

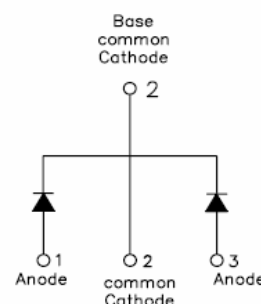
**MBR2050/2060CT MBRB2050/2060CT  
 MBR2050/2060CT-1 SCHOTTKY RECTIFIER**

**Applications:**

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

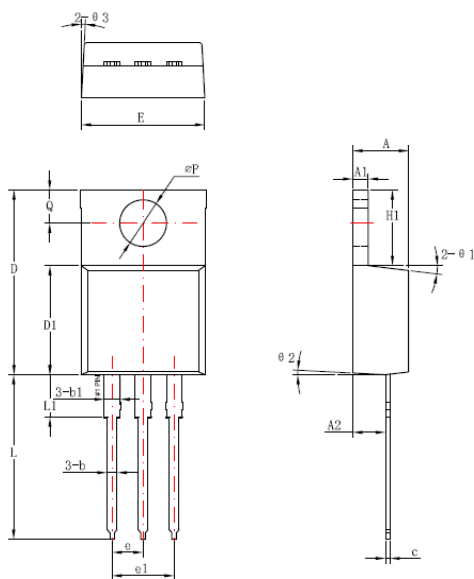
**Features:**

- 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



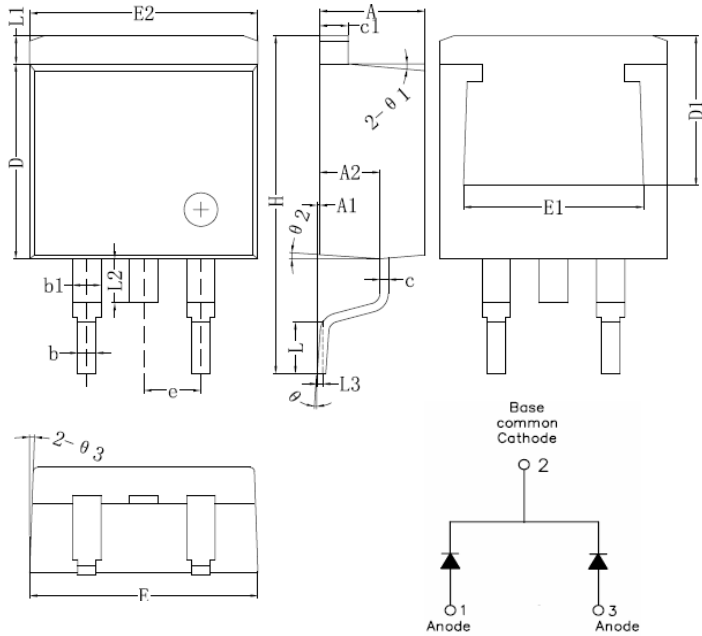
Case styles		
<b>MBR2050CT            MBR2060CT</b>  <b>TO-220AB</b>	<b>MBRB2050CT            MBRB2060CT</b>  <b>D<sup>2</sup>PAK</b>	<b>MBR2050CT-1            MBR2060CT-1</b>  <b>TO-262</b>

