

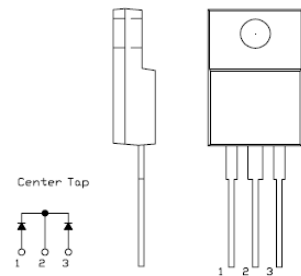
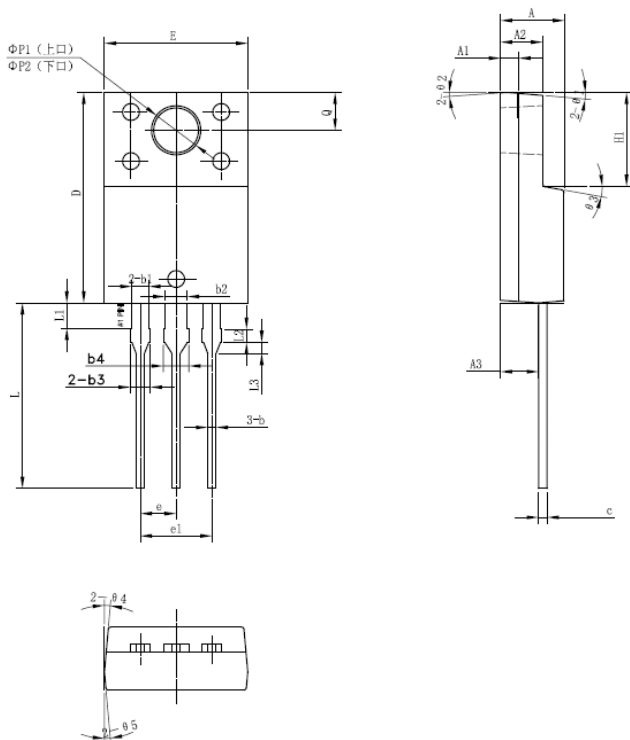
## MBRF1045CT SCHOTTKY RECTIFIER

**Applications:**

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

**Features:**

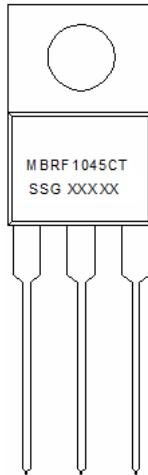
- 150°C T<sub>J</sub> operation
- Center tap configuration
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request


**OUTLINE DRAWING**
**Mechanical Dimensions (In mm):**


SYMBOL	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	0.55	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°	

**ITO-220AB**

**Marking Diagram:**



Where XXXXX is YYWWL

- MBR = Device Type
- F = Package type
- 10 = Forward Current (10A)
- 45 = Reverse Voltage (45V)
- CT = Configuration
- SSG = SSG
- YY = Year
- WW = Week
- L = Lot Number

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

**Ordering Information:**

Device	Package	Shipping
MBRF1045CT	ITO-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	$V_{RWM}$	-	45	V
Average Rectified Output Current(per device)	$I_o$	50% duty cycle @ $T_C = 80^\circ C$ , rectangular wave form	10	A
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
Forward Voltage Drop (per leg) *	V <sub>F1</sub>	@ 5A, Pulse, T <sub>J</sub> = 25 °C	0.70	V
	V <sub>F2</sub>	@ 5A, Pulse, T <sub>J</sub> = 125 °C	0.57	V
Reverse Current (per leg)*	I <sub>R1</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 25 °C	1.0	mA
	I <sub>R2</sub>	@V <sub>R</sub> = rated V <sub>R</sub> T <sub>J</sub> = 125°C	15	mA
Junction Capacitance (per leg)	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C f <sub>SIG</sub> = 1MHz	300	pF
Voltage Rate of Change	dv/dt	-	10,000	V/μs

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

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature Range	T <sub>J</sub>	-	-55 to +150	°C
Storage Temperature Range	T <sub>stg</sub>	-	-55 to +150	°C
Maximum Thermal Resistance Junction to Case	R <sub>θJC</sub>	DC operation	2.0	°C/W
Typical Thermal Resistance Case to Heat Sink	R <sub>θCS</sub>	Mounting surface, smooth and greased (only for ITO-220)	0.50	°C/W
Approximate Weight	wt	-	2	g
Case Style	ITO-220AB			

