

MBRF2040CT~MBRF20200CT

Rev.A Nov.-2024

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

低功耗损失，高效率运行。

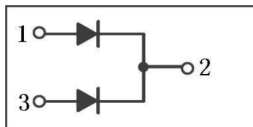
Low poer losses, High efficiency operation.

用途 / Applications

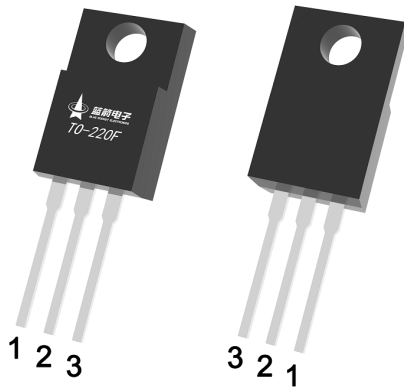
用于高频率逆变器，开关电源，续流二极管，OR-ing 二极管，DC-DC 转换器和电池反向保护。

For use in high frequency inverters, switching power supplies, freewheeling diodes, OR-ing diode, dc-to-dc converters and reverse battery protection.

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.

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

参数 Parameter	符号 Symbol	数值 Rating						单位 Unit
		MBRFXXCT						
		2040	2045	2060	20100	20150	20200	
PeakRepetitive Reverse Voltage	V _{RM}	40	45	60	100	150	200	V
RMS Reverse Voltage	V _{RMS}	28	32	42	70	105	140	V
DC Blocking Voltage	V _{DC}	40	45	60	100	150	200	V
Average Rectified Forward Current	I _{F(AV)}	10X2						A
Forward Voltage at 10A	V _F	0.70		0.75	0.85	0.90	0.92	V
Instantaneous Ta=25°C Reverse Current Ta=125°C	I _R	0.1			0.05			mA
		20			20			
Typical Junction (1) Capacitance	C _J	600		400				pF
Non Repetitive Peak Surge Current	I _{FSM}	150						A
Thermal Resistance (2) Junction to Case	R _{θJA}	45						°C/W
Junction and Storage Temperature Range	T _J T _{stg}	-55~150				-55~175		°C

Notes:

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

(2) P.C.B. mounted with 10cmX10cmX1mm copper pad areas.

电参数曲线图 / Electrical Characteristic Curve

Fig.1 TYPICAL FORWARD CURRENT DERATING CURVE

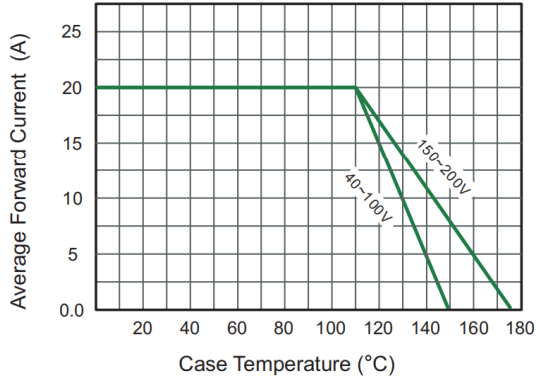


Fig.2 Typical Reverse Characteristics

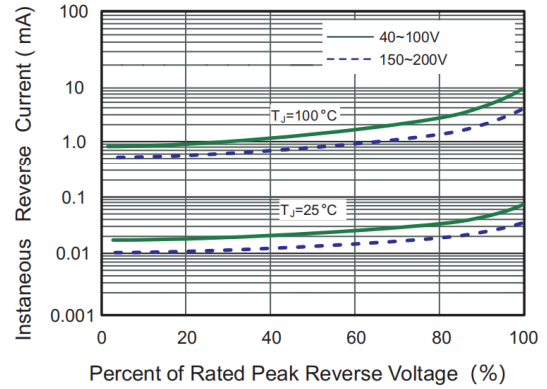


Fig.3 Typical Forward Characteristic(per leg)

