

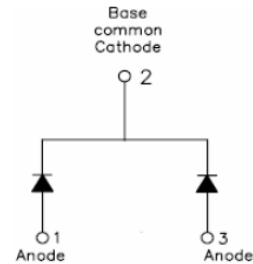
**MBR4080/90/100CT SCHOTTKY RECTIFIER**

**Applications:**

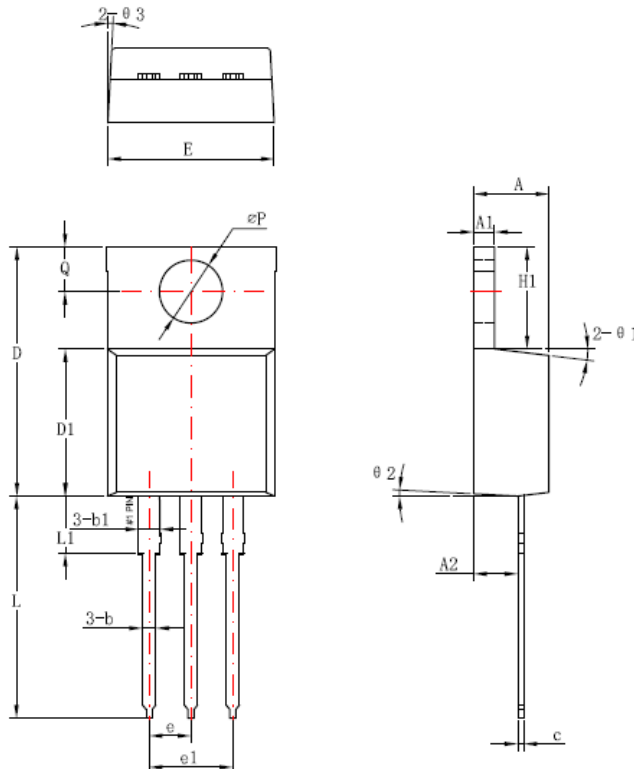
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

**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

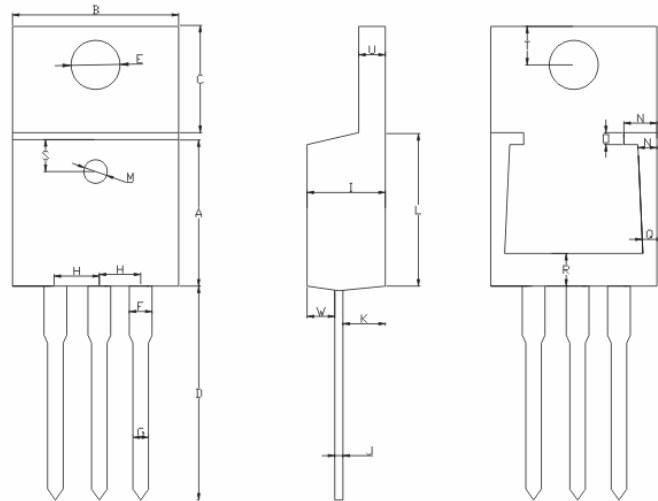


**Mechanical Dimensions: In mm**



Symbol	Dimensions in millimeters		
	Min	Typical	Max
A	4.42	4.57	4.72
A1	1.17	1.27	1.37
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
D	14.94	15.24	15.54
D1	8.85	9.00	9.15
E	10.01	10.16	10.31
e		2.54	
e1		5.06	
H1	6.04	6.24	6.44
L	12.7	13.56	13.78
L1		3.5	
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
θ1		7°	
θ2		3°	
θ3		4°	

**OPTION 1(HD)**



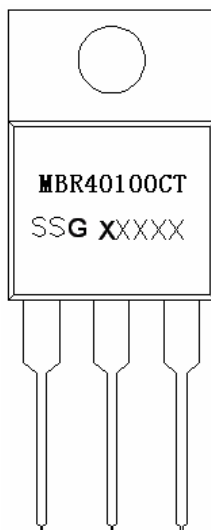
A: $8.5 \pm 0.5$	B: $9.5 \pm 0.5$	C: $6.4 \pm 0.5$	D: $14.1 \pm 1$
E: $3.84 \pm 0.03$	F: $1.27 \pm 0.03$	G: $0.85 \pm 0.10$	H: $2.54 \pm 0.025$
I: $4.6 \pm 0.5$	J: $0.38 \pm 0.015$	K: $2.75 \pm 0.025$	L: $9.0 \pm 0.5$
M: $1.5 \pm 0.05$	N: $1.8 \pm 0.05$	O: $0.5 \pm 0.05$	P: $1.2 \pm 0.05$
Q: $0.9 \pm 0.05$	R: $3.2 \pm 0.05$	S: $1.55 \pm 0.05$	T: $2.8 \pm 0.15$
U: $1.27 \pm 0.05$	W: $1.27 \pm 0.03$		

**OPTION 2(SR)**

**TO-220AB**

**Technical Data**  
**Data Sheet N0771, Rev. -**  
**Marking Diagram:**

**Green Products**



Where XXXXX is YYWWL

MBR = Device Type  
40 = Forward Current (40A)  
100 = Reverse Voltage (100V)  
CT = Configuration  
SSG = SSG  
YY = Year  
WW = Week  
L = Lot Number

