

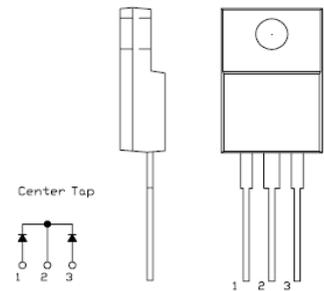
**MBRF4080CT/MBRF4090CT/MBRF40100CT  
SCHOTTKY RECTIFIER**

**Applications:**

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection
- Center tap configuration

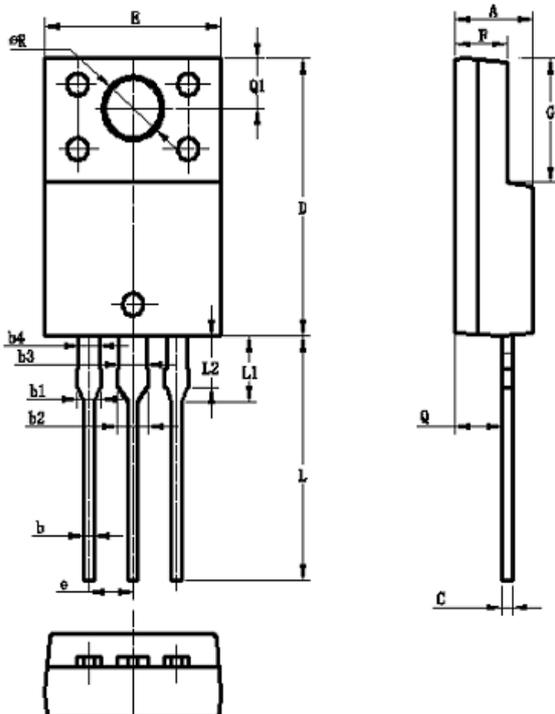
**Features:**

- 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

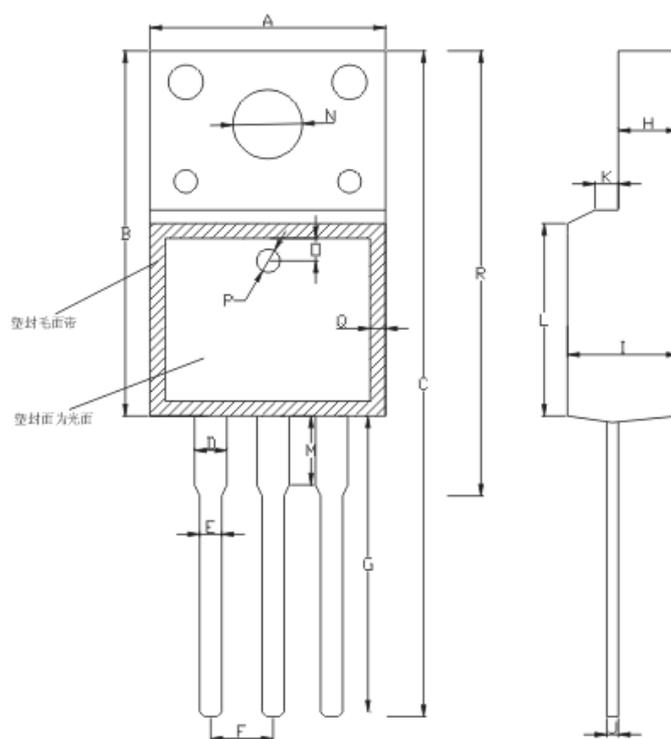


**OUTLINE DRAWING**

**Mechanical Dimensions: In Inches / mm**



Dim	OPTION 1(CJ)		OPTION 2(HD)	
	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	



A:10.20 ± 0.50	B:15.90 ± 0.50	C:29.00 ± 1.00	D:1.24 ± 0.10
E:0.80 ± 0.10	F:2.54 ± 0.10	G:13.10 ± 1,0	H:2.55 ± 0.05
I:4.70 ± 0.05	J:0.50 ± 0.05	K:1.20 ± 0.20	L:8.00 ± 0.50
M:3.00 ± 0.50	N:3.20 ± 0.20	O:1,25 ± 0.05	P:1.5 ± 0.05
Q:1.0 ± 0.20	R:19.2 ± 1.0		

**OPTION 3 (SR)**

**ITO-220AB**

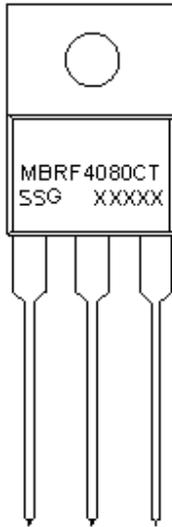


**MBRF4080CT  
MBRF4090CT  
MBRF40100CT**

**Technical Data  
Data Sheet N0083, Rev. B**

**Green Products**

**Marking Diagram:**



Where XXXXX is YYWWL

- MBR = Device Type
- F = Package type
- 40 = Forward Current (40A)
- 80 = Reverse Voltage (80V)
- CT = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

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

**Ordering Information:**

Device	Package	Shipping
MBRF4080CT MBRF4090CT MBRF40100CT	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	$V_{RWM}$	-	80	V
			90	
			100	
Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C$ =135°C, rectangular wave form	20(Per leg)	A
			40(Per device)	
Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	8.3 ms, half Sine pulse	280	A

