

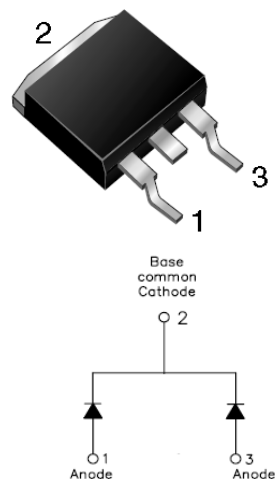
## MBRB20150CT SCHOTTKY RECTIFIER

### Applications:

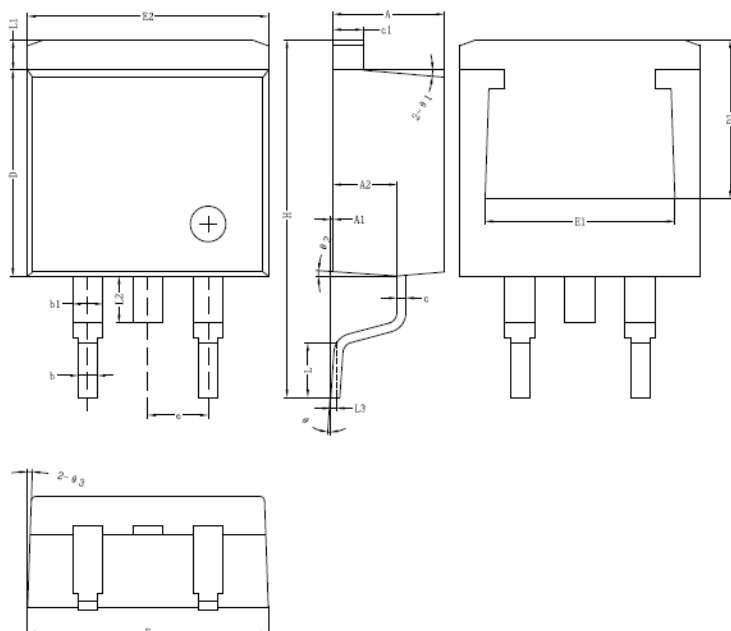
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

### 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



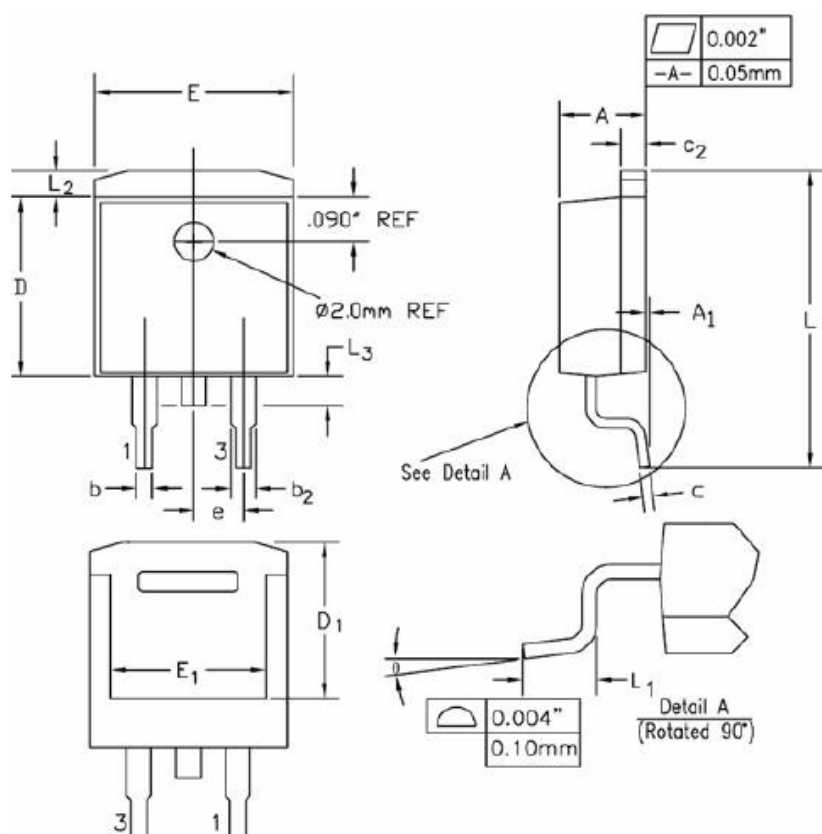
### Mechanical Dimensions (In Inches / mm):



Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	0	0.10	0.25
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
c1	1.17	1.27	1.37
D	8.55	8.70	8.85
D1	6.40		
E	10.01	10.16	10.31
E1	7.6		
E2	9.98	10.08	10.18
e		2.54	
H	14.6	15.1	15.6
L	2.00	2.30	2.70
L1	1.17	1.27	1.40
L2			2.20
L3		0.25BSC	
e	0	-	8°
e1		5°	
e2		4°	
e3		4°	

