

Technical Data

Data Sheet N0036, Rev. B



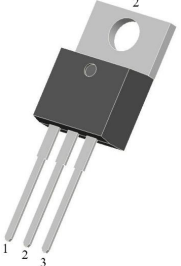


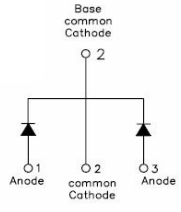
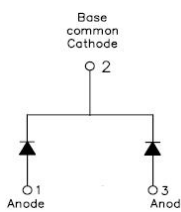
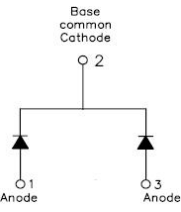
## MBR10150CT/MBRB10150CT/MBR10150CT-1 SCHOTTKY RECTIFIER

### 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

### Applications

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

<p style="text-align: center;"><b>MBR10150CT</b></p> 	<p style="text-align: center;"><b>MBRB10150CT</b></p> 	<p style="text-align: center;"><b>MBR10150CT-1</b></p> 
		
<b>TO-220AB</b>	<b>D2PAK</b>	<b>TO-262</b>

### Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	$V_{RRM}$	-	150	V
Working Peak Reverse Voltage	$V_{RWM}$			
DC Blocking Voltage	$V_R$			
Average Rectified Forward Current	$I_{F(AV)}$	$T_c=141^{\circ}C$ , In DC	5(Per Leg) 10(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	$I_{FSM}$	8.3ms, Half Sine pulse, $T_c = 25^{\circ}C$	100	A

### Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop (Per Leg)*	$V_{F1}$	@ 5A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.76	0.93	V
	$V_{F2}$	@ 5A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.64	0.73	V
Reverse Current (Per Leg)*	$I_{R1}$	@ $V_R = \text{rated } V_R$ $T_J = 25\text{ }^\circ\text{C}$	0.002	1.00	mA
	$I_{R2}$	@ $V_R = \text{rated } V_R$ $T_J = 125\text{ }^\circ\text{C}$	2	7.0	mA
Junction Capacitance(Per Leg)	$C_T$	@ $V_R = 5\text{V}$ , $T_C = 25\text{ }^\circ\text{C}$ $f_{SIC} = 1\text{MHz}$	100	200	pF
Voltage Rate of Change	dv/dt	-	-	10,000	V/ $\mu\text{s}$

\* Pulse width < 300  $\mu\text{s}$ , duty cycle < 2%

### Thermal-Mechanical Specifications:

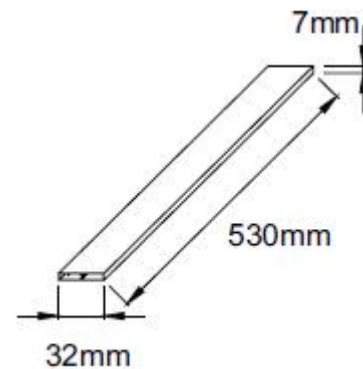
Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	$T_J$	-	-55 to +150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-	-55 to +150	$^\circ\text{C}$
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	2	$^\circ\text{C/W}$
Case Style	TO-220AB D <sup>2</sup> PAK TO-262			

### Tube Specification

Device	Package	Weight	Shipping
MBR10150CT	TO-220AB	1.8g	50pcs / tube
MBRB10150CT	D <sup>2</sup> PAK	1.85g	800pcs / reel
MBR10150CT-1	TO-262	1.85g	50pcs / tube

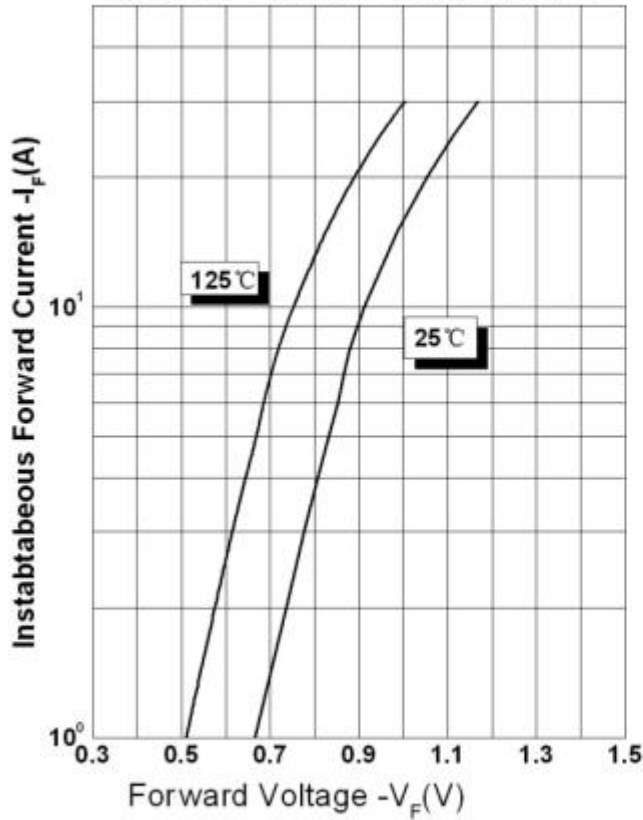
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