**Mechanical Dimensions: In Inches / mm**



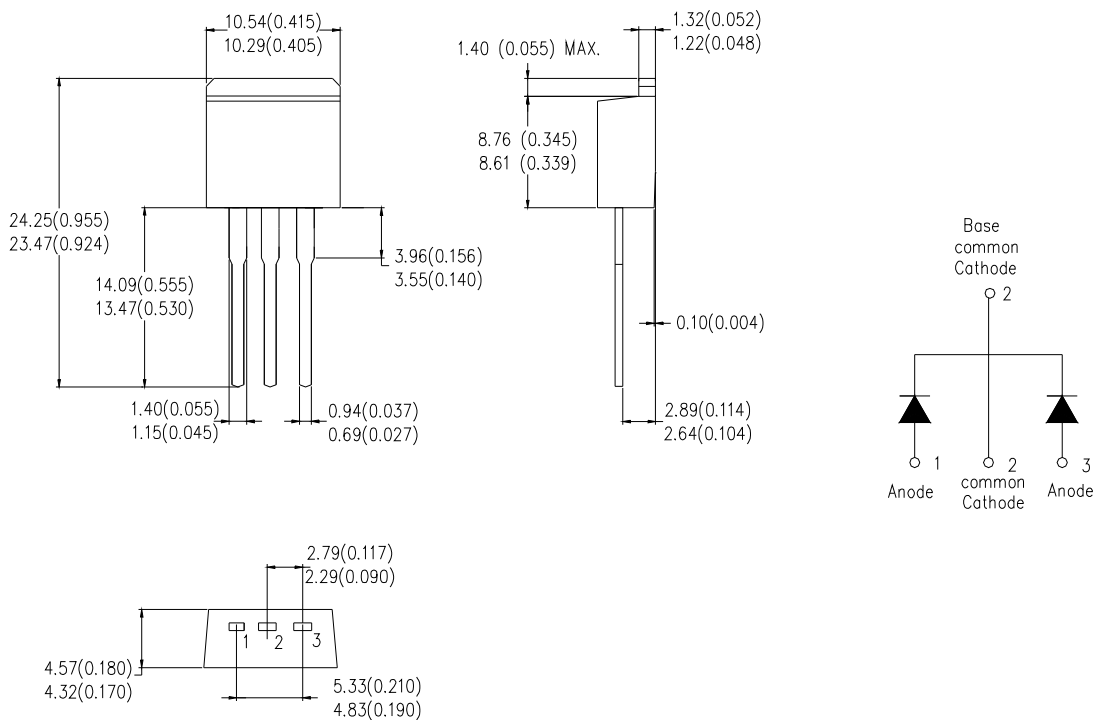
Symbol	Dimensions in millimeters		
	Min	Typical	Max
A	4.42	4.57	4.72
A1	1.17	1.27	1.37
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
D	14.94	15.24	15.54
D1	8.85	9.00	9.15
E	10.01	10.16	10.31
e		2.54	
e1		5.06	
H1	6.04	6.24	6.44
L	12.7	13.56	13.78
L1		3.5	
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
Θ1		7°	
Θ2		3°	
Θ3		4°	

**TO-220AB**



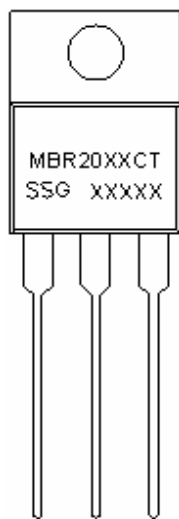
Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	0	0.10	0.25
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
c1	1.17	1.27	1.37
D	8.55	8.70	8.85
D1	6.40		
E	10.01	10.16	10.31
E1	7.6		
E2	9.98	10.08	10.18
e		2.54	
H	14.6	15.1	15.6
L	2.00	2.30	2.70
L1	1.17	1.27	1.40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

**D<sup>2</sup>PAK**

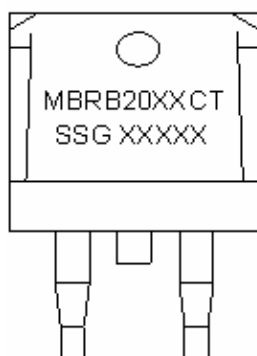


**TO-262**

**Marking Diagram:**



MBR20XXCT



MBRB20XXCT

Where XX is Reverse Voltage  
 Where XXXXX is YYWWL

MBR = Device Type  
 B = Package type  
 20 = Forward Current (20A)  
 XX = Reverse Voltage (50/60V)  
 CT/CT-1 = Configuration  
 SSG = SSG  
 YY = Year  
 WW = Week  
 L = Lot Number

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

**Ordering Information:**

Device	Package	Shipping
MBR20XXCT MBR20XXCT-1	TO-220AB (Pb-Free)	50pcs / tube
MBRB20XXCT	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	$V_{RWM}$	-	50	V
			60	
Average Rectified Output Current	$I_o$	50Hz Full Sine Wave Resistive Load @T <sub>C</sub> = 80 °C	20	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	$I_{FSM}$	8.3ms,50Hz Full Sine Wave, 1Cycle Non-repetitive	180	A

**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop*	$V_{F1}$	@ 10A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.80	V
		@ 20 A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.95	
	$V_{F2}$	@ 10A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.70	V
		@ 20A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.85	
Reverse Current (per leg)*	$I_{R1}$	@ $V_R = \text{rated VR}$ $T_J = 25\text{ }^\circ\text{C}$	1.0	mA
	$I_{R2}$	@ $V_R = \text{rated VR}$ $T_J = 125\text{ }^\circ\text{C}$	150	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
Typical Series Inductance (per leg)	$L_S$	Measured lead to lead 5 mm from package body	8.0	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/ s

