

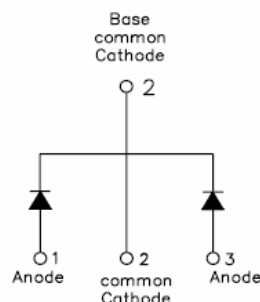
MBR20135/150CT SCHOTTKY RECTIFIER

Applications:

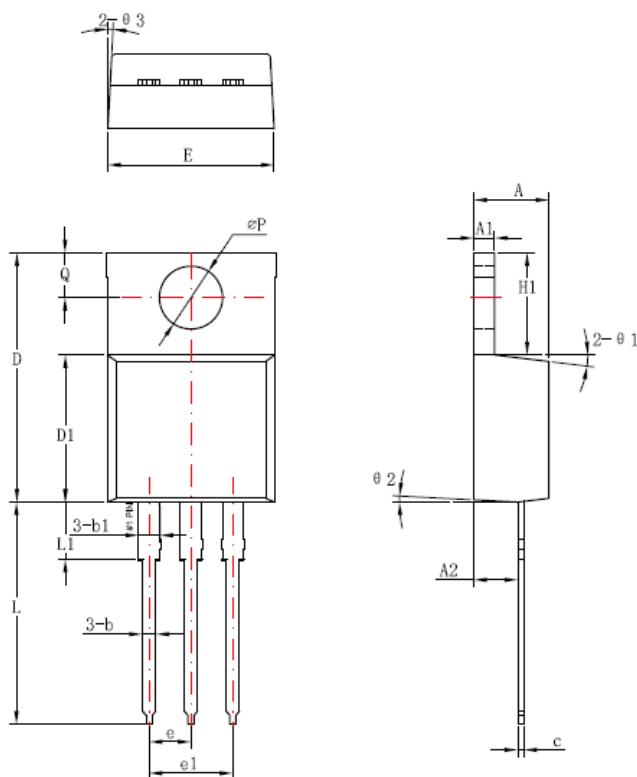
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Features:

- 175 °C 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

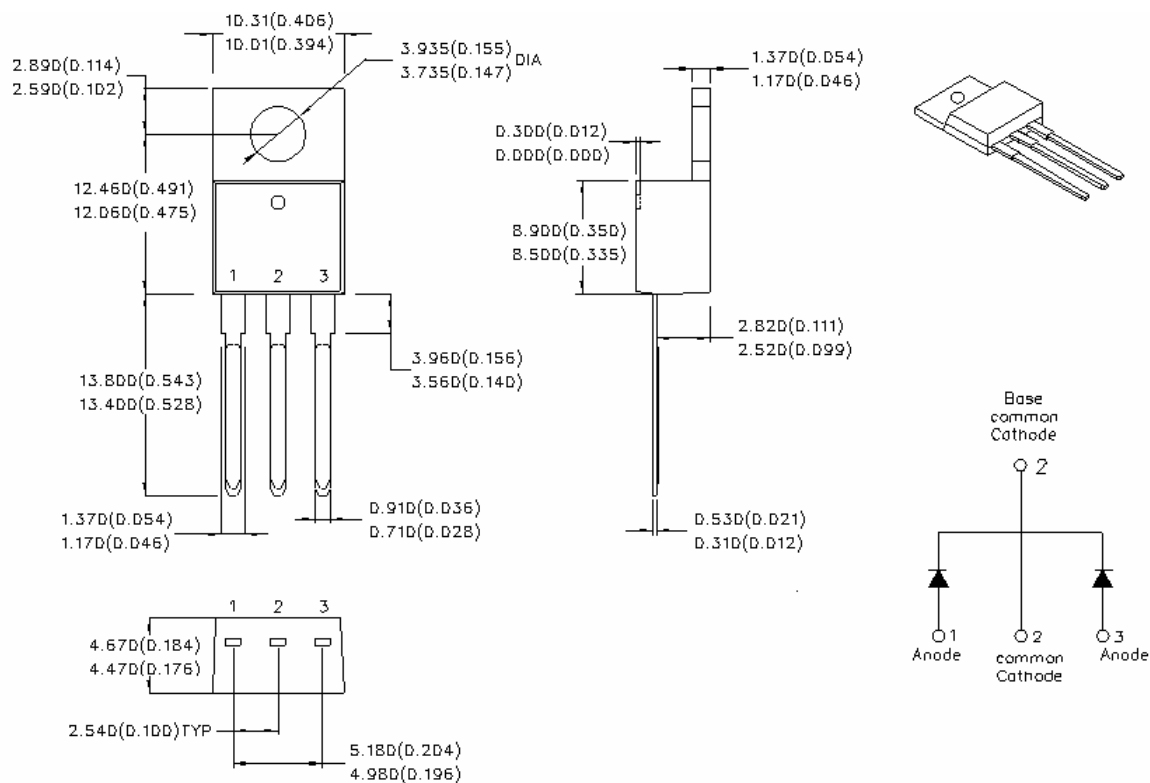


Mechanical Dimensions: In mm

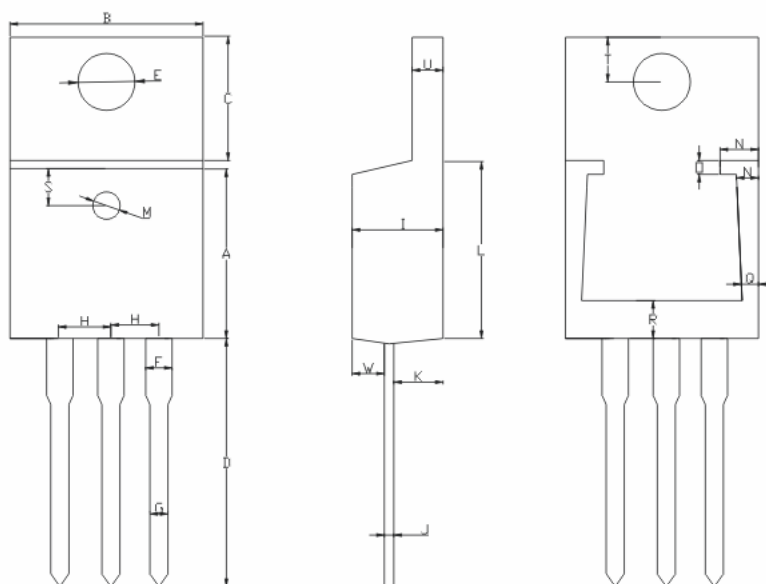


Symbol	Dimensions in millimeters		
	Min	Typical	Max
A	4.42	4.57	4.72
A1	1.17	1.27	1.37
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
D	14.94	15.24	15.54
D1	8.85	9.00	9.15
E	10.01	10.16	10.31
e		2.54	
e1		5.06	
H1	6.04	6.24	6.44
L	12.7	13.56	13.78
L1		3.5	
ΦP	3.74	3.84	4.04
Q	2.54	2.74	2.94
θ1		7°	
θ2		3°	
θ3		4°	

OPTION1(HD)



OPTION 2(CJ)



A: 8.5±0.5	B: 9.5±0.5	C: 6.4±0.5	D: 14.1±1
E: 3.84±0.03	F: 1.27±0.03	G: 0.85±0.10	H: 2.54±0.025
I: 4.6±0.5	J: 0.38±0.015	K: 2.75±0.25	L: 9.0±0.5
M: 1.5±0.05	N: 1.8±0.05	O: 0.5±0.05	P: 1.2±0.05
Q: 0.9±0.05	R: 3.2±0.05	S: 1.55±0.05	T: 2.8±0.15
U: 1.27±0.05	W: 1.27±0.03		

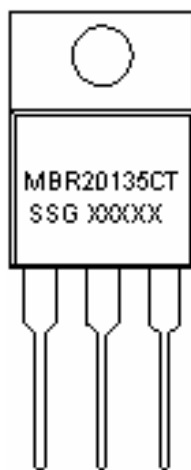
OPTION 3(SR)

TO-220AB

Technical Data
Data Sheet N0625, Rev. -

Green Products

Marking Diagram:



Where XXXXX is YYWWL

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

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

Ordering Information:

Device	Package	Shipping
MBR20135CT MBR20150CT	TO-220AB (Pb-Free)	50pcs / tube

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}	-	135 150	MBR20135CT MBR20150CT V
Maximum RMS Voltage	V_{RMS}	-	105	V
Max. Average Forward	$I_{F(AV)}$	50% duty cycle @ $T_C = 125^\circ\text{C}$, rectangular wave form	10(Per leg) 20(Per device)	A
Peak Repetitive Surge current (Rated V_R , Square Wave, 20KHz)	I_{RRM}	-	1.0	A
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	150	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg)*	V _{F1}	@ 10A, Pulse, T _J = 25 °C	0.90	V
	V _{F2}	@ 10A, Pulse, T _J = 125 °C	0.83	V
Max. Reverse Current (per leg)*	I _{R1}	@ V _R = rated VR T _J = 25 °C	Max.	mA
			Typical	
	I _{R2}	@ V _R = rated VR T _J = 125 °C	5.0	mA
Max. Junction Capacitance (per leg)	C _T	@ V _R = 5V, T _C = 25 °C 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
Max. Junction Temperature	T _J	-	-55 to +175	°C
Max. Storage Temperature	T _{stg}	-	-55 to +150	°C
Maximum Thermal Resistance Junction to Case (per leg)	R _{θJC}	DC operation	1.5	°C/W
Maximum Thermal Resistance, Case to Heat Sink	R _{θCS}	Mounting surface, smooth and greased(only for TO-220)	0.50	°C/W