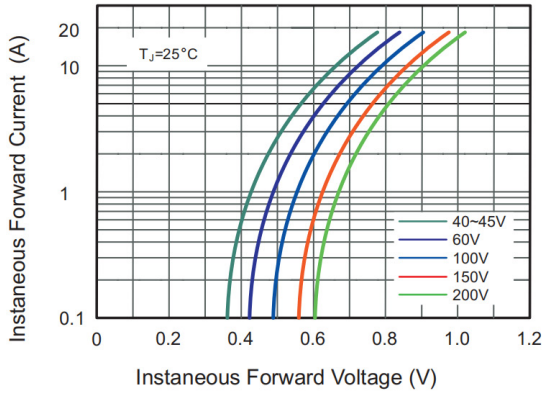


Fig.4 Typical Junction Capacitance

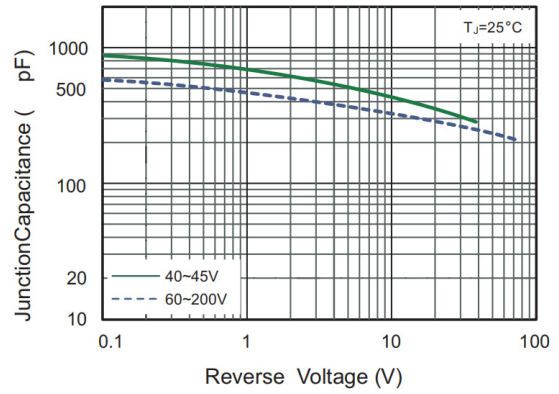


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

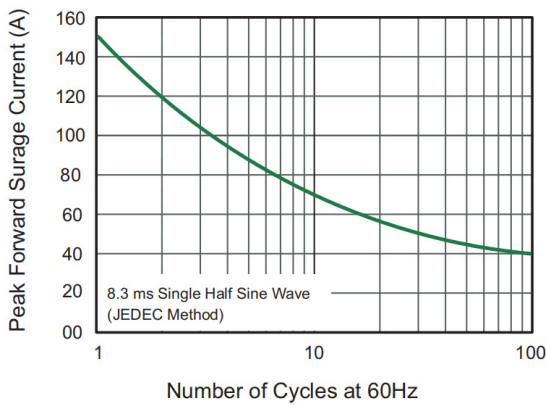
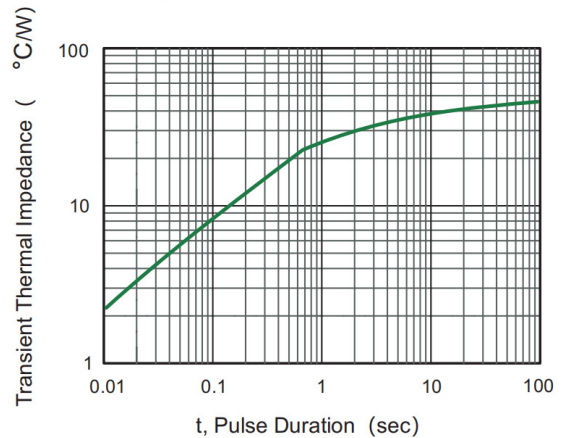
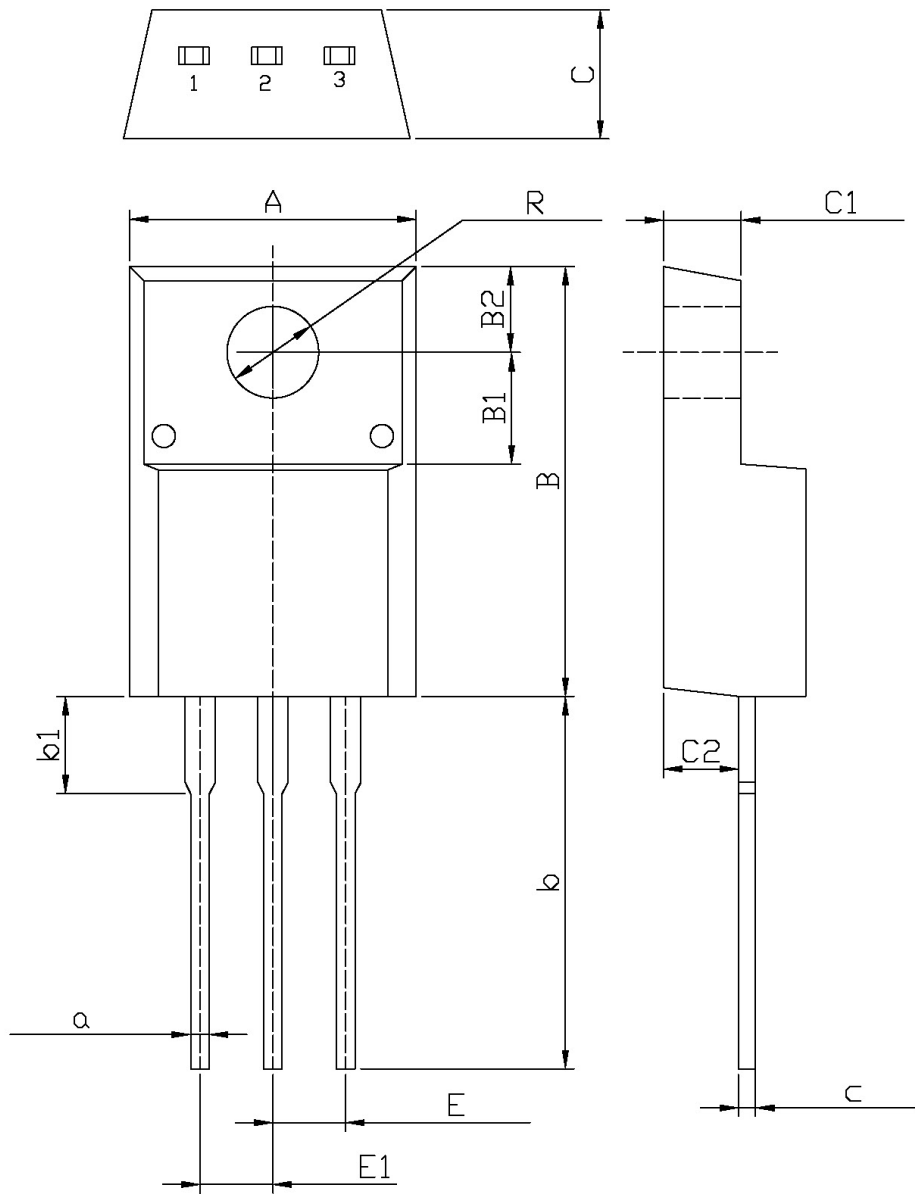