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



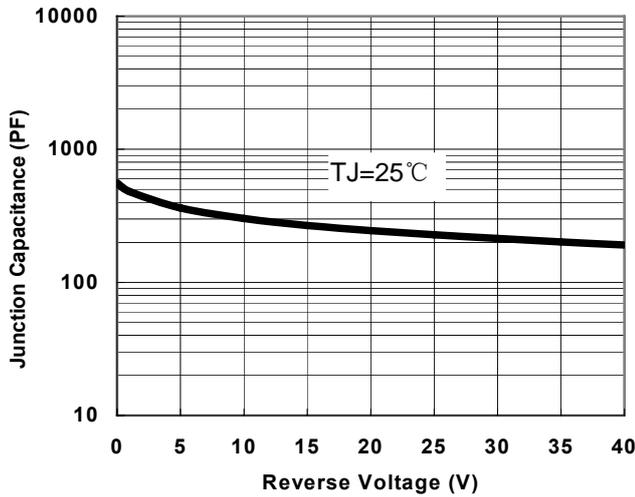
**Electrical Characteristics:**

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	$V_{F1}$	@ 10A, Pulse, $T_J = 25\text{ }^\circ\text{C}$ @ 20A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.70 0.80	0.80 0.88	V
	$V_{F2}$	@ 10A, Pulse, $T_J = 125\text{ }^\circ\text{C}$ @ 20A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.59 0.70	0.70 0.74	V
Reverse Current (per leg)*	$I_{R1}$	@ $V_R = \text{rated } V_R$ $T_J = 25\text{ }^\circ\text{C}$	0.009	1.0	mA
	$I_{R2}$	@ $V_R = \text{rated } V_R$ $T_J = 125\text{ }^\circ\text{C}$	6.4	20	mA
Junction Capacitance (per leg)	$C_T$	@ $V_R = 5\text{V}$ , $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	363	400	pF
Typical Series Inductance (per leg)	$L_S$	Measured lead to lead 5 mm from package body	-	8.0	nH
Voltage Rate of Change	dv/dt	-	-	10,000	V/ $\mu\text{s}$
RSM Isolation Voltage (t = 1.0 second, R. H. < =30%, $T_A = 25\text{ }^\circ\text{C}$ )	$V_{ISO}$	Clip mounting, the epoxy body away from the heatsink edge by more than 0.110" along the lead direction.	-	4500	V
		Clip mounting, the epoxy body is inside the heatsink.	-	3500	
		Screw mounting, the epoxy body is inside the heatsink.	-	1500	

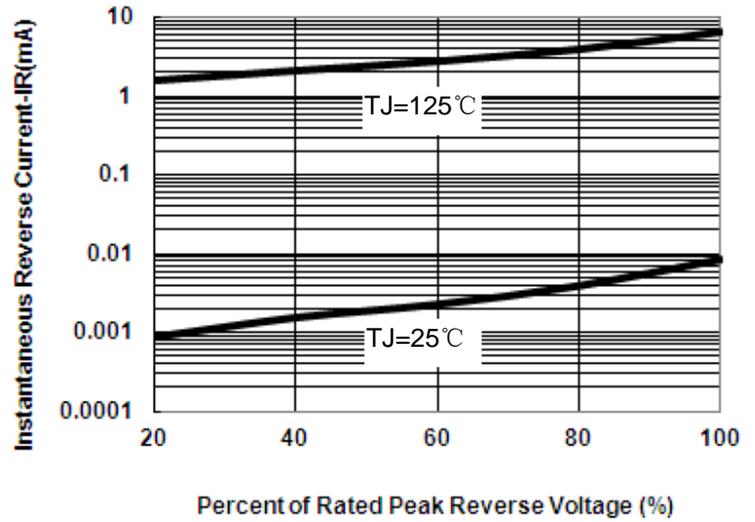
\* Pulse Width < 300 $\mu\text{s}$ , Duty Cycle <2%

**Thermal-Mechanical Specifications:**

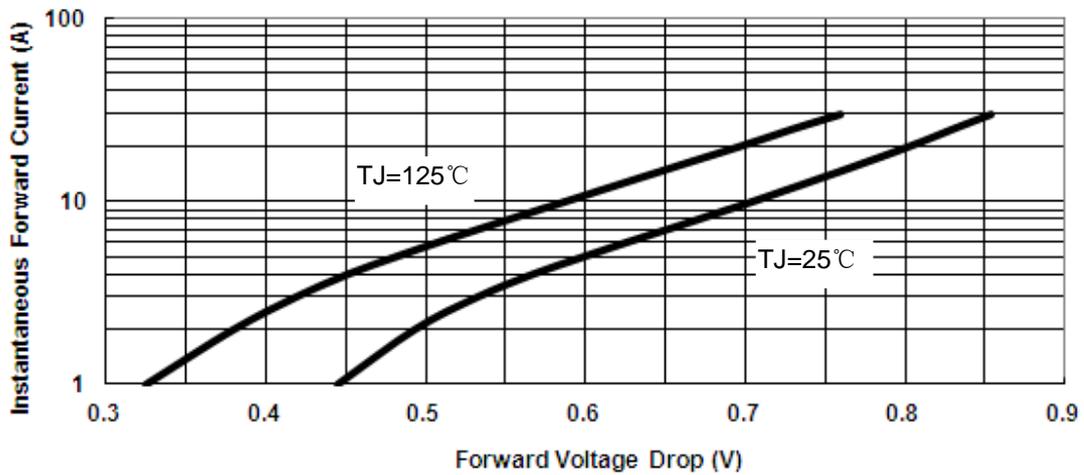
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	-	-55 to +150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-	-55 to +150	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	3.5	$^\circ\text{C/W}$
Approximate Weight	wt	-	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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**MBRF40100CT**

**Technical Data**  
**Data Sheet N0083, Rev. B**

***Green Products***

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