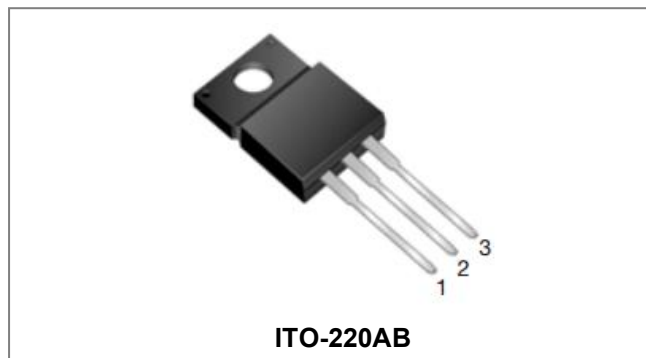


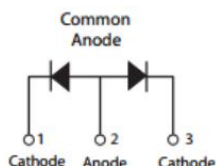
MBRF20100CTR SCHOTTKY RECTIFIER



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

Circuit Diagram



Applications

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

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage	V _{RRM}	-	100	V
Working Peak Reverse Voltage	V _{RWM}			
DC Blocking Voltage	V _R			
Average Rectified Forward Current	I _{F(AV)}	50% duty cycle @T _c =133°C, rectangular wave form	10(Per Leg) 20(Per Device)	A
Peak One Cycle Non-Repetitive Surge Current(Per Leg)	I _{FSM}	8.3ms, Half Sine pulse	150	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop(Per Leg)*	V _{F1}	@ 5A, Pulse, T _J = 25 °C @ 10A, Pulse, T _J = 25 °C	0.72 0.83	0.80 0.90	V
	V _{F2}	@ 5A, Pulse, T _J = 125 °C @ 10A, Pulse, T _J = 125 °C	0.58 0.67	0.70 0.80	V
Reverse Current(Per Leg)*	I _{R1}	@V _R = rated V _R , T _J = 25 °C	0.003	1.0	mA
	I _{R2}	@V _R = rated V _R , T _J = 125 °C	2	15	mA
Repetitive peak reverse current	I _{RRM}	tp = 2 μs square F= 1 kHz	-	1	A
Junction Capacitance(Per Leg)	C _T	@V _R = 5V, T _C = 25 °C, f _{SIG} = 1MHz	249	300	pF
RSM Isolation Voltage (t = 1.0 second, R. H. <=30%, T _A = 25 °C)	V _{ISO}	Clip mounting, the epoxy body away from the heatsink edge by more than 0.110" along the lead direction.	-	4500	V
		Clip mounting, the epoxy body is inside the heatsink.	-	3500	
		Screw mounting, the epoxy body is inside the heatsink.	-	1500	

Technical Data

Data Sheet N00848, Rev. B

* Pulse width < 300 μ s, duty cycle < 2%



Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +175	$^{\circ}$ C
Storage Temperature	T_{stg}	-	-55 to +175	$^{\circ}$ C
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	4.5	$^{\circ}$ C/W
Approximate Weight	wt	-	2	g
Case Style		ITO-220AB		

