

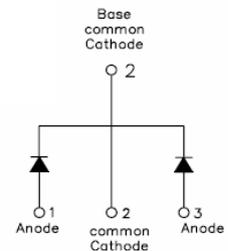
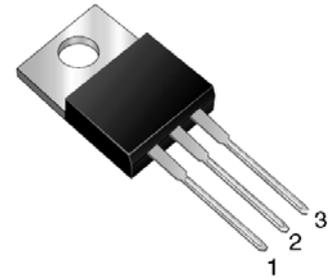
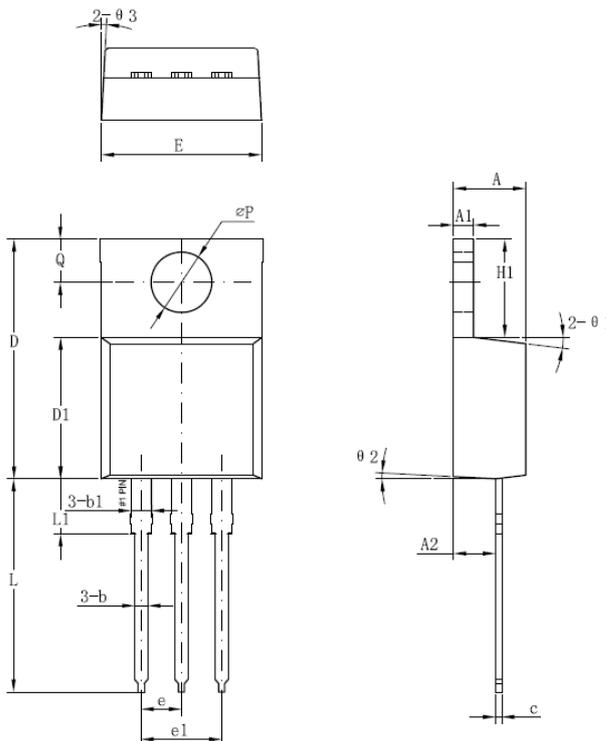
## MBR4080/90/100CT SCHOTTKY RECTIFIER

**Applications:**

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

**Features:**

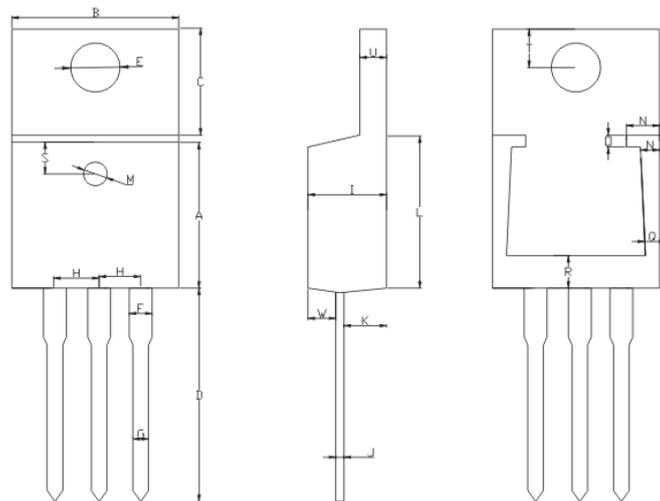
- 150 °C T<sub>J</sub> operation
- Center tap configuration
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – 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)**

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



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: $2.75 \pm 0.25$	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**