Fig.6- Typical Transient Thermal Impedance



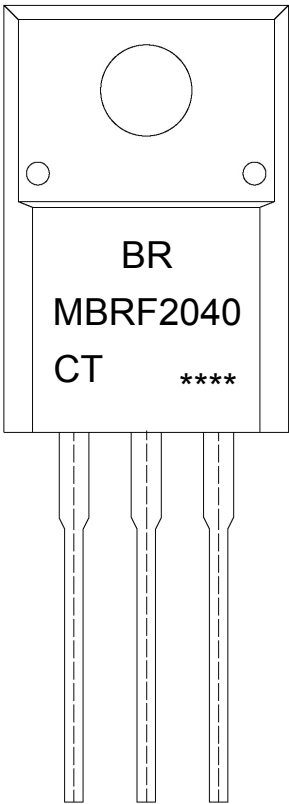
外形尺寸图 / Package Dimensions

T0-220F 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



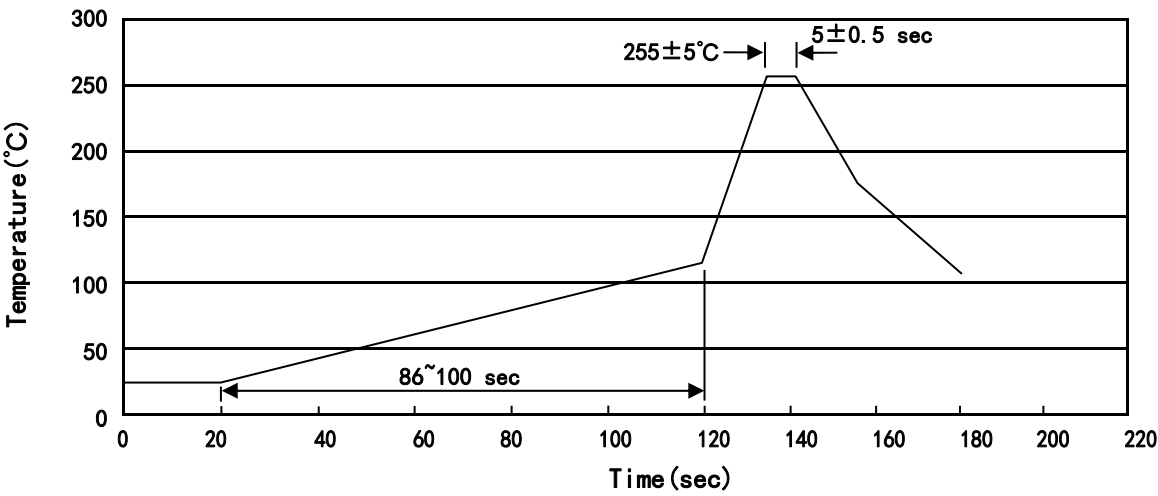
说明：
BR：为公司代码
MBRF2040：为产品型号
CT：为内部结构
****：为生产批号代码，随生产批号变化

Note:
BR: Company Code
MBRF2040： Product Type
CT: Internal Structure
****: Lot No. Code, code change with Lot No.

Marking

Type number	Marking code
MBRF2040CT	BR/MBRF2040/CT/****
MBRF2045CT	BR/MBRF2045/CT/****
MBRF2060CT	BR/MBRF2060/CT/****
MBRF20100CT	BR/MBRF20100/CT/****
MBRF20150CT	BR/MBRF20150/CT/****
MBRF20200CT	BR/MBRF20200/CT/****

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℃ , 时间 60 ~ 90sec;
 - 2、峰值温度 255±5℃ , 时间持续为 5±0.5sec;
 - 3、焊接制程冷却速度为 2 ~ 10℃/sec.
- Note:
- 1.Preheating:25~150℃, Time:60~90sec.
 - 2.Peak Temp.:255±5℃, Duration:5±0.5sec.
 3. Cooling Speed: 2~10℃/sec.

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

温度 : 270±5℃ 时间 : 10±1 sec. Temp.:270±5℃ 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