Technical Data
Data Sheet N0034, Rev. B

Green Products

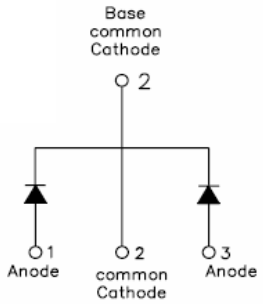
MBR2050/2060CT MBRB2050CT MBR2050/2060CT-1 SCHOTTKY RECTIFIER

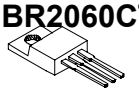
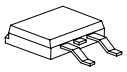
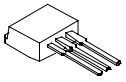
Applications:

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

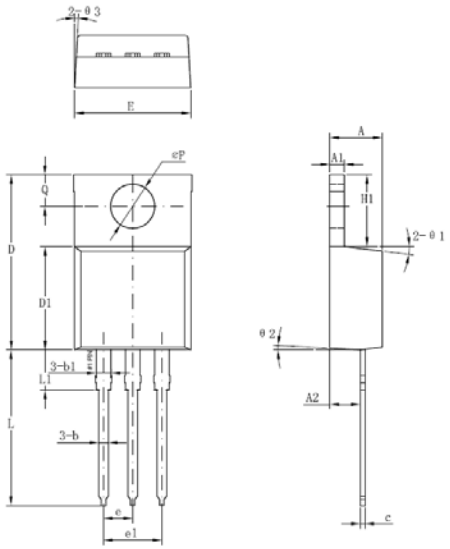
Features:

- 150 ℃ T_J 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		
MBR2050CT **MBR2060CT**	**MBRB2050CT**	**MBR2050CT-1** **MBR2060CT-1**
		
TO-220AB	**D^2PAK**	**TO-262**

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(HD)

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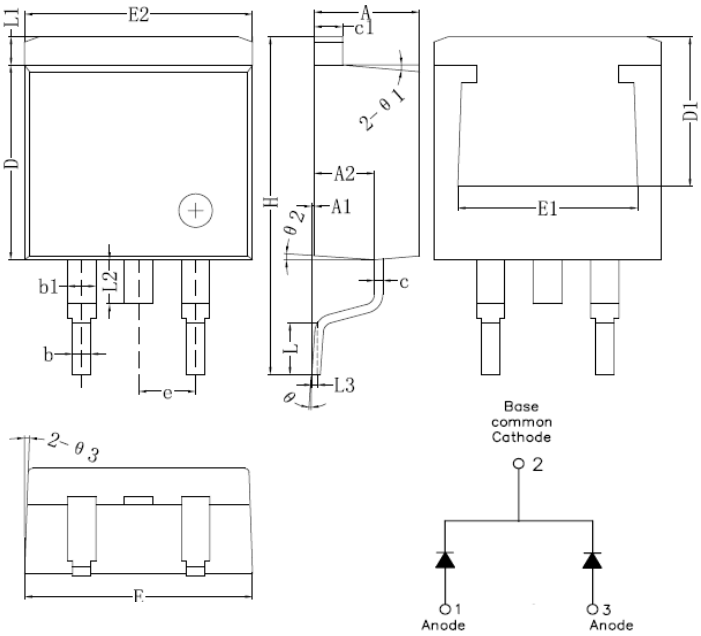
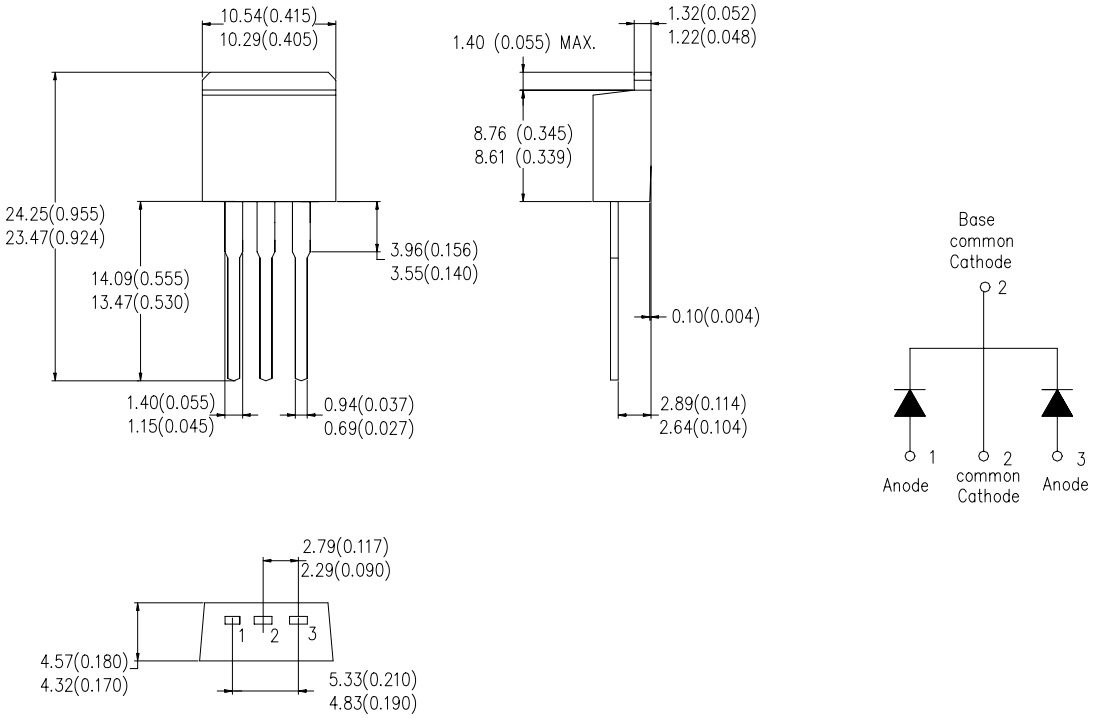


Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	0	0.10	0.25
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
c1	1.17	1.27	1.37
D	8.55	8.70	8.85
D1	6.40		
E	10.01	10.16	10.31
E1	7.6		
E2	9.98	10.08	10.18
e		2.54	
H	14.6	15.1	15.6
L	2.00	2.30	2.70
L1	1.17	1.27	1.40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

$D^2PAK(HD)$



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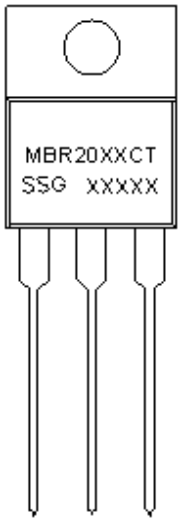
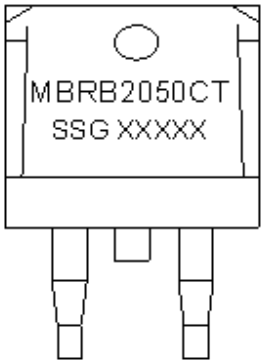
Marking Diagram:



MBR20XXCT



MBRB2050CT

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
MBRB2050CT	D^2PAK (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	MBR2050CT	V
			60	MBR2060CT	
Average Rectified Output Current(Per device)	I_o	50% duty cycle @T_C =80°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

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Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop(per leg)*	V_{F1}	@ 10A, Pulse, T_J = 25 ℃ @ 20 A, Pulse, T_J = 25 °C	0.80 0.95	V
	V_{F2}	@ 10A, Pulse, T_J = 125 ℃ @ 20A, Pulse, T_J = 125 °C	0.70 0.85	V
Reverse Current (per leg)*	I_{R1}	@V_R = rated VR T_J = 25 ℃	1.0	mA
	I_{R2}	@V_R = rated VR T_J = 125 ℃	150	mA
Junction Capacitance (per leg)	C_T	@V_R = 5V, T_C = 25 ℃ f_{SIG} = 1MHz	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 < 300μs, Duty Cycle <2%

Thermal-Mechanical Specifications:

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

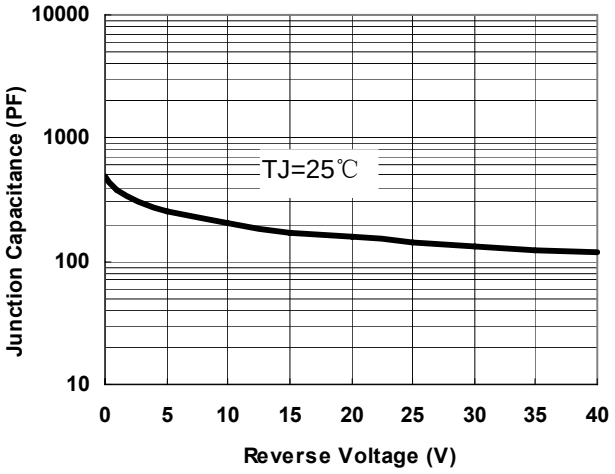

Fig.1-Typical Junction Capacitance

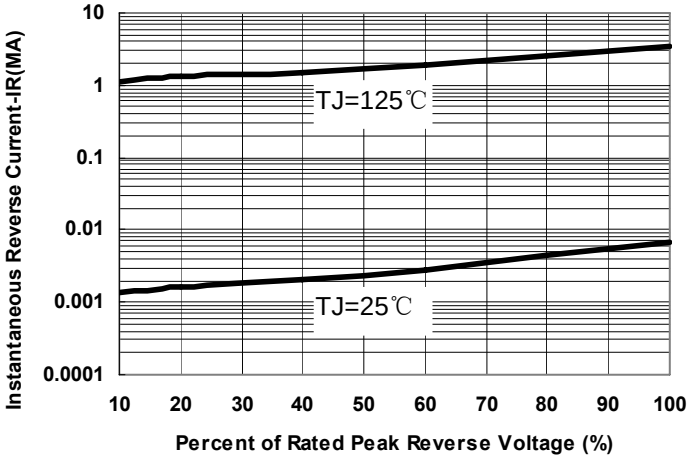

Fig.2-Typical Reverse Characteristics

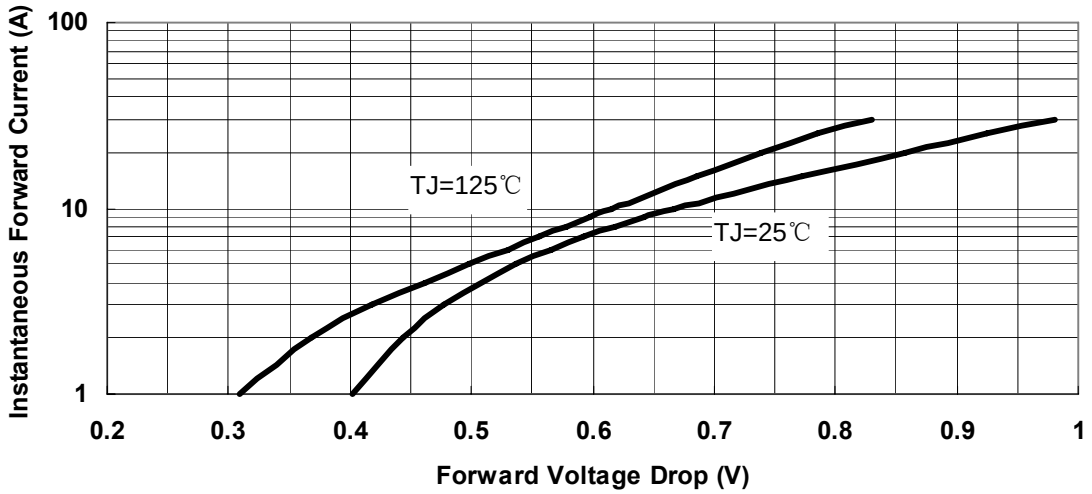

Fig.3-Typical Instantaneous Forward Voltage Characteristics

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