

MBRF3040CT~MBRF30200CT

Rev.A Feb.-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。

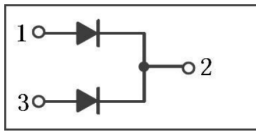
low poer losses,High efficiency operation.

用途 / Applications

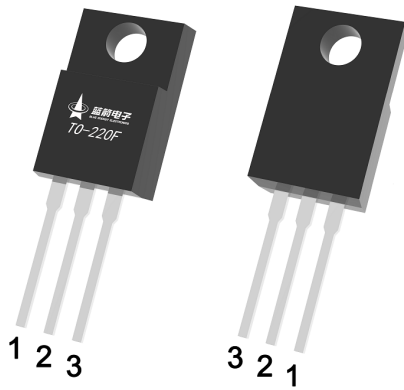
用于高频率逆变器，开关电源，续流二极管，OR-ing 二极管，DC-DC 转换器和电池反向保护。

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.

MBRF3040CT~MBRF30200CT

Rev.A Feb.-2024



DATA SHEET

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

参数 Parameter	符号 Symbol	数值 Rating						单位 Unit
		MBRFXXCT						
		3040	3045	3060	30100	30150	30200	
Peak Repetitive 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	$I_{F(AV)}$	15×2						A
Forward Voltage at 15A	V_F	0.75		0.80	0.88	0.92	0.95	V
Instantaneous Reverse Current Ta=25°C	I_R	0.1			0.05			mA
Instantaneous Reverse Current Ta=125°C		20			20			
Typical Junction Capacitance ⁽¹⁾	C_J	600		400				pF
Non Repetitive Peak Surge Current	I_{FSM}	200						A
Thermal Resistance ⁽²⁾ Junction to Case	$R_{\theta JA}$	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

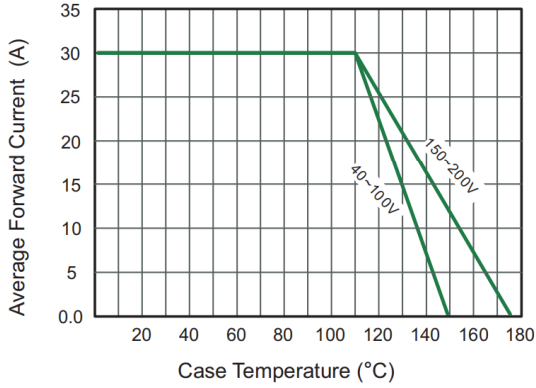


Fig.3 Typical Forward Characteristic(per leg)