\* Pulse Width < 300 $\mu\text{s}$ , Duty Cycle <2%

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	$T_J$	-	-55 to +150	$^\circ\text{C}$
Max. Storage Temperature	$T_{stg}$	-	-55 to +150	$^\circ\text{C}$
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	2.3	$^\circ\text{C/W}$
Typical Thermal Resistance Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased (only for TO-220)	0.50	$^\circ\text{C/W}$
Approximate Weight	wt	-	2	g
Case Style	ITO-220AB			

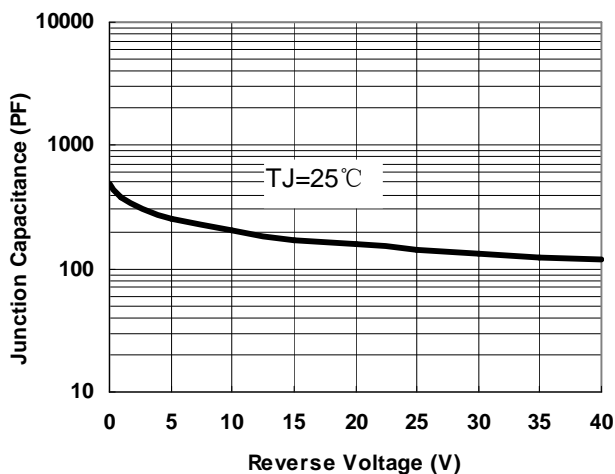


Fig.1-Typical Junction Capacitance

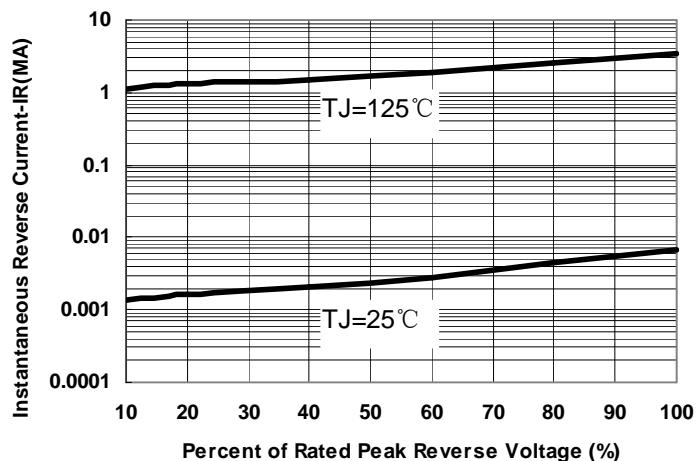


Fig.2-Typical Reverse Characteristics

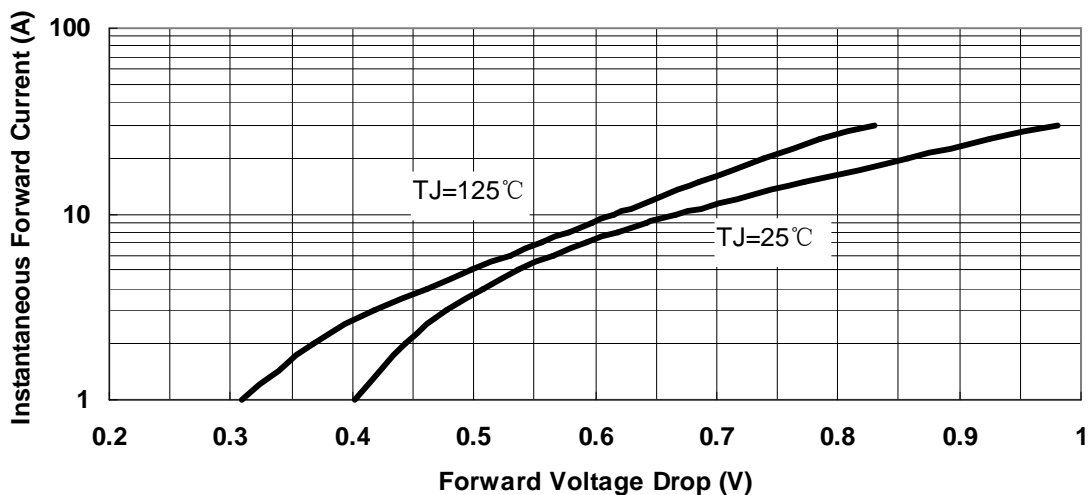


Fig.3-Typical Instantaneous Forward Voltage Characteristics

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