Ratings and Characteristics Curves

Figure 1
Typical Forward Characteristics

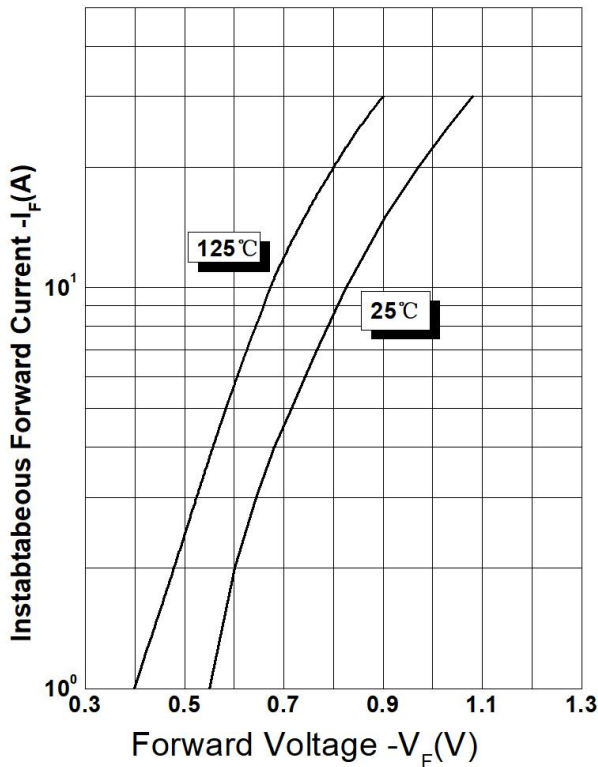


Figure 2
Typical Reverse Characteristics

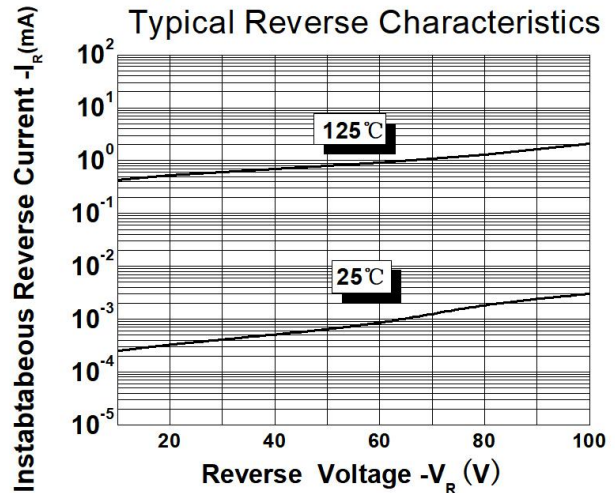
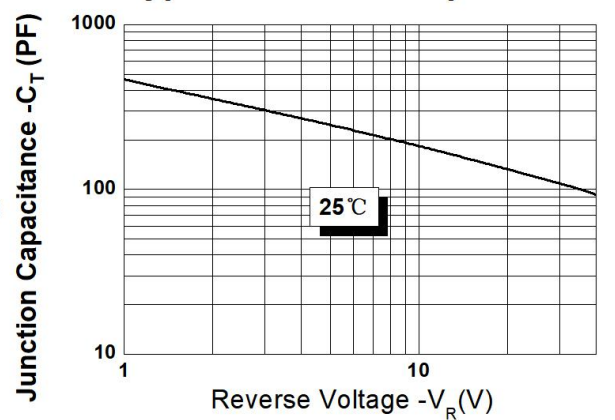
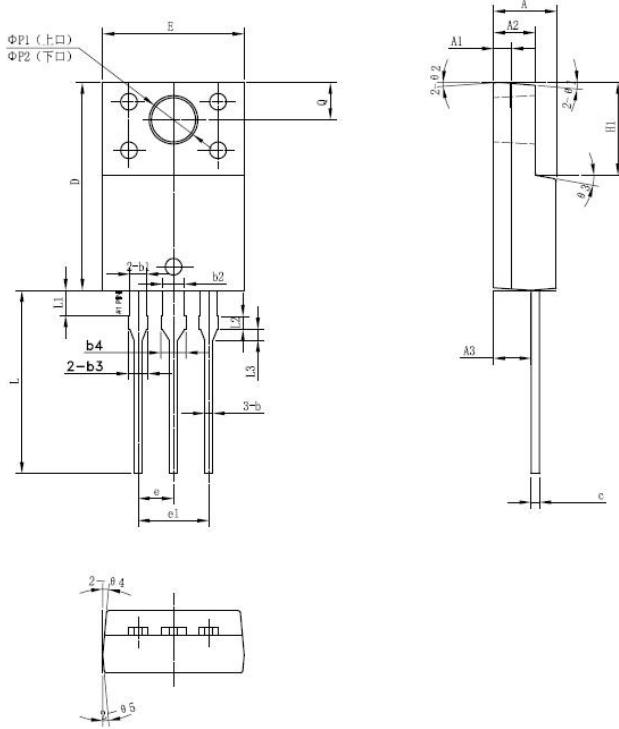
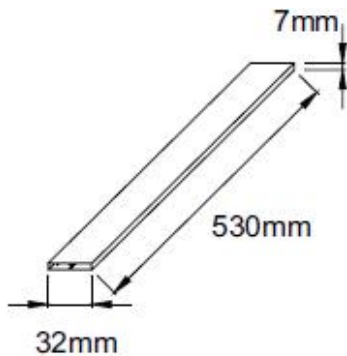
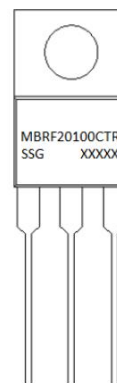


Figure 3
Typical Junction Capacitance



Mechanical Dimensions ITO-220AB


SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	4.30	4.50	4.70
A1	1.10	1.30	1.50
A2	2.80	3.00	3.20
A3	2.50	2.70	2.90
b	0.50	0.60	0.75
b1	1.10	1.20	1.35
b2	1.50	1.60	1.75
b3	1.20	1.30	1.45
b4	1.60	1.70	1.85
c	0.50	0.60	0.75
D	14.80	15.00	15.20
E	9.96	10.16	10.36
e		2.55	
e1		5.10	
H1	6.50	6.70	6.90
L	12.70	13.20	13.70
L1	1.60	1.80	2.00
L2	0.80	1.00	1.20
L3	0.60	0.80	1.00
ΦP1(上口)	3.30	3.50	3.70
ΦP2(下口)	2.99	3.19	3.39
Q	2.50	2.70	2.90
Θ1		5°	
Θ2		4°	
Θ3		10°	
Θ4		5°	
Θ5		5°	

Tube Specification

Marking Diagram


Where XXXXX is YYWWL

- MBR = Device Type
- F = Package type
- 20 = Forward Current (20A)
- 100 = Reverse Voltage (100V)
- CTR = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

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

Ordering Information

Device	Package	Shipping
MBRF20100CTR	ITO-220AB (Pb-Free)	50 pcs/ tube

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

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

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