

Product Specification

Surge Type 3

MBR10100, MBRF10100

Construction : Schottky Barrier Rectifier

Application : For General Purpose

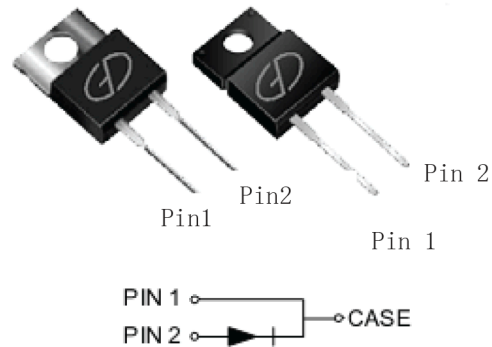
(Manufacturer) :

Surge Components, Inc.

Prepared on Sep. 17th, 2008

Prepared: R & D Department

Approval: QRA Department



SCHOTTKY BARRIER RECTIFIER

10 AMPERES

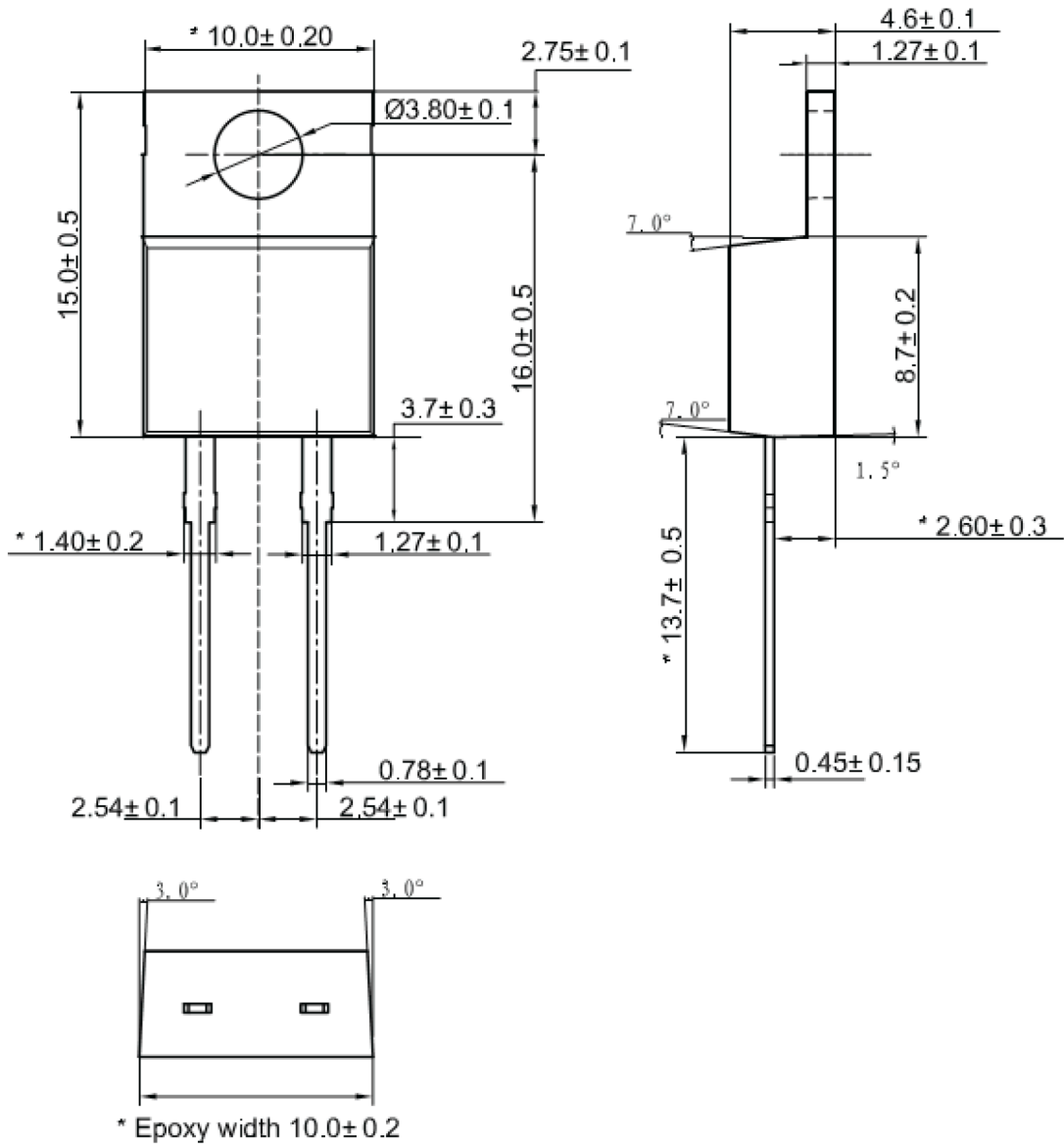
100 VOLTS

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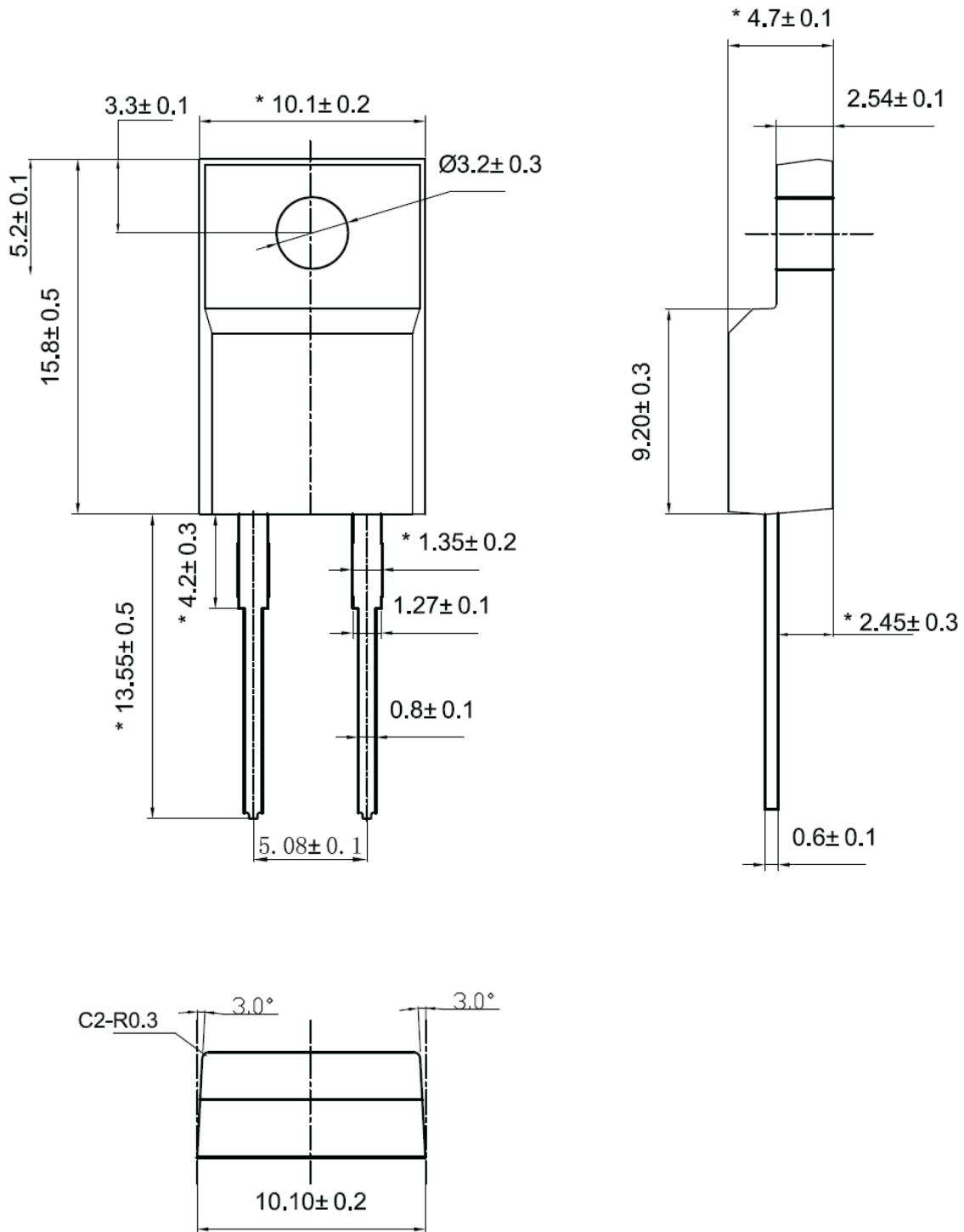
1. Package Outline
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1. Package Outline (TO220-AC)

