

MBRF30100CT

Rev. A May.-2023

描述 / Descriptions

TO-220F 塑封封装 肖特基二极管。

Schottky Barrier Diode in a TO-220F Plastic Package.

特征 / Features

损耗低，效率高。

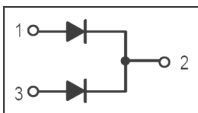
Low power loss, high efficiency.

用途 / Applications

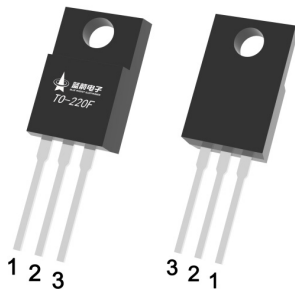
用于高频、低压、大电流整流二极管，续流二极管，保护二极管。

For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

内部等效电路 / Equivalent Circuit



引脚排列 / Pinning



PIN1: Anode PIN 2 : Cathode PIN 3: Anode

印章代码 / Marking

见印章说明。See Marking Instructions.

极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
RMS Voltage	V_{RMS}	70	V
DC Blocking Voltage	V_{DC}	100	V
Average Rectified Forward Current	$I_{F(AV)}$	15	A
	$I_{F(AV)(total)}$	30	A
Non-Repetitive Peak Forward Surge Current	I_{FSM}	200	A
Peak Repetitive Forward Current	I_{FRM}	30	A
Repetitive Peak Reverse Surge Current	I_{RRM}	0.5	A
Thermal Resistance Junction to Case	$R_{\theta Jc}$	1.2	°C/W
Junction Temperature Range	T_j	-55~175	°C
Storage Temperature Range	T_{stg}	-55~175	°C

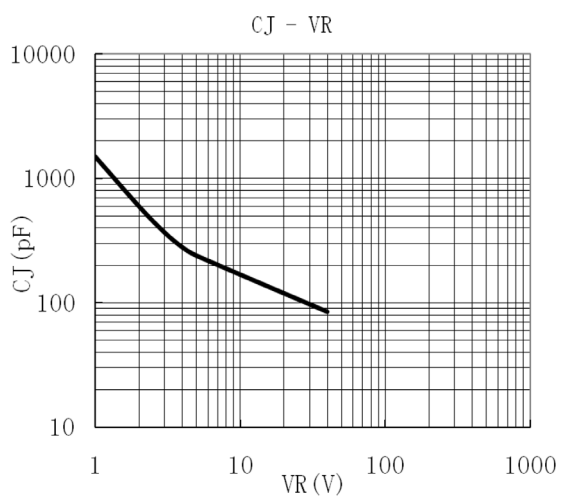
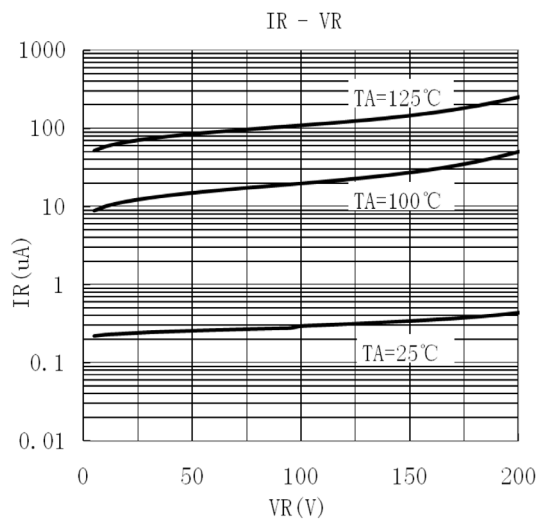
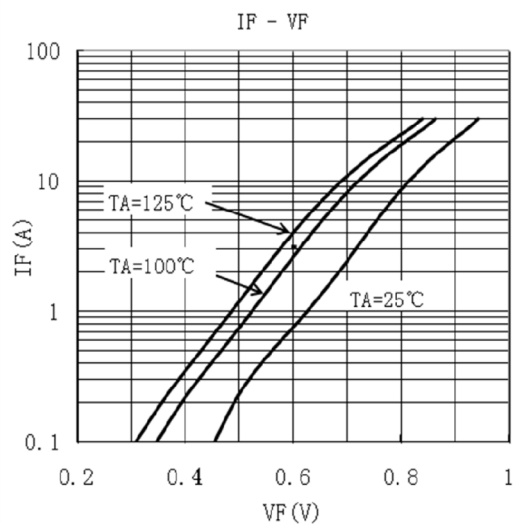
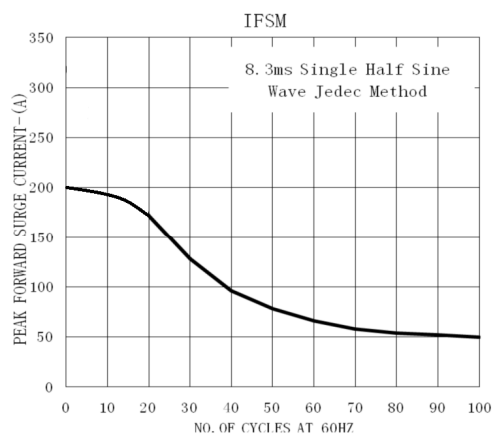
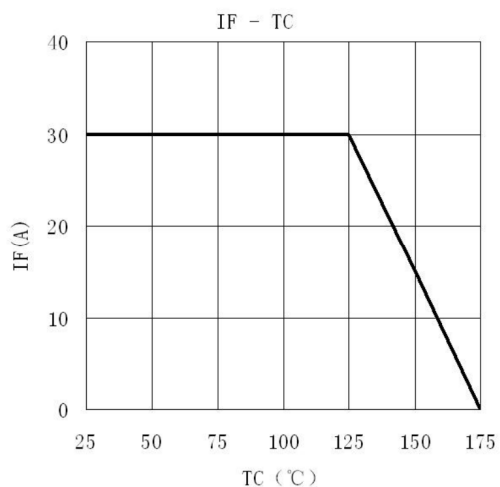
电性能参数 / Electrical Characteristics(Ta=25°C)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Forward Voltage	V_F	$I_F = 15A(T_j = 25^\circ C)$			0.91	V
		$I_F = 15A(T_j = 125^\circ C)$			0.75	V
		$I_F = 30A(T_j = 25^\circ C)$			1.05	V
		$I_F = 30A(T_j = 125^\circ C)$			0.89	V
Instantaneous Reverse Current	I_R	$T_C = 25^\circ C$			0.05	mA
		$T_C = 125^\circ C$			20	mA

