



MBR4080/90/100CT

Technical Data
Data Sheet N0771, Rev. B

Green Products

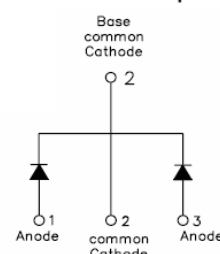
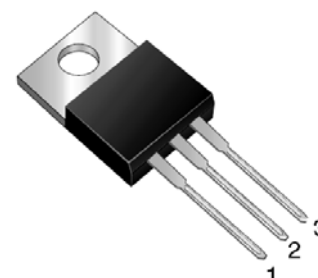
MBR4080/90/100CT SCHOTTKY RECTIFIER

Applications:

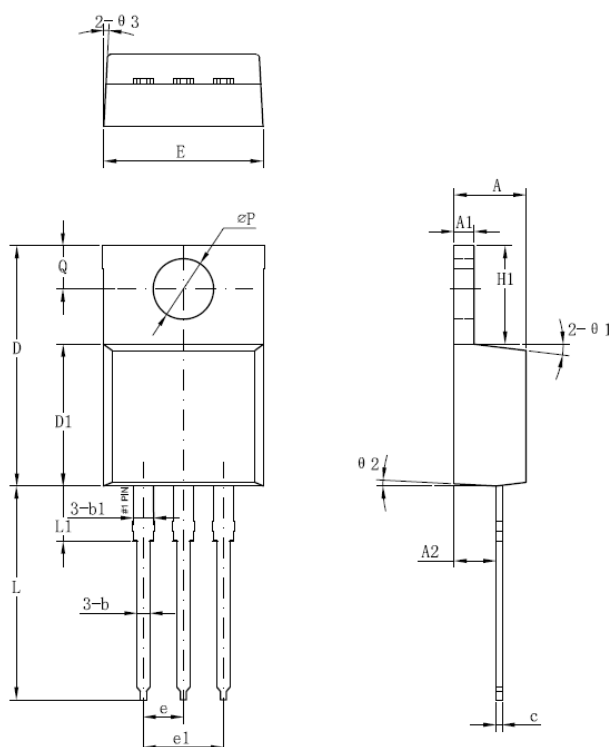
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

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
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request



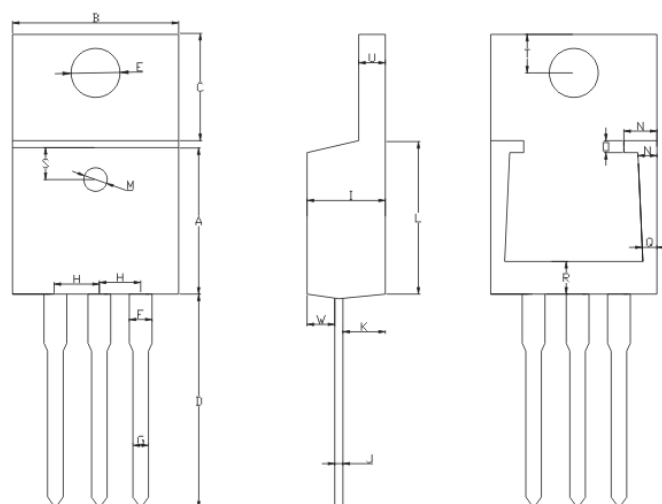
Mechanical Dimensions: In mm



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)

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A: 8.5 ± 0.5	B: 9.5 ± 0.5	C: 6.4 ± 0.5	D: 14.1 ± 1
E: 3.84 ± 0.03	F: 1.27 ± 0.03	G: 0.85 ± 0.10	H: 2.54 ± 0.025
I: 4.6 ± 0.5	J: 0.38 ± 0.015	K: 2.75 ± 0.25	L: 9.0 ± 0.5
M: 1.5 ± 0.05	N: 1.8 ± 0.05	O: 0.5 ± 0.05	P: 1.2 ± 0.05
Q: 0.9 ± 0.05	R: 3.2 ± 0.05	S: 1.55 ± 0.05	T: 2.8 ± 0.15
U: 1.27 ± 0.05	W: 1.27 ± 0.03		

OPTION 2(SR)
TO-220AB

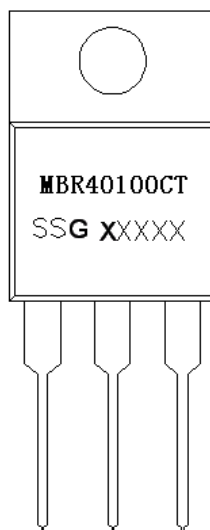


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Marking Diagram:



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 Repetitive Reverse Voltage	V_{RRM}	-	80	MBR4080CT	V
Working Peak Reverse Voltage	V_{RWM}		90	MBR4090CT	
DC Blocking Voltage	V_R		100	MBR40100CT	
Average Forward Current(per device)	$I_{F(AV)}$	50% duty cycle @ $T_C = 110^\circ\text{C}$, rectangular wave form	40		A
Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	250		A