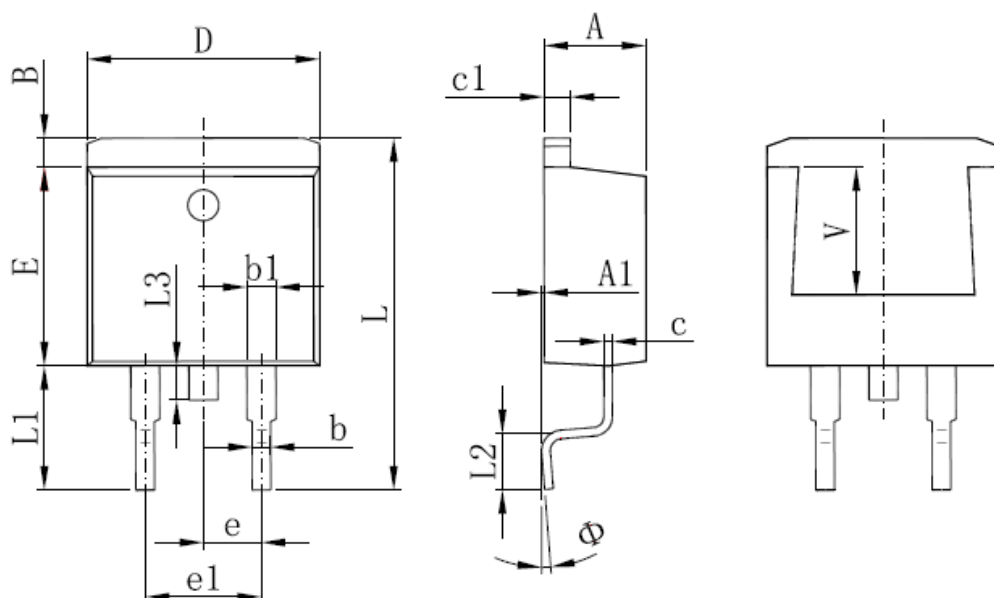
### OPTION 1(HD)

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



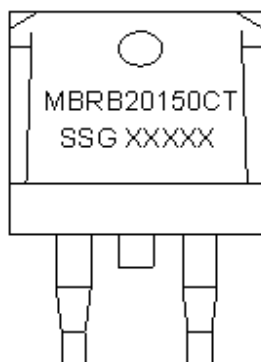
SYMBOL	MILLIMETERS	
	MIN.	MAX.
A	4.32	4.57
A <sub>1</sub>	0	0.25
b	0.71	0.91
b <sub>2</sub>	1.15	1.40
c	0.46	0.61
c <sub>2</sub>	1.22	1.40
D	8.89	9.40
D <sub>1</sub>	8.01	8.23
E	10.04	10.28
E <sub>1</sub>	7.88	8.08
e	2.54 BSC.	
L	14.73	15.75
L <sub>1</sub>	2.29	2.79
L <sub>2</sub>	1.15	1.39
L <sub>3</sub>	1.27	1.77
$\theta$	0°	8°

**OPTION 2 (MX)**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.470	4.670	0.176	0.184
A1	0.000	0.150	0.000	0.006
B	1.120	1.420	0.044	0.056
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
e	2.540 TYP.		0.100 TYP.	
e1	4.980	5.180	0.196	0.204
L	14.940	15.500	0.588	0.610
L1	4.950	5.450	0.195	0.215
L2	2.340	2.740	0.092	0.108
L3	1.300	1.700	0.051	0.067
Φ	0°	8°	0°	8°
V	5.600 REF.		0.220 REF.	

**OPTION 3(CJ)**
**D<sup>2</sup> PAK**

**Marking Diagram:**


Where XXXXX is YYWWL

MBR = Device Type  
 B = Package type  
 20 = Forward Current (20A)  
 150 = Reverse Voltage (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
MBRB20150CT	D <sup>2</sup> PAK (Pb-Free)	800pcs / reel

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	$V_{RWM}$	-	150	V
Average Forward Current (per device)	$I_{F(AV)}$	50% duty cycle @ $T_C = 100^\circ\text{C}$ , rectangular wave form	20	A
Peak One Cycle Non- Repetitive Surge Current (per leg)	$I_{FSM}$	8.3 ms, half Sine pulse	150	A