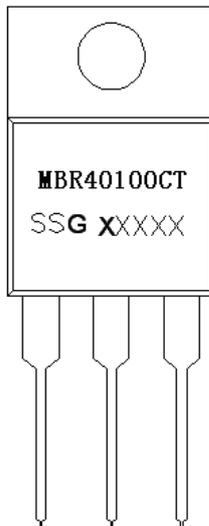


# MBR4080/90/100CT

Technical Data  
Data Sheet N0771, Rev. A

*Green Products*

## 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 Inverse Voltage	$V_{RWM}$	-	80	V
			90	
			100	
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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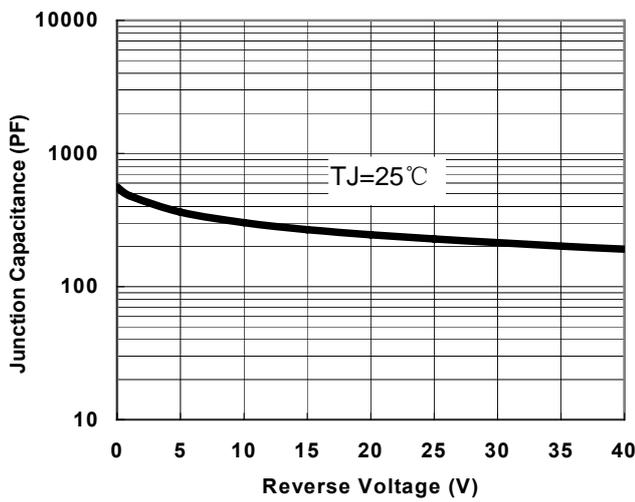
**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop(per leg) *	V <sub>F1</sub>	@ 20 A, Pulse, T <sub>J</sub> = 25 °C	0.88	V
	V <sub>F2</sub>	@ 20 A, Pulse, T <sub>J</sub> = 125 °C	0.74	V
Reverse Current (per leg) *	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 25 °C	1.0	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 125 °C	20	mA
Junction Capacitance (per leg)	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C f <sub>SIG</sub> = 1MHz	400	pF
Voltage Rate of Change	dv/dt	-	10,000	V/μs

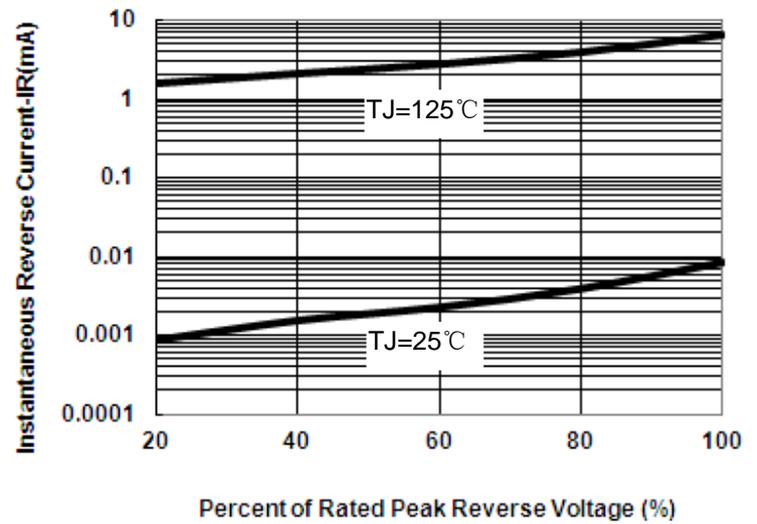
\* Pulse Width < 300μs, Duty Cycle <2%

**Thermal-Mechanical Specifications:**

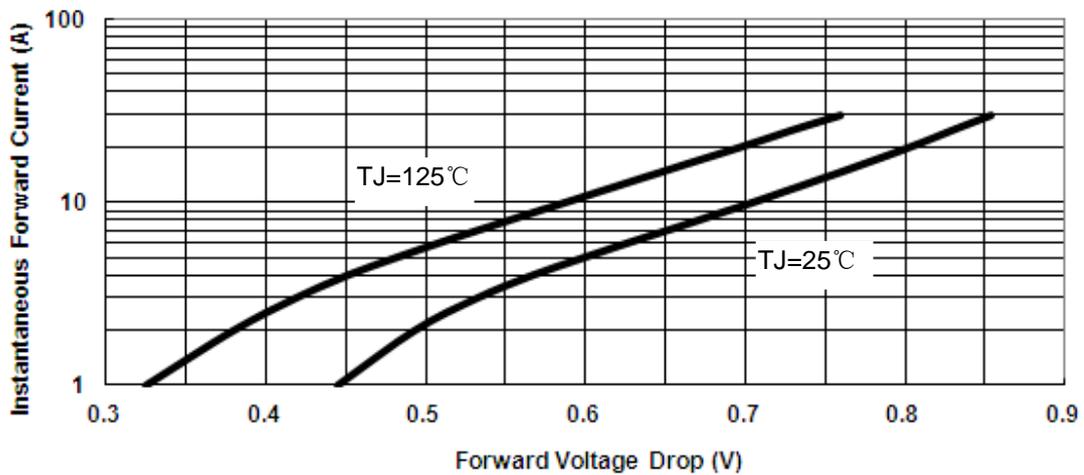
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature Range	T <sub>J</sub>	-	-55 to +150	°C
Storage Temperature Range	T <sub>stg</sub>	-	-55 to +150	°C
Maximum Thermal Resistance Junction to Case	R <sub>θJC</sub>	DC operation	2.0	°C/W
Approximate Weight	wt	-	2	g
Case Style	TO-220AB			



**Fig.1-Typical Junction Capacitance**



**Fig.2-Typical Reverse Characteristics**



**Fig.3-Typical Instantaneous Forward Voltage Characteristics**



**MBR4080/90/100CT**

**Technical Data**  
**Data Sheet N0771, Rev. A**

***Green Products***

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