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Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop(per leg) *	V_{F1}	@ 20 A, Pulse, $T_J = 25\text{ }^{\circ}\text{C}$	0.88	V
	V_{F2}	@ 20 A, Pulse, $T_J = 125\text{ }^{\circ}\text{C}$	0.74	V
Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R$ $T_J = 25\text{ }^{\circ}\text{C}$	1.0	mA
	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125\text{ }^{\circ}\text{C}$	20	mA
Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{ V}$, $T_C = 25\text{ }^{\circ}\text{C}$ $f_{SIG} = 1\text{ MHz}$	800	pF
Voltage Rate of Change	dv/dt	-	10,000	V/ μs

* Pulse Width < 300 μs , 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			

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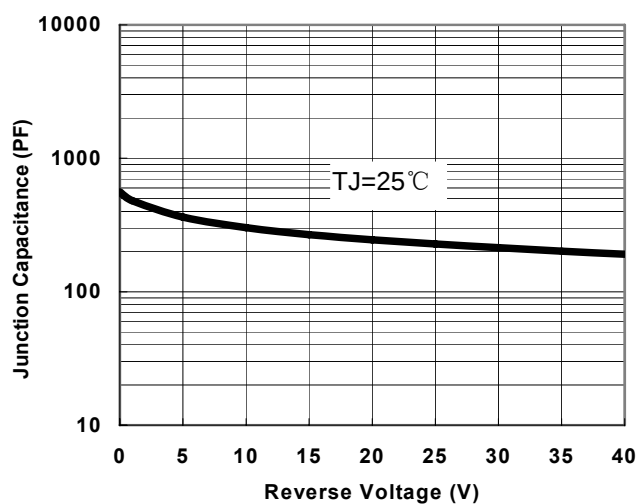


Fig.1-Typical Junction Capacitance

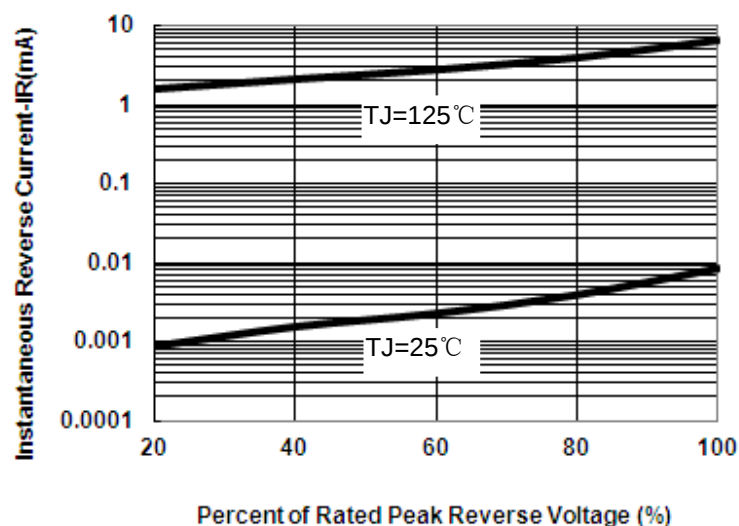


Fig.2-Typical Reverse Characteristics

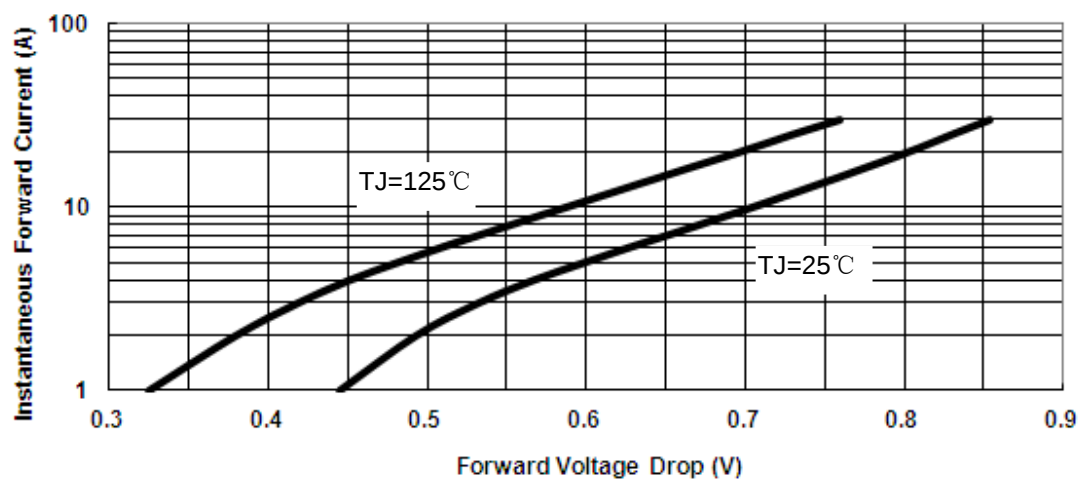


Fig.3-Typical Instantaneous Forward Voltage Characteristics

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