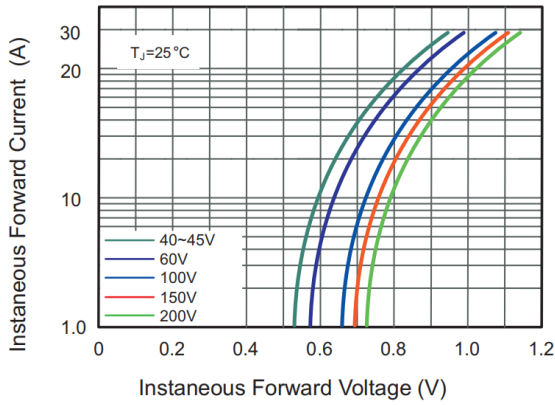


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

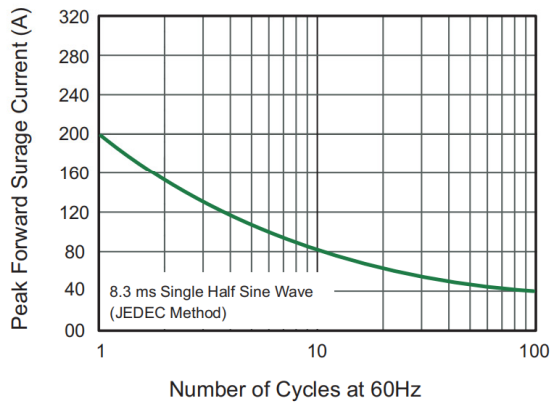


Fig.2 Typical Reverse Characteristics

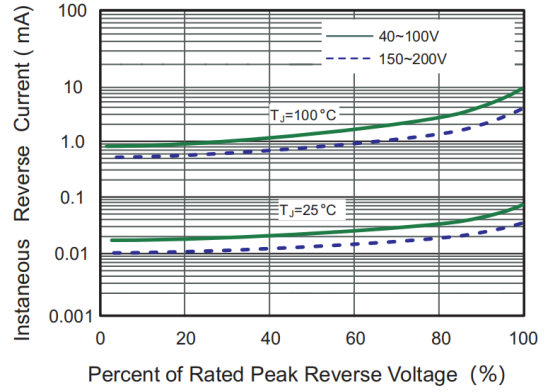


Fig.4 Typical Junction Capacitance

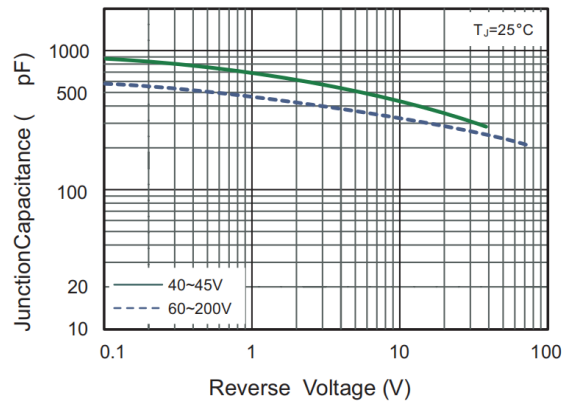
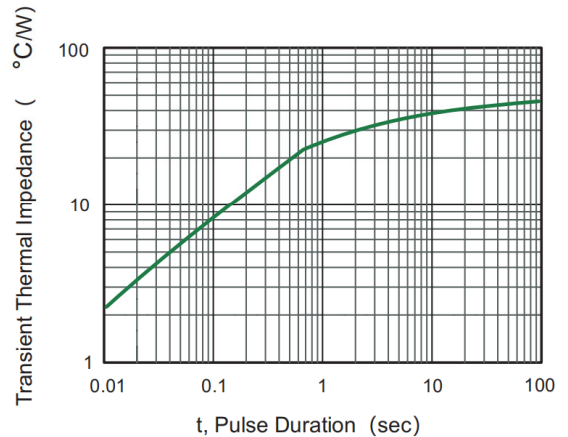


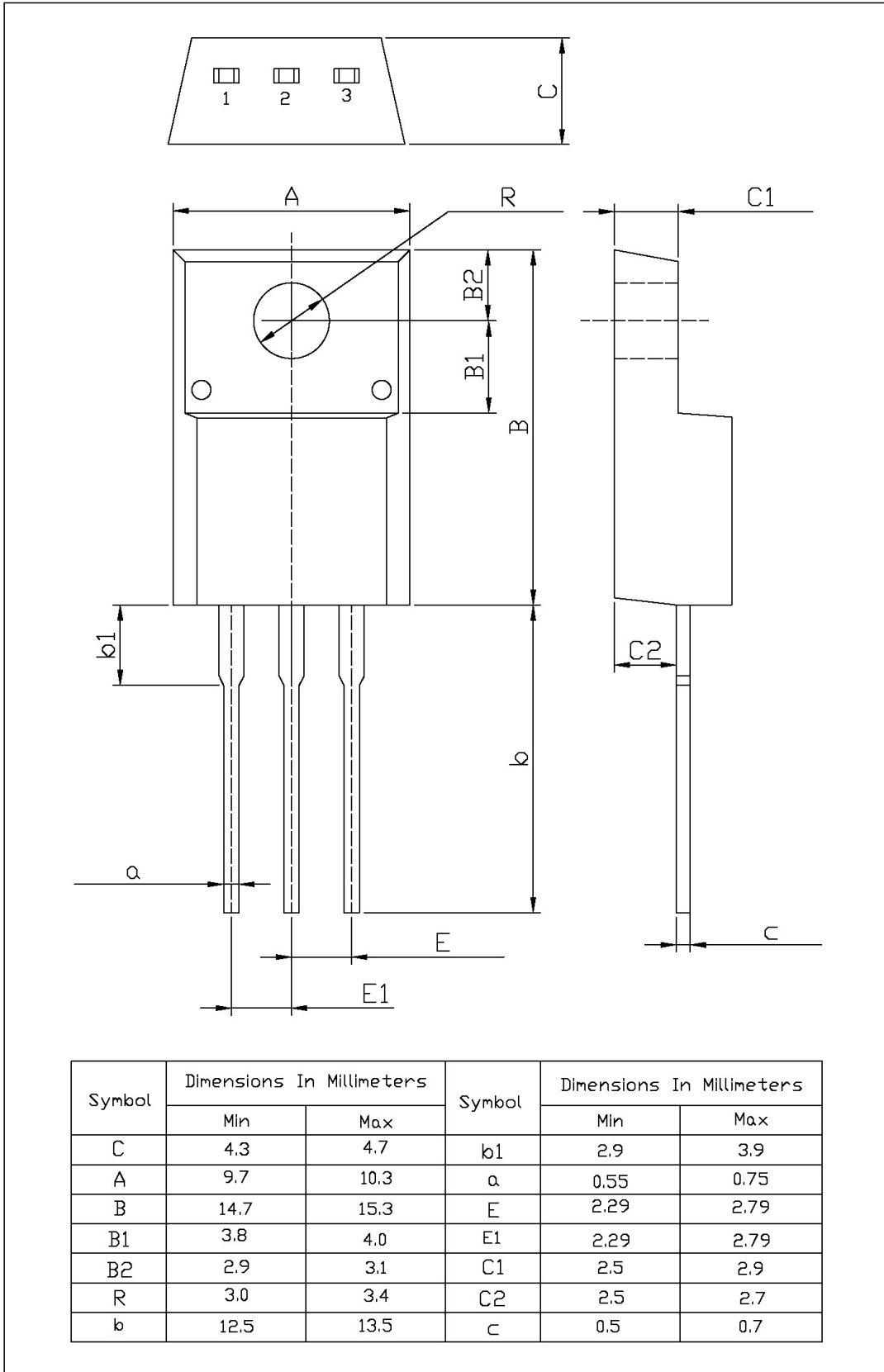
Fig.6- Typical Transient Thermal Impedance



