

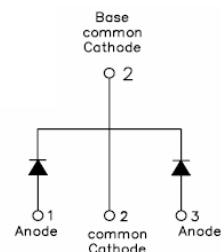
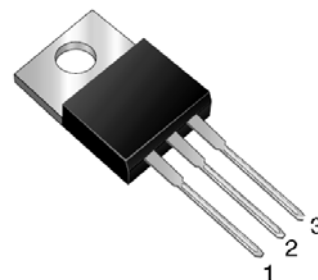
MBR30120CT SCHOTTKY RECTIFIER

Applications:

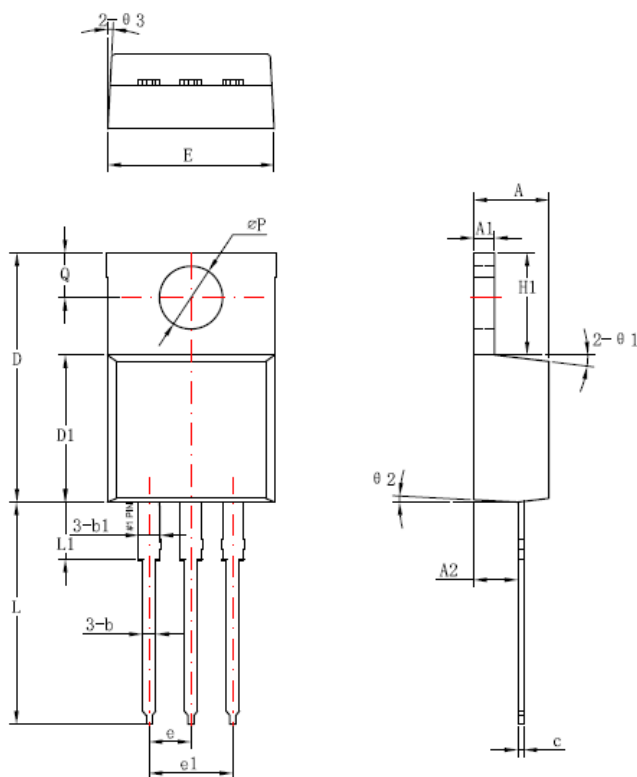
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

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



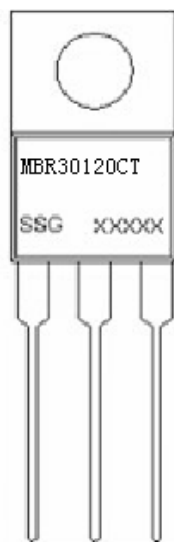
Mechanical Dimensions: In mm



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°	

TO-220AB

Marking Diagram:



Where XXXXX is YYWWL

MBR = Device Type
 30 = Forward Current (30A)
 120 = Reverse Voltage (120V)
 CT = Configuration
 SSG = SSG
 YY = Year
 WW = Week
 L = Lot Number

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

Ordering Information:

Device	Package	Shipping
MBR30120CT	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}	-	120	V
Average Rectified Forward Current(per device)	$I_{F(AV)}$	50% duty cycle @ $T_C=116^{\circ}C$, rectangular wave form	30	A
Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	200	A

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop (per leg) *	V_{F1}	@ 15 A, Pulse, $T_J = 25\text{ }^{\circ}\text{C}$	0.90	V
Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R$ $T_C = 25\text{ }^{\circ}\text{C}$	1.0	mA
Reverse Current (per leg) *	I_{R2}	@ $V_R = \text{rated } V_R$ $T_J = 125\text{ }^{\circ}\text{C}$	15.0	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
Voltage Rate of Change	dv/dt	-	10,000	V/ μs

* Pulse Width < 300 μs , Duty Cycle <2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +175	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-	-55 to +150	$^{\circ}\text{C}$
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	2.0	$^{\circ}\text{C/W}$
Approximate Weight	wt	-	2	g
Case Style	TO-220AB			

