

MBRF2040CT~MBRF20200CT

Rev.A Nov.-2024

/ Descriptions

TO-220F

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

/ Features

Low poer losses, High efficiency operation.

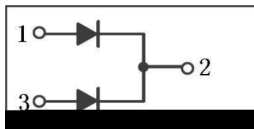
/ Applications

OR-ing

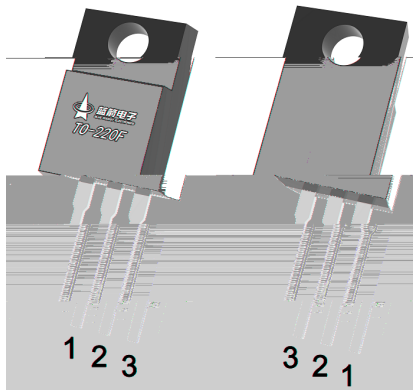
DC-DC

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

/ Equivalent Circuit



/ Pinning



PIN1 Anode PIN 2 Cathode PIN 3 Anode

/ Marking

See Marking Instructions.

MBRF2040CT~MBRF20200CT

Rev.A Nov.-2024

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Rating						Unit
		MBRFXCT						
		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 _{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.

/ Electrical Characteristic Curve

Fig.1 TYPICAL FORWARD CURRENT DERATING CURVE

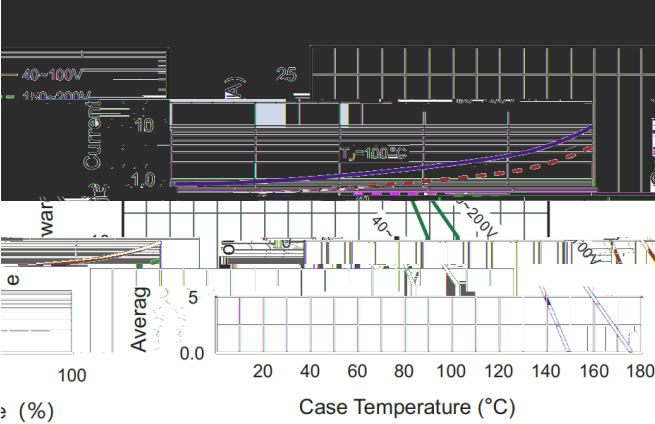


Fig.2 Typical Reverse Characteristics

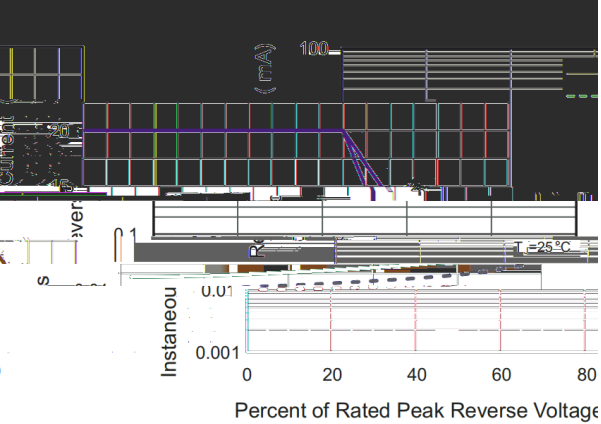


Fig.3 Typical Forward Characteristic (per lot)