**MBRB20150CT**

**Technical Data**  
Data Sheet N0044, Rev. A

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### Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop (per leg) *	$V_{F1}$	@ 10A, Pulse, $T_J = 25\text{ }^{\circ}\text{C}$	0.90	V
	$V_{F2}$	@ 10A, Pulse, $T_J = 125\text{ }^{\circ}\text{C}$	0.80	V
Reverse Current at DC condition (per leg) *	$I_{R1}$	@ $V_R = \text{rated } V_R$ $T_J = 25\text{ }^{\circ}\text{C}$	1	mA
Reverse Current (per leg) *	$I_{R2}$	@ $V_R = \text{rated } V_R$ $T_J = 125\text{ }^{\circ}\text{C}$	6.0	mA
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

\* Pulse Width < 300 $\mu$ 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	$^{\circ}\text{C}$
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	3.5	$^{\circ}\text{C/W}$
Approximate Weight	wt	-	1.85	g
Case Style	D <sup>2</sup> PAK			

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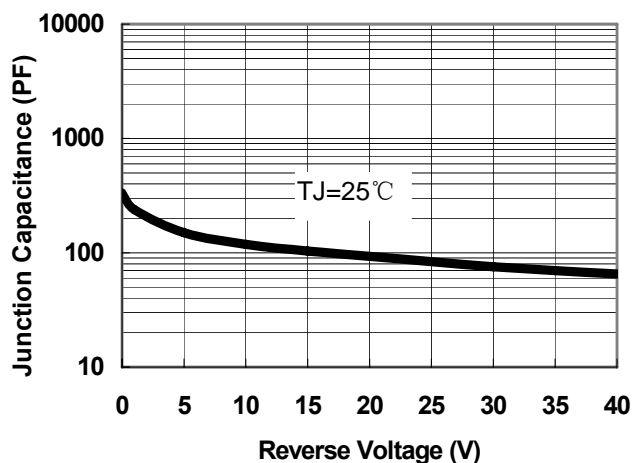


Fig.1-Typical Junction Capacitance

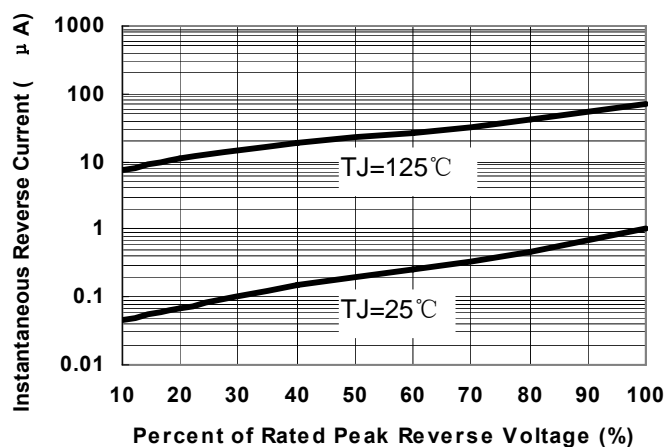


Fig.2-Typical Reverse Characteristics

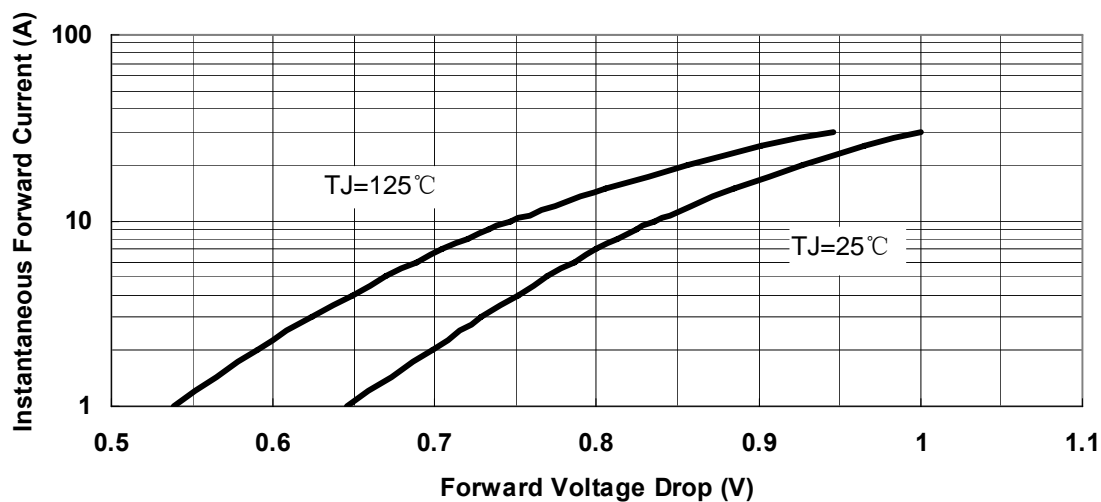


Fig.3-Typical Instantaneous Forward Voltage Characteristics



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**Technical Data**  
**Data Sheet N0044, Rev. A**

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