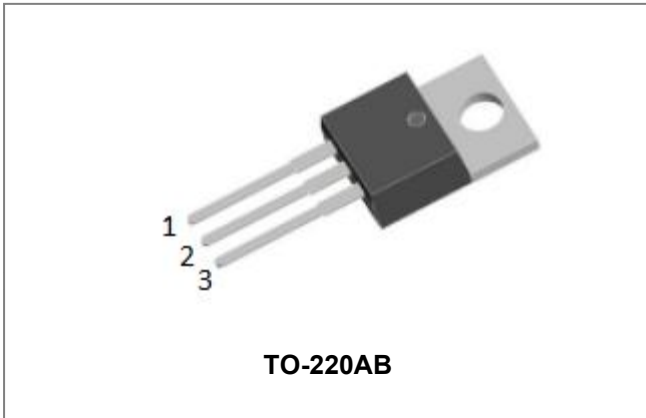


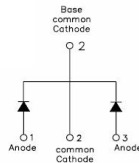
# MBR20135CT/MBR20150CT SCHOTTKY RECTIFIER



## Features

- 175°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
- Terminals finish: 100% Pure Tin
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

## Circuit Diagram



## Applications

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

## Maximum Ratings:

Characteristics	Symbol	Condition	Max.		Units
			135	MBR20135CT	
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	-	135	MBR20135CT	V
Working Peak Reverse Voltage	V <sub>RWM</sub>		150	MBR20150CT	
DC Blocking Voltage	V <sub>R</sub>				
Average Rectified Forward Current	I <sub>F(AV)</sub>	50% duty cycle @T <sub>c</sub> =145°C, rectangular wave form	10(Per Leg) 20(Per Device)		A
Peak Repetitive Surge current (Rated V <sub>R</sub> , Square Wave,20KHz)	I <sub>RRM</sub>	-	1.0		A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I <sub>FSM</sub>	8.3ms, Half Sine pulse, T <sub>C</sub> = 25 °C	150		A

## Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Per Leg)*	V <sub>F1</sub>	@ 10A, Pulse, T <sub>J</sub> = 25 °C	0.84	0.90	V
	V <sub>F2</sub>	@ 10A, Pulse, T <sub>J</sub> = 125 °C	0.75	0.83	V
Reverse Current(Per Leg)*	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 25 °C	0.001	0.5	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> , T <sub>J</sub> = 125 °C	0.1	5	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	170	400	pF
Voltage Rate of Change	dv/dt	-	-	10,000	V/μs

\* Pulse width < 300 μs, duty cycle < 2%

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

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	-	-55 to +175	$^{\circ}\text{C}$
Storage Temperature	$T_{\text{stg}}$	-	-55 to +175	$^{\circ}\text{C}$
Typical Thermal Resistance Junction to Case	$R_{\theta\text{JC}}$	DC operation	1.5	$^{\circ}\text{C}/\text{W}$
Typical Thermal Resistance, Case to Heat Sink	$R_{\theta\text{CS}}$	Mounting surface, smooth and greased	0.50	$^{\circ}\text{C}/\text{W}$
Approximate Weight	wt	-	2	g