UNIT:mm

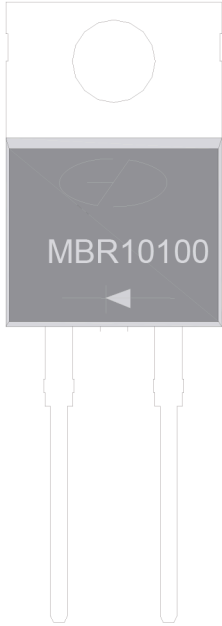


Package Outline (TO220F-AC)



Lead Frame Material : Copper Plating: Pure Tin Plating

2. MARKING



1. Part Name : MBR10100(TO220-AC)
MBRF10100(TO220F-AC)

2. Logo Mark: 

3. Polarity: 



3. Features & Mechanical Characteristics

Features

- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Dual rectifier construction, positive center tap
- Metal of silicon rectifier, majority carrier conduction
- Low forward voltage, high efficiency
- Guarding for over voltage protection
- For use in low voltage, high frequency inverters,
- Free wheeling, and polarity protection applications

Mechanical Characteristics

- Case: Epoxy, Molded
- Weight: 1.8grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max.for10 sec
- Shipped 50 units per plastic tube

4. Maximum Ratings and Electrical Characteristics

MAXIMUM RATINGS and ELECTRICAL CHARACTERISTICS(TC=25°C unless otherwise moted)					
PARAMETER	TEST CONDITIONS		SYMBOL	MBR (F) 10100	UNIT
Maximum repetitive peak reverse voltage			VRRM	100	V
Working peak reverse voltage			VRWM	100	V
Maximum DC blocking voltage			VDC	100	V
Maximum average forward rectified current at Tc=100°C total device per diode			IF(AV)	10	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode			IFSM	150	A
Peak repetitive reverse current per leg at tp=2.0us , 1KHz			IRRM	1	A
Operating junction temperature range			TJ	-55 to+150	°C
Storage temperature range			TSTG	-55 to+150	°C
Voltage rate of change (rated VR)			DV/dt	10000	V/us
Isolation voltage (ITO220 only) from terminal to heatsink t = 1 sec			VAC	1500	V
Maximum instantaneous forward voltage per leg	IF=10A IF=10A	Tc=25°C	VF	0.82	V
		Tc=125°C		0.72	
Maximum reverse current per leg at working peak Reverse voltage			IR	200	uA
				TJ=100°C	15

Thermal Characteristics Ta=25°C unless otherwise noted

Symbol	Parameter	Max (TO220AC)	Max (TO220F-AC)	Unit
RθJC	Thermal Resistance, Junction to Case per Leg	2.0	4.0	°C /W
RθJA	Thermal Resistance, Junction to Ambient per Leg	62.5	62.5	°C /W

Note:

1. Screw mounting with 4-40 screw, where washer diameter is ≤4.9mm(0.19 ")
2. Pulse test:300us pulse width,1% duty cycle



5. Rating and Characteristic Curves

FIG.1- FORWARD CURRENT DERATING CURVE

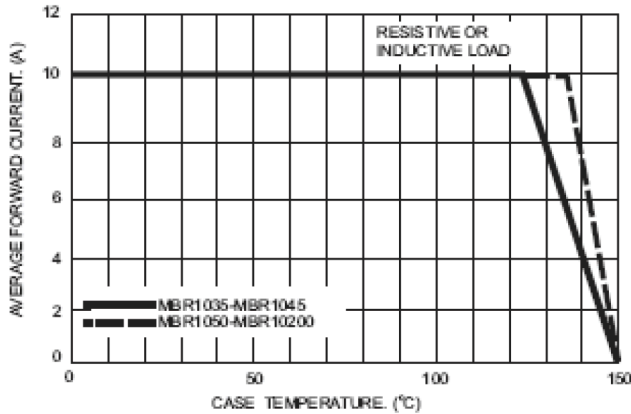


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

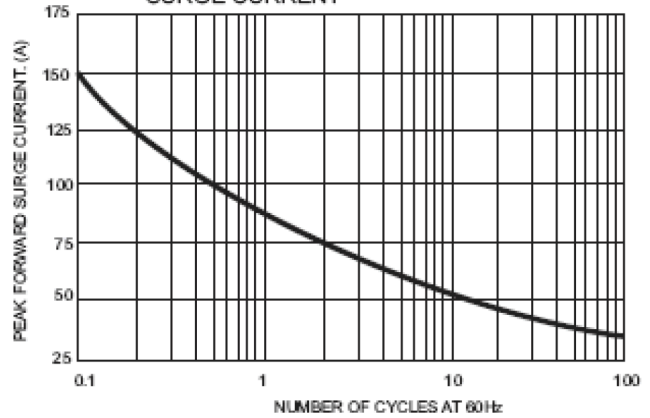


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

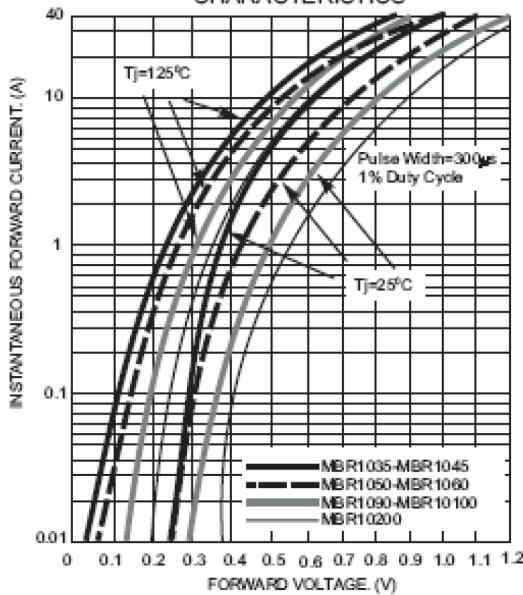


FIG.4- TYPICAL REVERSE CHARACTERISTICS

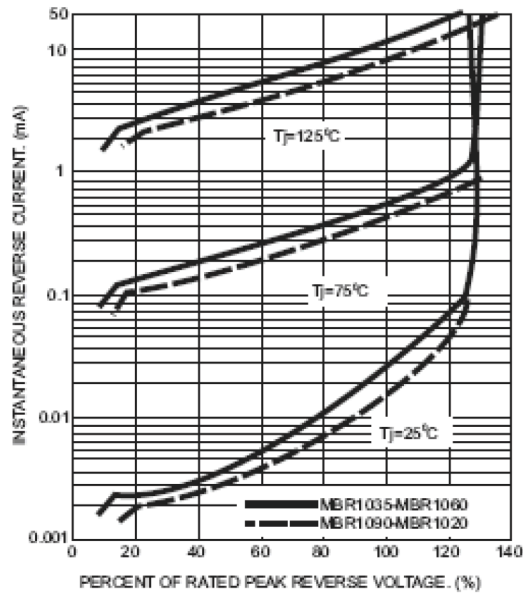


FIG.5- TYPICAL JUNCTION CAPACITANCE

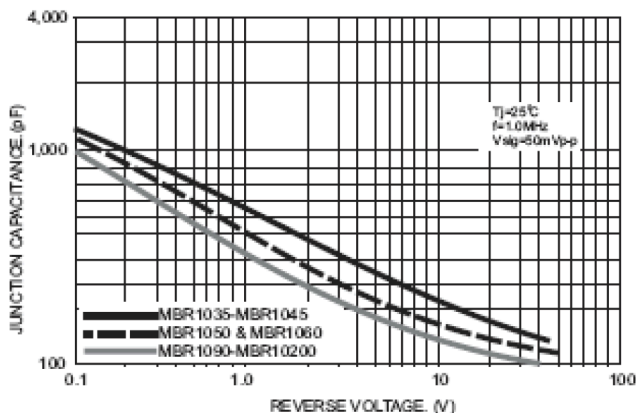


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTIC