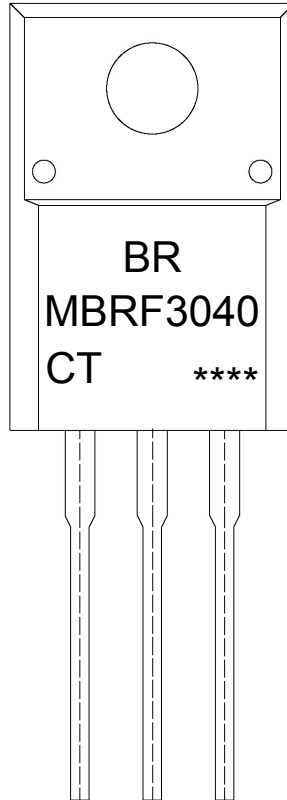
外形尺寸图 / Package Dimensions

TO-220F

单位: mm



印章说明 / Marking Instructions



说明：

BR： 为公司代码

MBRF3040： 为型号代码

CT: 为内部结构

****： 为生产批号代码，随生产批号变化

Note:

BR: Company Code

MBRF3040： Product Type Code

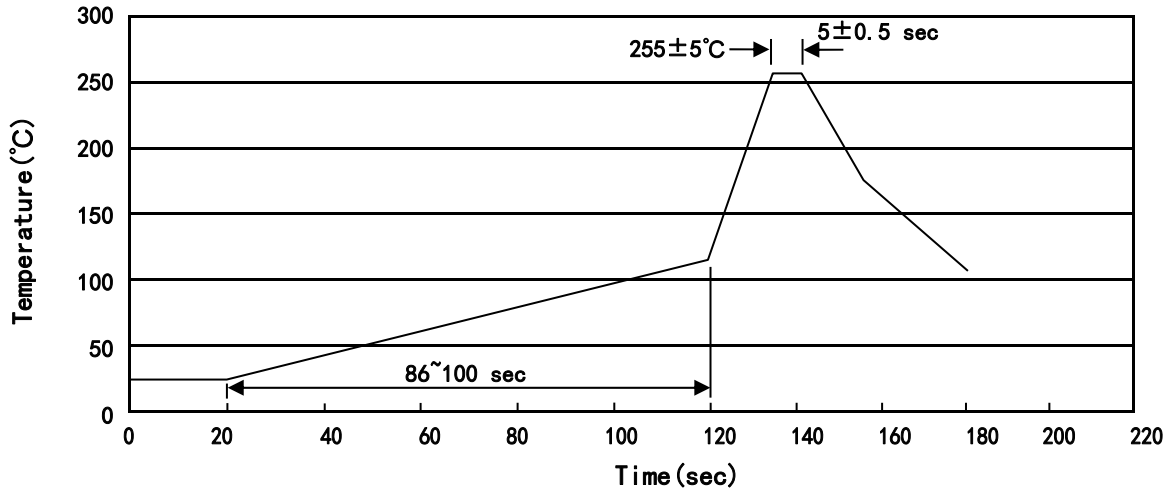
CT: Internal Structure

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

Marking

Type number	Marking code
MBRF3040CT	BR/MBRF3040/CT/****
MBRF3045CT	BR/MBRF3045/CT/****
MBRF3060CT	BR/MBRF3060/CT/****
MBRF30100CT	BR/MBRF30100/CT/****
MBRF30150CT	BR/MBRF30150/CT/****
MBRF30200CT	BR/MBRF30200/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°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