**Ratings and Characteristics Curves**

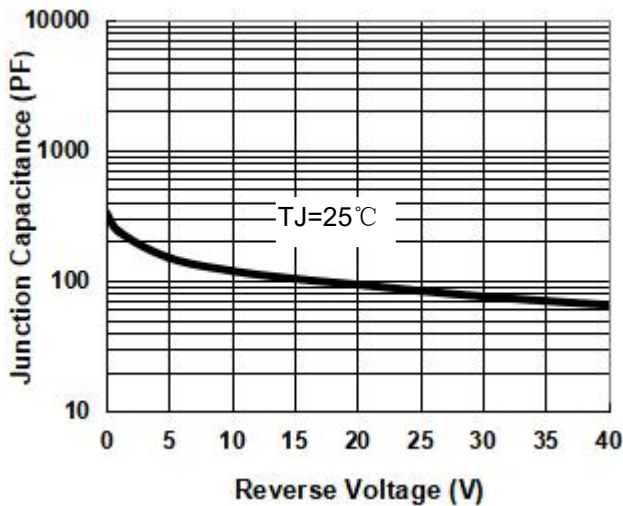


Fig.1-Typical Junction Capacitance

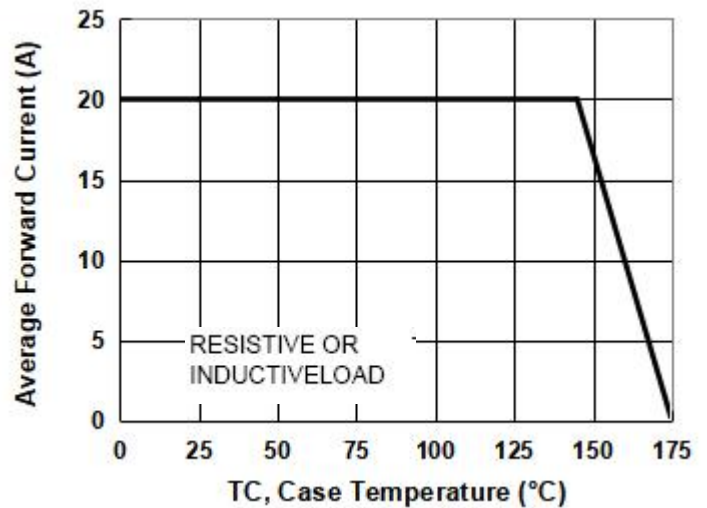


Fig.2-Forward Current Derating Curve

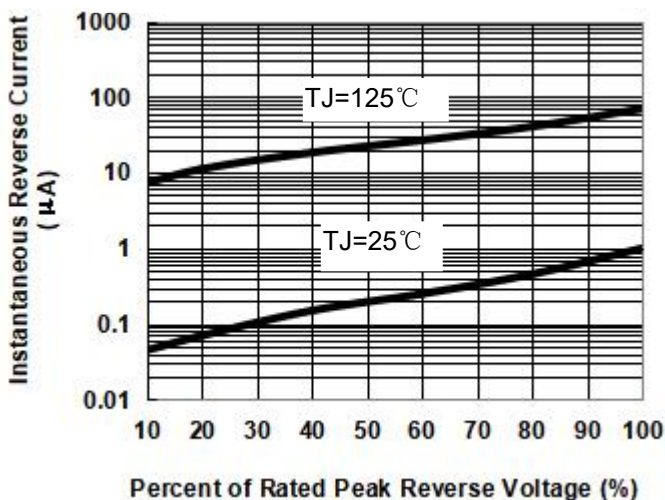


Fig.3-Typical Reverse Characteristics

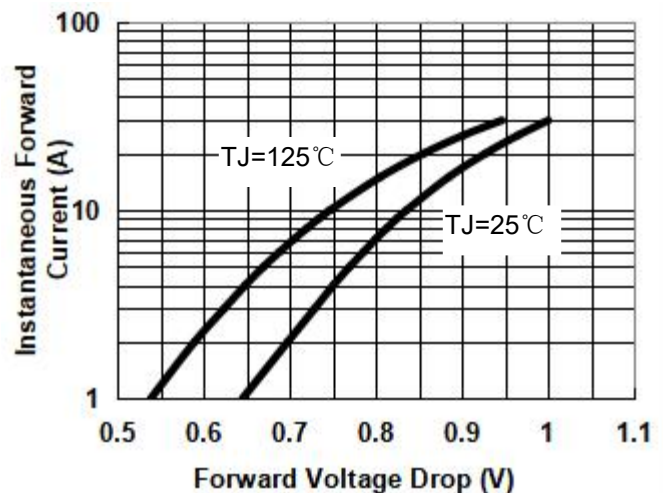
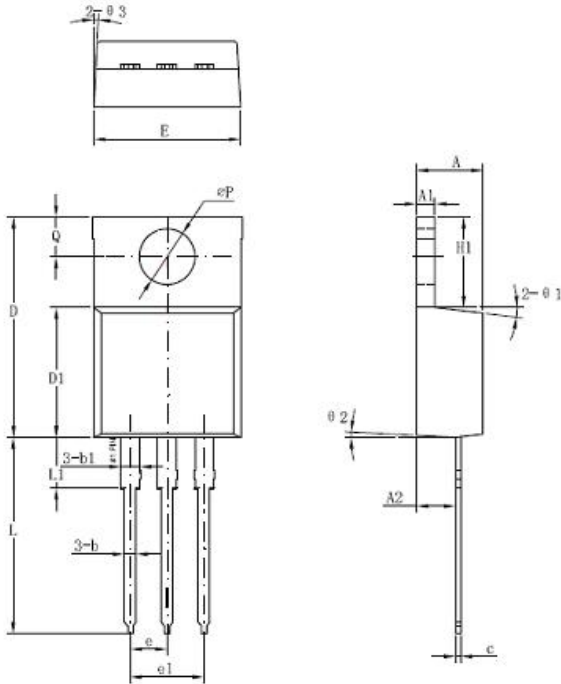


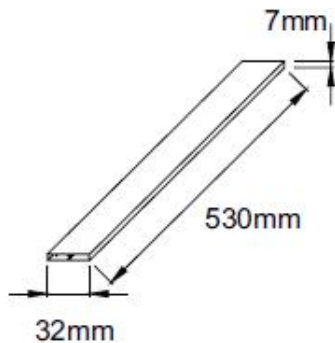
Fig.4-Typica Forward Voltage Characteristics

**Mechanical Dimensions TO-220AB**



Symbol	Dimensions in millimeters		
	Min	Typical	Max
A	3.56	-	4.83
A1	0.51	-	1.40
A2	2.03	-	2.92
b	0.38	-	1.02
b1	1.14	-	1.78
c	0.31	-	0.61
D	14.22	-	16.51
D1	8.38	-	9.42
E	9.65	-	10.67
e	-	2.54	-
e1	-	5.08	-
H1	5.84	-	6.86
L	12.70	-	14.73
L1	-	-	6.35
ΦP	-	3.56	-
Q	2.54	-	3.43

**Tube Specification**



**Marking Diagram**



Where XXXXX is YYWWL

MBR = Device Type  
20 = Forward Current (20A)  
135/150 = Reverse Voltage(135/150V)  
CT = Configuration  
SSG = SSG  
YY = Year  
WW = Week  
L = Lot Number

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

**Ordering Information**

Device	Package	Shipping
MBR20135/150CT	TO-220AB (Pb-Free)	50 pcs/ tube

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