Reverse Voltage	$V_{RWM}$			
DC Blocking Voltage	$V_R$			
Average Rectified Output Current(per device)	$I_o$	50% duty cycle @ $T_C=80^{\circ}C$ , 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:**

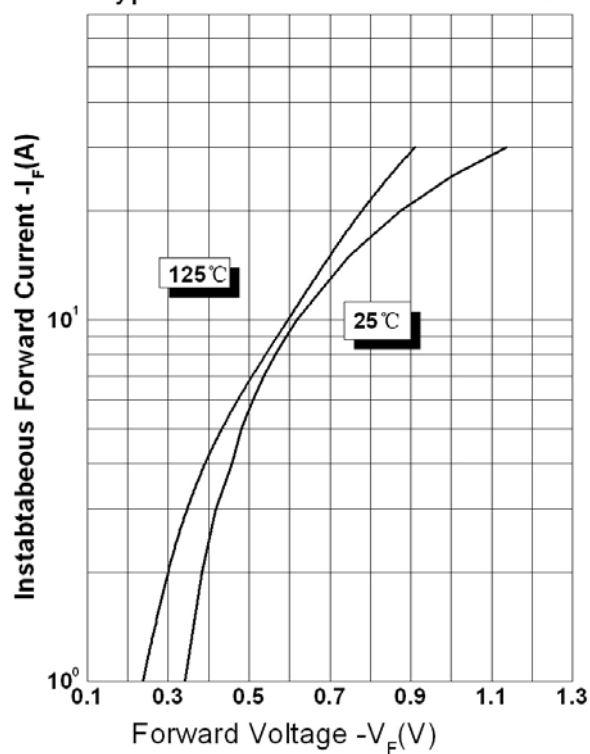
Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop (per leg) *	$V_{F1}$	@ 10A, Pulse, $T_J = 25\text{ }^{\circ}\text{C}$	0.69	V
Reverse Current (per leg) *	$I_{R1}$	@ $V_R = \text{rated } V_R$ Pulse $T_J = 25\text{ }^{\circ}\text{C}$	1.0	mA
Junction Capacitance (per leg)	$C_T$	@ $V_R = 4\text{V}$ , $T_C = 25\text{ }^{\circ}\text{C}$ $f_{SIG} = 1\text{MHz}$	400	pF
Voltage Rate of Change	dv/dt	-	10,000	V/ $\mu\text{s}$

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

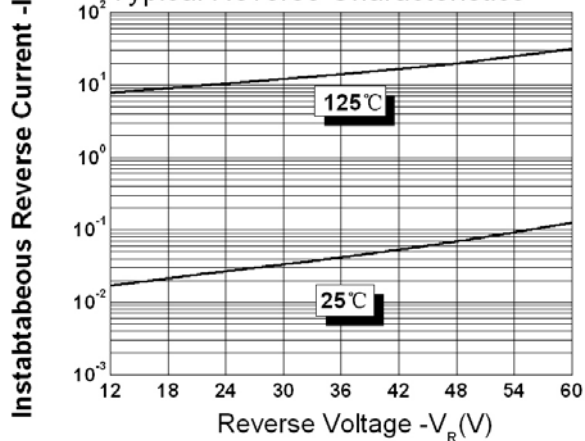
**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	-	-55 to +125	$^{\circ}\text{C}$
Storage Temperature	$T_{stg}$	-	-55 to +150	$^{\circ}\text{C}$
Typical 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 TO-220)	0.50	$^{\circ}\text{C/W}$
Approximate Weight	wt	-	2	g
Case Style	ITO-220AB			

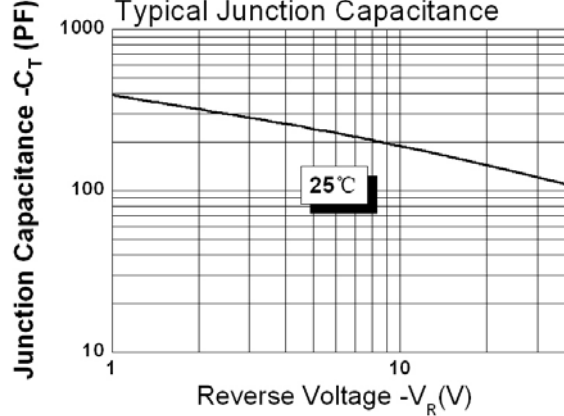
**Figure 1**  
**Typical Forward Characteristics**



**Figure 2**  
**Typical Reverse Characteristics**



**Figure 3**  
**Typical Junction Capacitance**



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