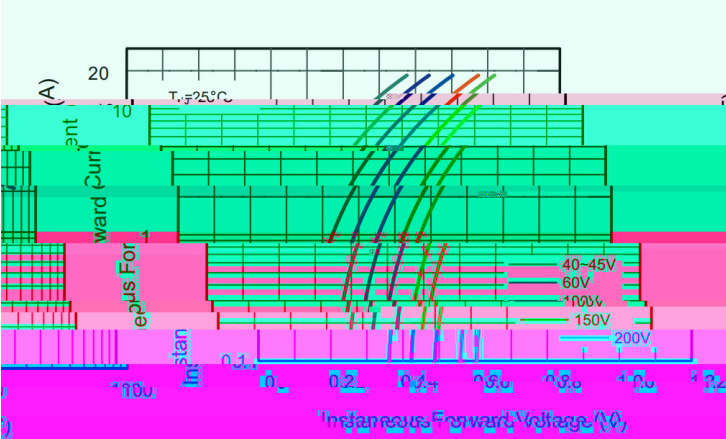


Fig.4 Typical Junction Capacitance

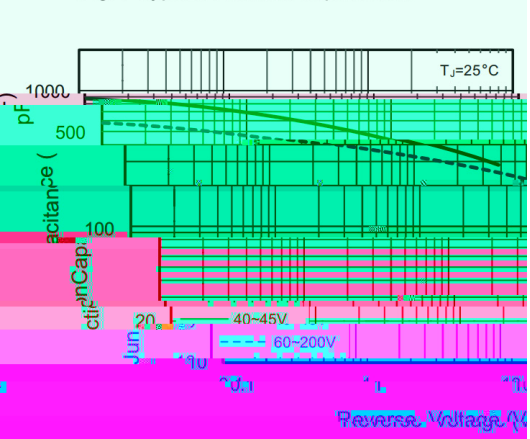


Fig.5 Maximum Non-Repetitive Peak

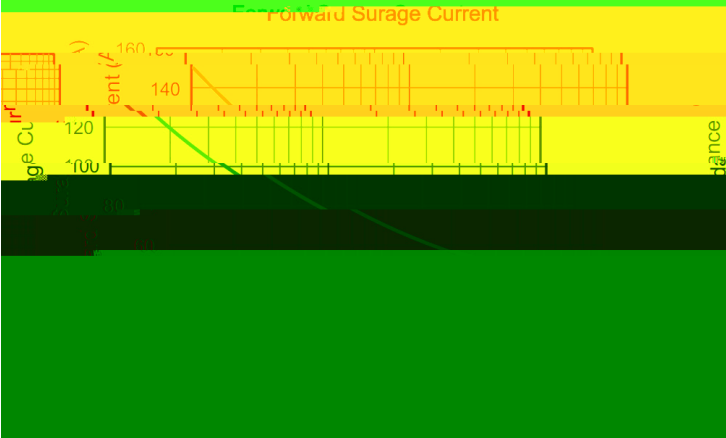
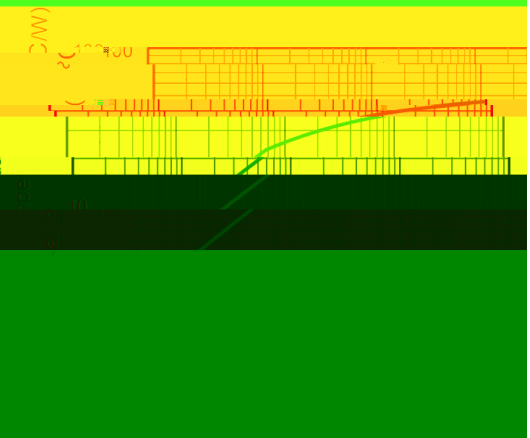
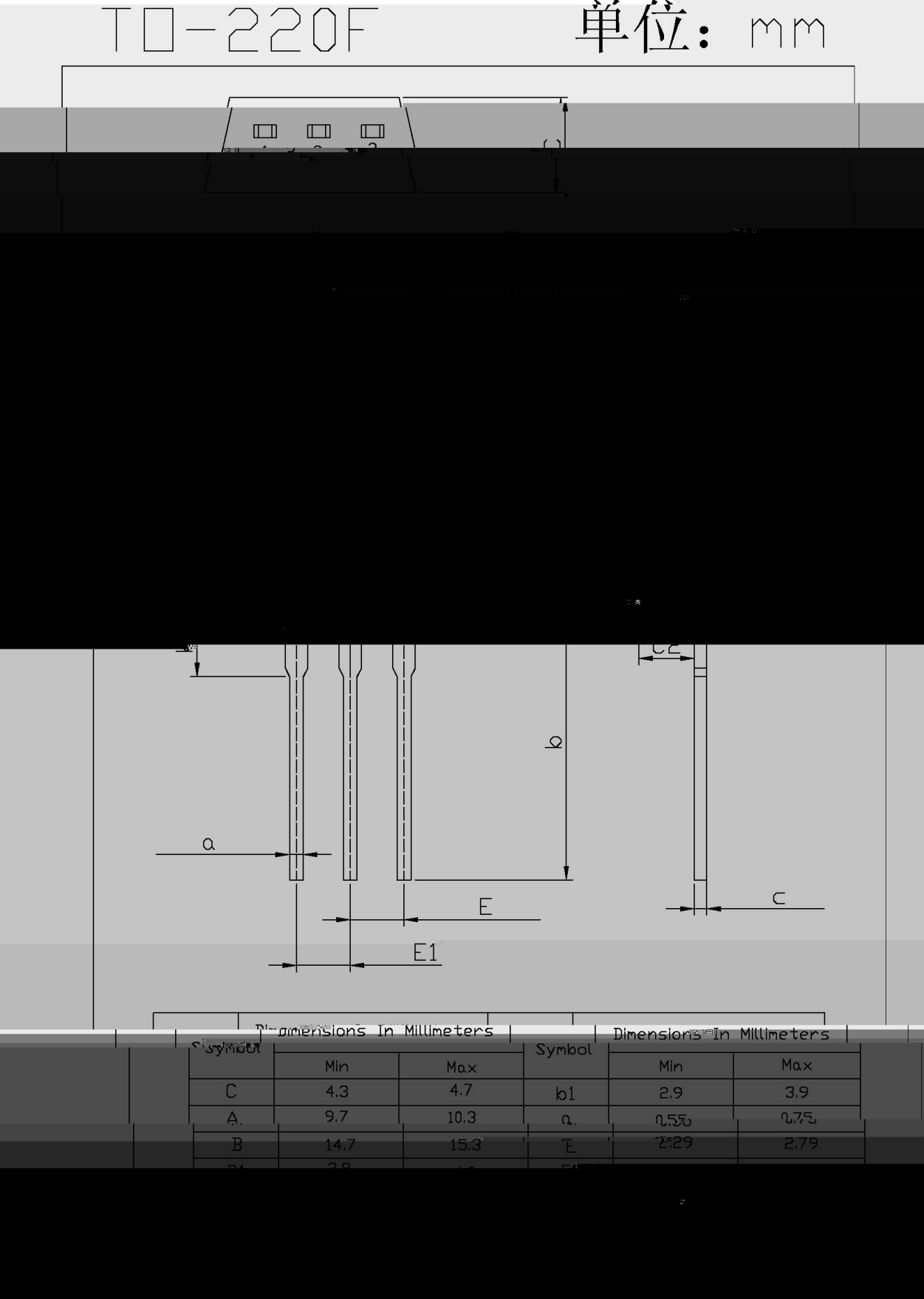