注/Notes:

- 使用极短的测试时间, 以尽量减少自热效应。/ Short duration pulse test used to minimize self-heating effect.
- 除非特别注明, 数值为一个芯片的参数。/ Unless otherwise noted, values for the parameters of a single chip

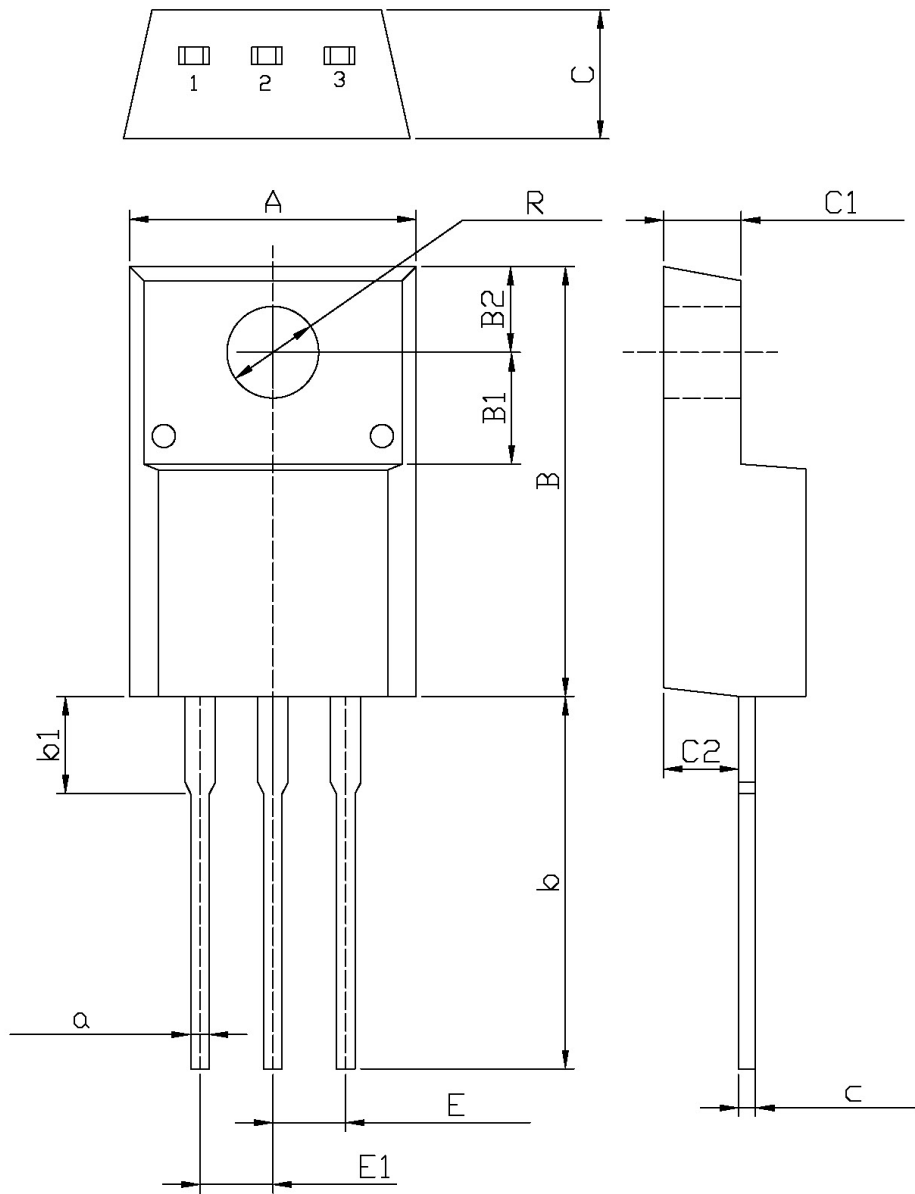
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