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

**Ordering Information:**

Device	Package	Shipping
MBR40100CT	TO-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	
Max. Average Forward	$I_{F(AV)}$	50% duty cycle @ $T_C = 110^\circ\text{C}$ , rectangular wave form	20(Per leg) 40(Per device)	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	Surge applied at rated load conditions halfwave, single phase,60Hz	250	A

**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop*	$V_{F1}$	@ 20 A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.88	V
		@ 40 A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	1.02	
	$V_{F2}$	@ 20 A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.74	V
		@ 40 A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.88	
Max. Reverse Current (per leg) *	$I_{R1}$	@ $V_R = \text{rated } V_R$ $T_J = 25\text{ }^\circ\text{C}$	1.0	mA
	$I_{R2}$	@ $V_R = \text{rated } V_R$ $T_J = 125\text{ }^\circ\text{C}$	6.0	mA
Max. Junction Capacitance (per leg)	$C_T$	@ $V_R = 5\text{V}$ , $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	400	pF
Typical Series Inductance (per leg)	$L_S$	Measured lead to lead 5 mm from package body	8.0	nH
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	2.0	$^\circ\text{C/W}$
Approximate Weight	wt	-	2	g
Case Style	TO-220AB			

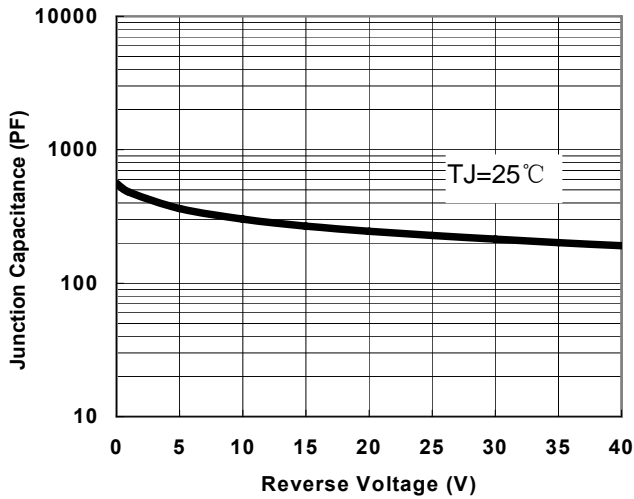


Fig.1-Typical Junction Capacitance

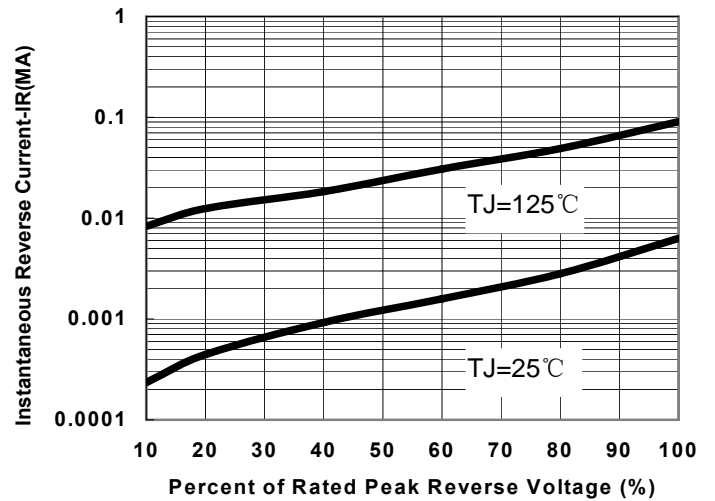


Fig.2-Typical Reverse Characteristics

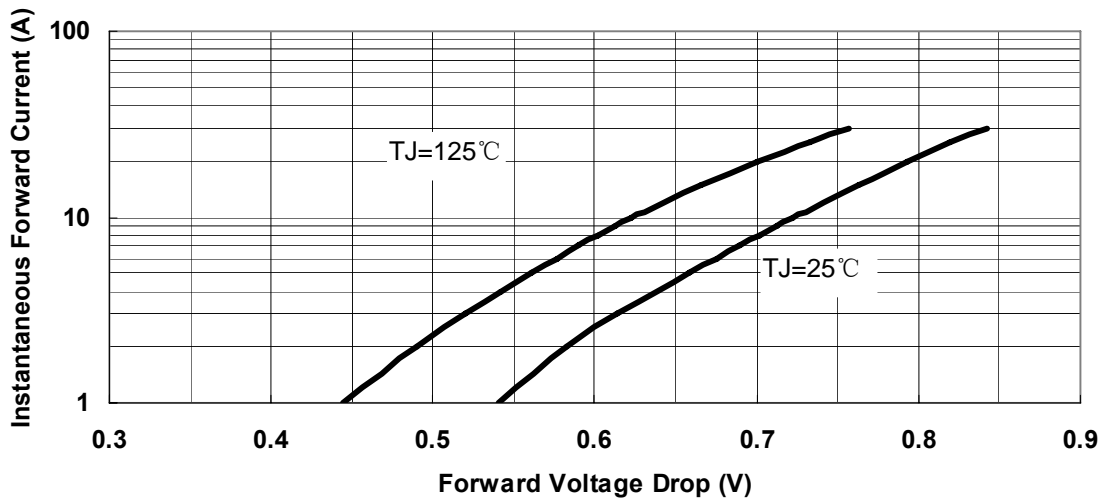


Fig.3-Typical Instantaneous Forward Voltage Characteristics

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