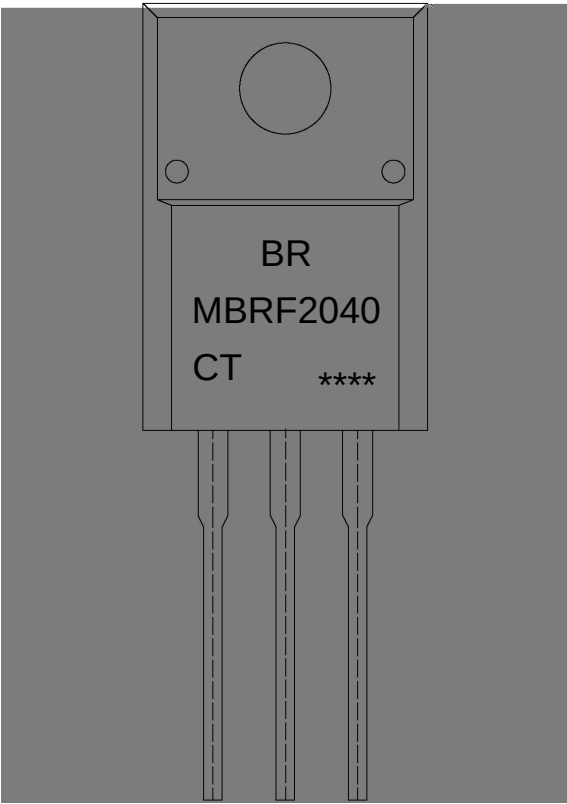
Fig.6 Typical Transient Thermal Impedance



/ Package Dimensions



/ Marking Instructions



BR
MBRF2040
CT:

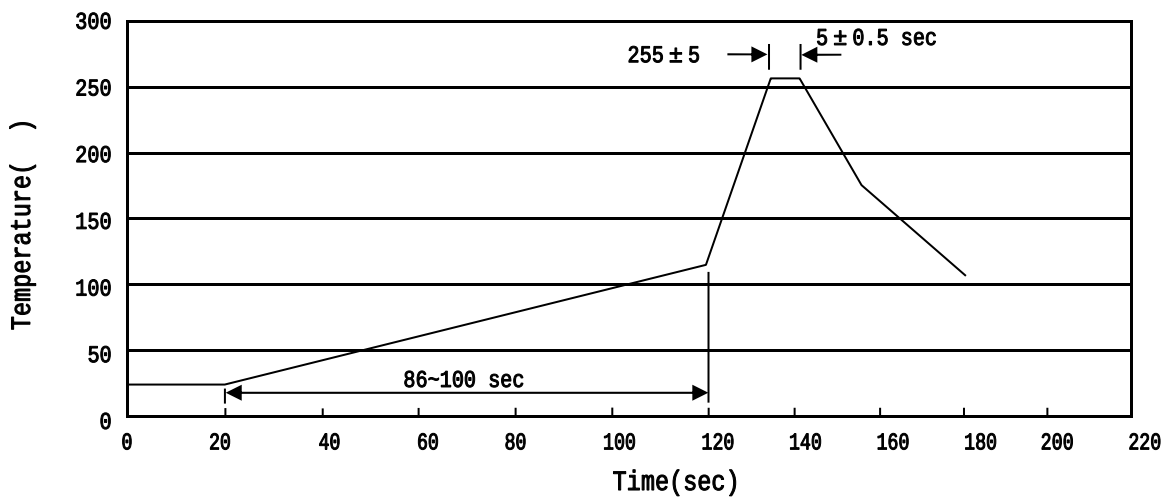
Note:

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/****

() / Temperature Profile for Dip Soldering(Pb-Free)



Note:

- 1

25 150

60 90sec;

1.Preheating:25~150 °C , Time:60~90sec.
- 2

255±5

5±0.5sec;

2.Peak Temp.:255±5 °C , Duration:5±0.5sec.
- 3

2 10

/sec.

3. Cooling Speed: 2~10 °C /sec.

/ Resistance to Soldering Heat Test Conditions

270±5 10±1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

/ BULK

Package Type	Units					Dimension (unit mm ³)		
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type	Units					Dimension (unit mm ³)		
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

/ Notices