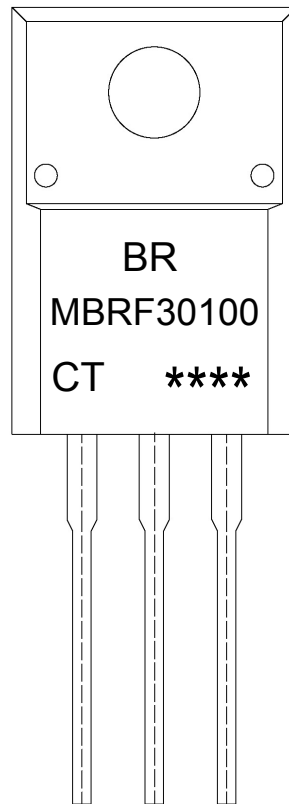
TO-220F

单位：mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
C	4.3	4.7	b1	2.9	3.9
A	9.7	10.3	a	0.55	0.75
B	14.7	15.3	E	2.29	2.79
B1	3.8	4.0	E1	2.29	2.79
B2	2.9	3.1	C1	2.5	2.9
R	3.0	3.4	C2	2.5	2.7
b	12.5	13.5	c	0.5	0.7

印章说明 / Marking Instructions



说明：

BR： 为公司代码

MBRF30100： 为产品型号

CT： 为内部结构

****： 为生产批号代码，随生产批号变化

Note:

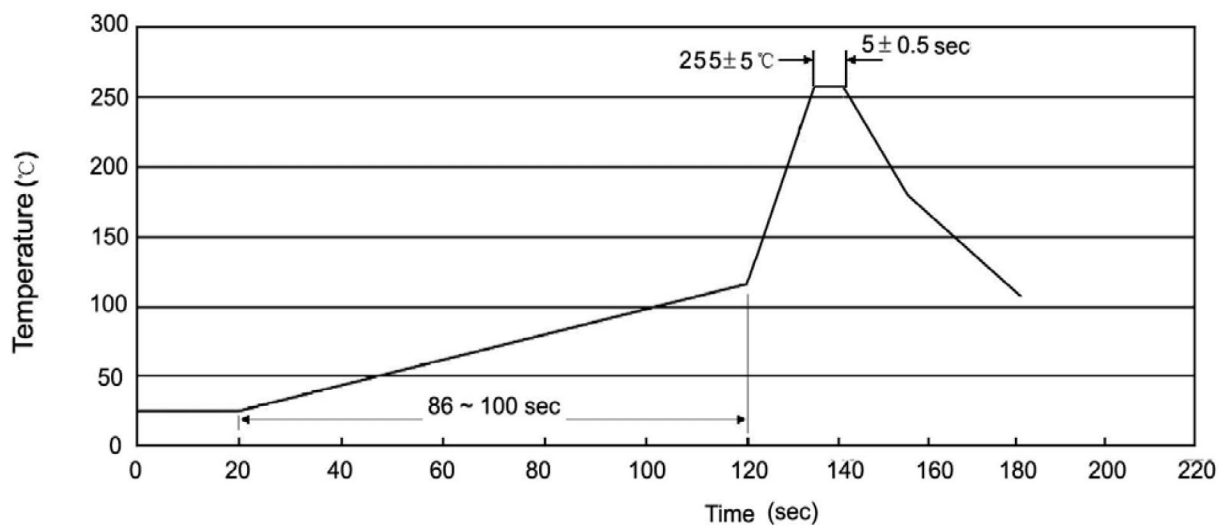
BR: Company Code

MBRF30100： Product Type

CT: Internal Structure

****: Lot No. Code, code change with Lot No

波峰焊温度曲线图(无铅) / Temperature Profile for Dip Soldering(Pb-Free)



说明：

- 1、预热温度 25 ~ 150°C，时间 60 ~ 90sec;
- 2、峰值温度 255±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2 ~ 10°C/sec.

Note:

- 1.Preheating:25~150°C, Time:60~90sec.
- 2.Peak Temp.:255±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：270±5°C

时间：10±1 sec.

Temp.:270±5°C

Time:10±1 sec

包装规格 / Packaging SPEC.

散件包装 / BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Bag 只/袋	Bags/Inner Box 袋/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Bag 袋	Inner Box 盒	Outer Box 箱
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

套管包装 / TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube 套管	Inner Box 盒	Outer Box 箱
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

使用说明 / Notices