### Tube Specification(TO-220AB/TO-262)

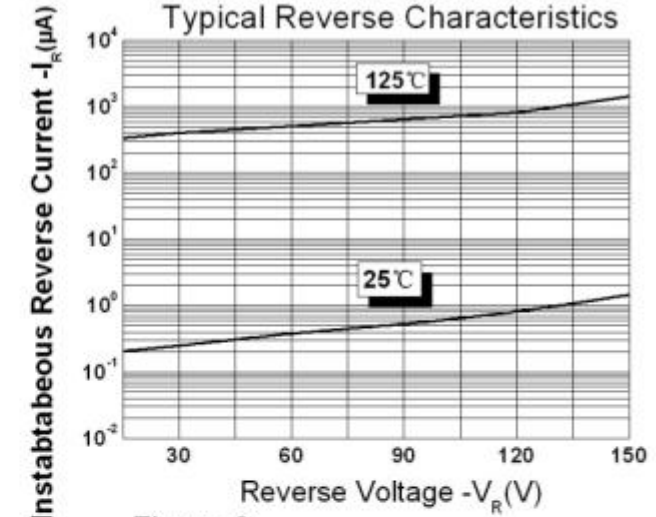


**Ratings and Characteristics Curves**

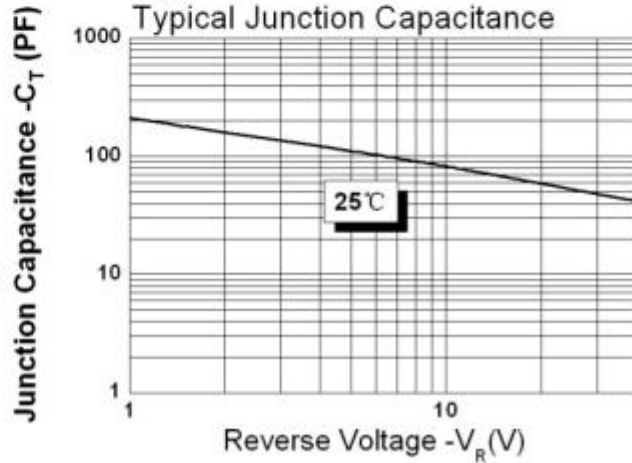
**Figure 1**  
Typical Forward Characteristics



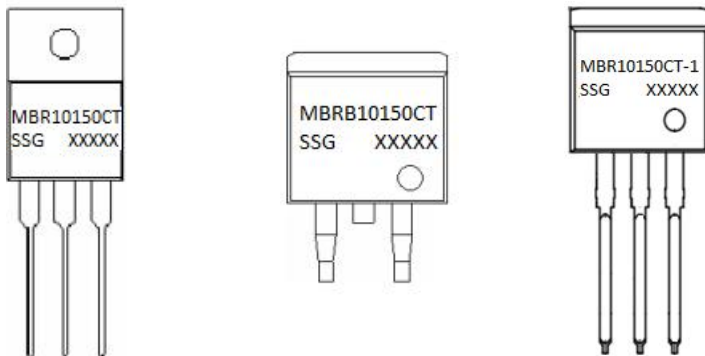
**Figure 2**  
Typical Reverse Characteristics



**Figure 3**  
Typical Junction Capacitance



**Marking Diagram**

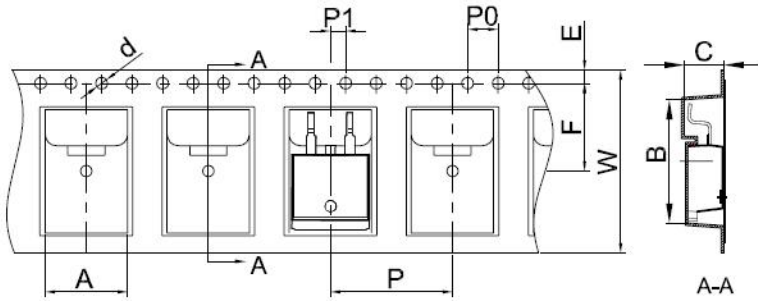


Where XXXXX is YYWWL

- MBR = Device Type
- B = Package type
- 10 = Forward Current (10A)
- 150 = Reverse Voltage (150V)
- CT -1 = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

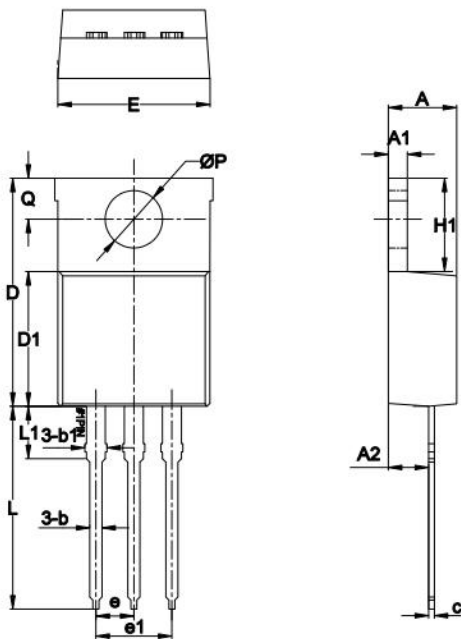
**Cautions:** Molding resin  
Epoxy resin UL94V-0

**Carrier Tape Specification D2PAK**



Symbol	Millimeters	
	Min.	Max.
A	10.70	10.90
B	16.03	16.23
C	5.11	5.31
d	1.45	1.65
E	1.65	1.85
F	11.40	11.60
P0	3.90	4.10
P	15.90	16.10
P1	1.90	2.10
W	23.90	24.30

**Mechanical Dimensions TO-220AB**



Symbol	Dimensions in millimeters		
	Min	Typical	Max
A	3.56	-	4.83
A1	0.51	-	1.4
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	12.7	-	14.73
L1	-	-	6.35
ØP	-	3.56	-
Q	2.54	-	3.43





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