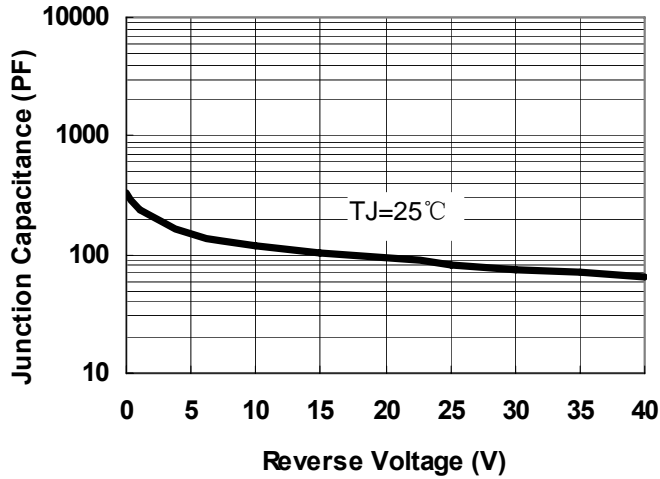


Fig.1-Typical Junction Capacitance

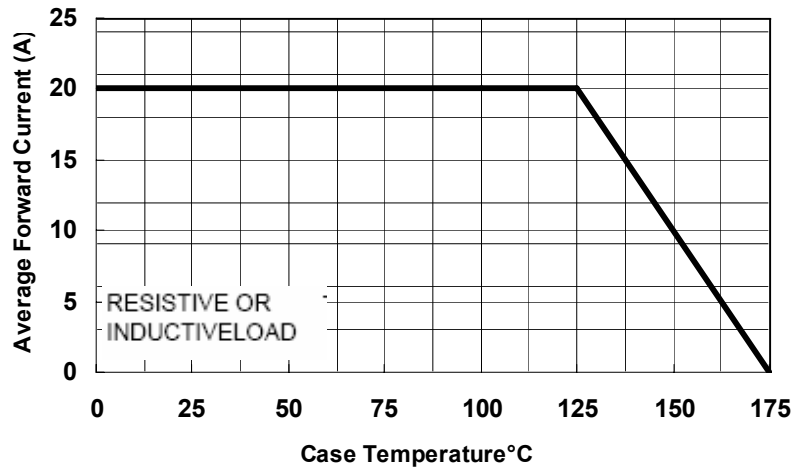


Fig.2-Forward current derating curve

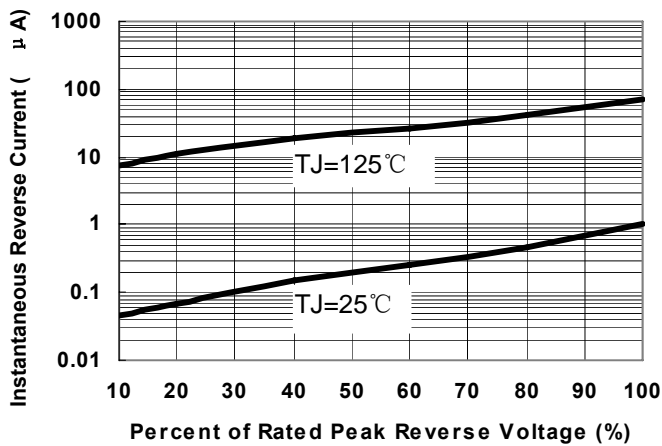


Fig.3-Typical Reverse Characteristics

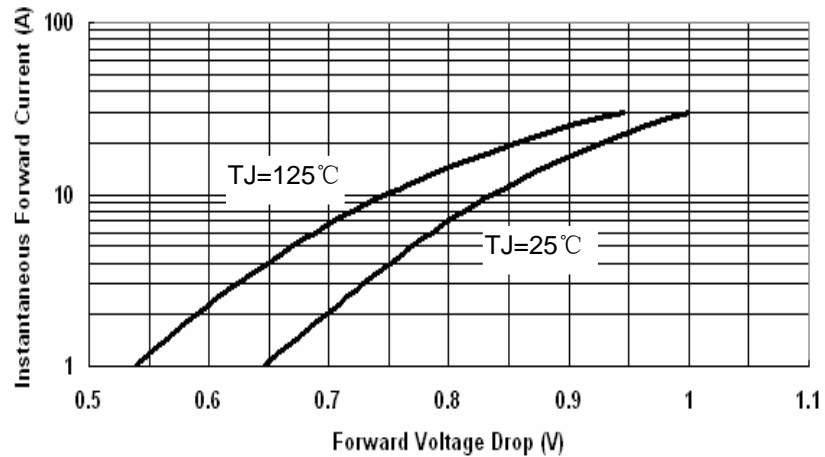


Fig.4-Typical Instantaneous Forward Voltage Characteristics

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