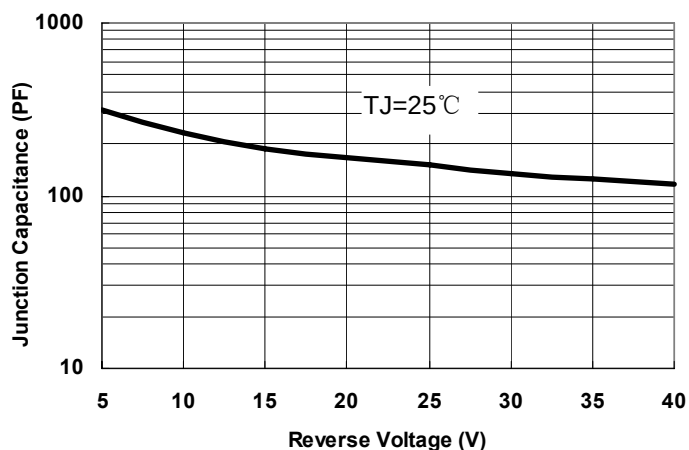


Fig.1-Typical Junction Capacitance

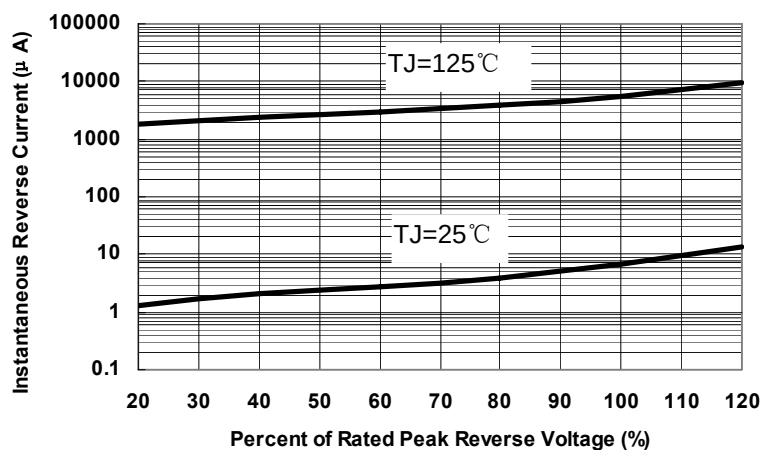


Fig.2-Typical Reverse Characteristics

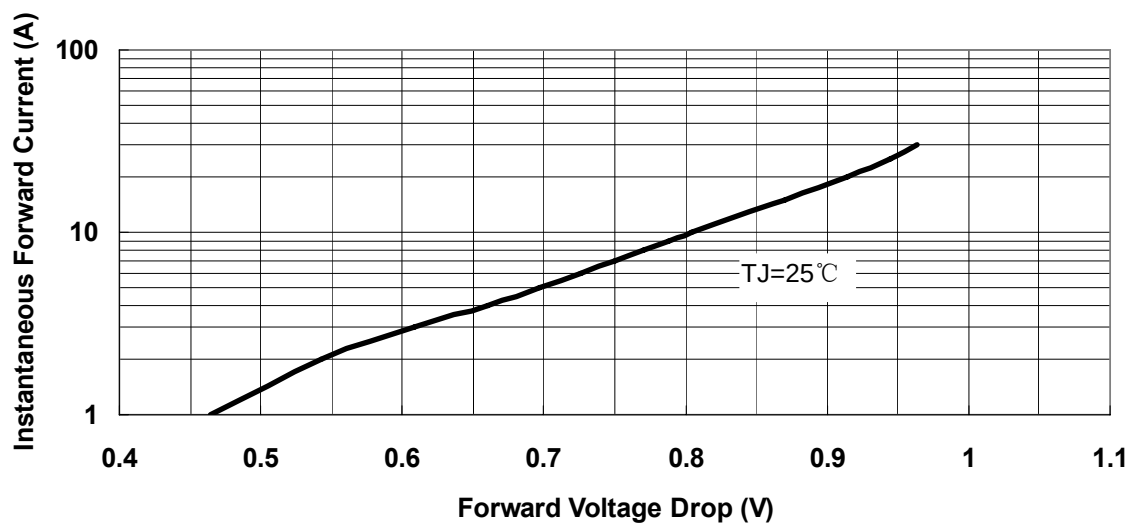


Fig.3-Typical Instantaneous Forward Voltage Characteristics



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