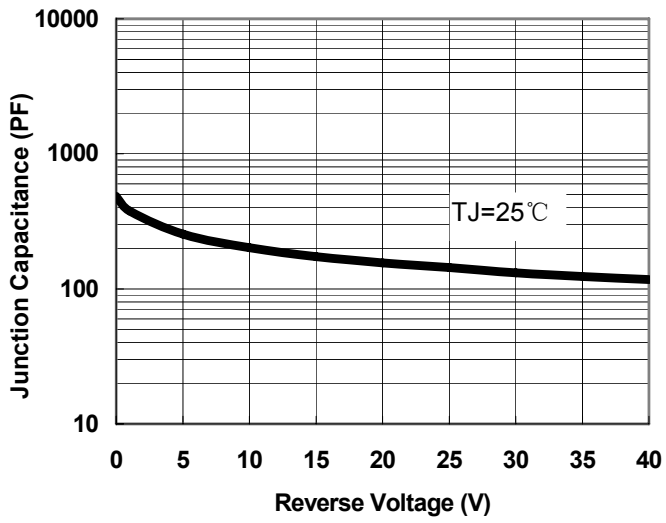


Fig.1-Typical Junction Capacitance

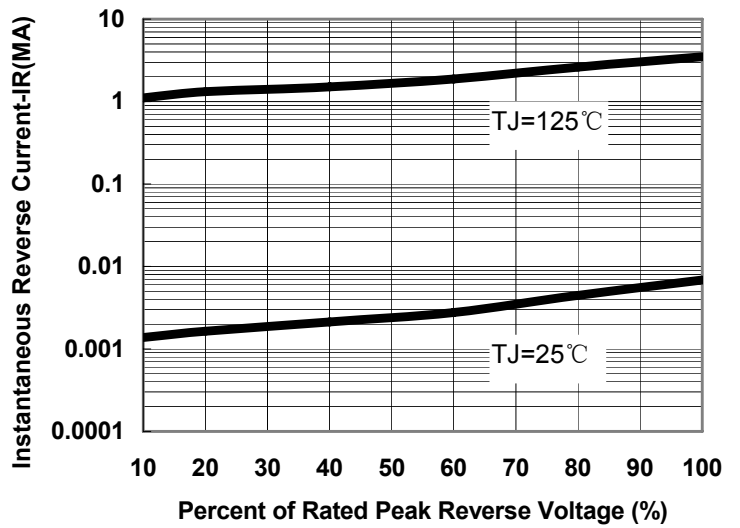


Fig.2-Typical Reverse Characteristics

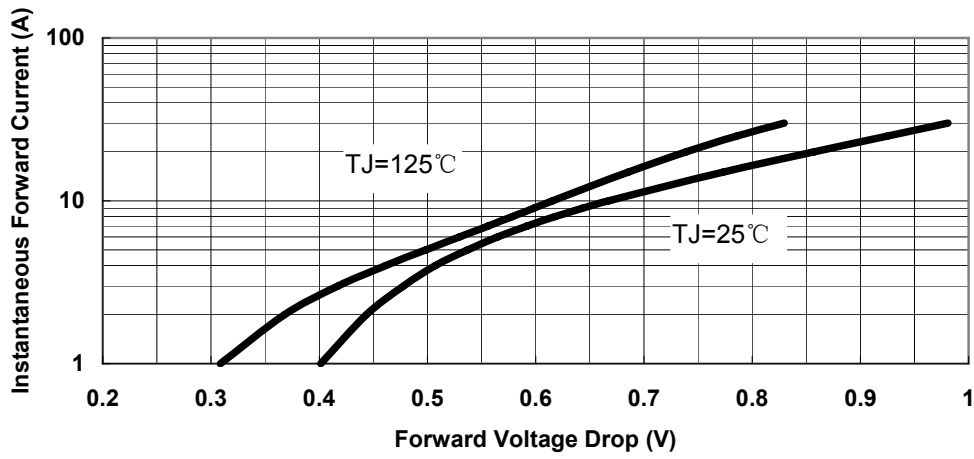


Fig.3-Typical Instantaneous Forward Voltage Characteristics



**MBRF1045CT**

**Technical Data**  
**Data Sheet N0820, Rev. A**

***Green Products***

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