



# MBR3020ST SERIES

## SCHOTTKY BARRIER RECTIFIERS

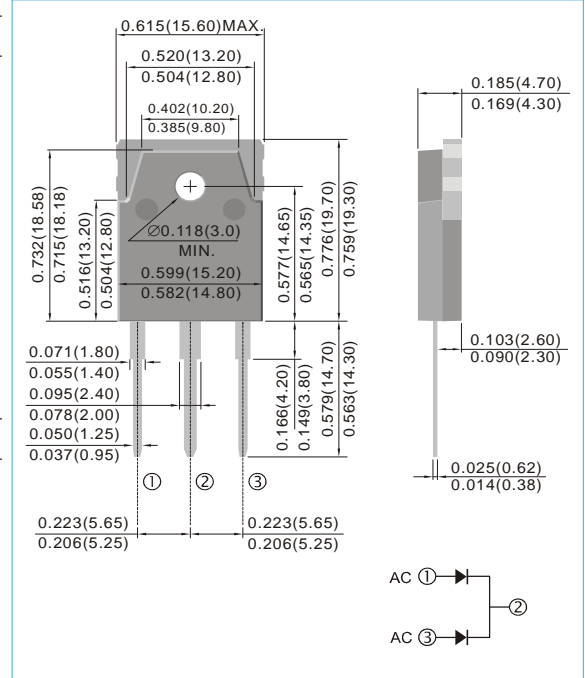
**VOLTAGE** 20 to 100 Volts **CURRENT** 30 Amperes **TO-247S / TO-3PS** Unit : inch(mm)

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O. Flame Retardant Epoxy Molding Compound.
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency.
- High current capability
- Guardring for overvoltage protection
- For use in low voltage,high frequency inverters free wheeling , and polarity protection applications.
- In compliance with EU RoHS 2002/95/EC directives

### MECHANICAL DATA

- Case: TO-247S/TO3PS molded plastic
- Terminals: solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Mounting Position: Any
- Weight: 0.1932 ounces, 5.4803 grams.



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

PARAMETER	SYMBOL	MBR3020ST	MBR3030ST	MBR3040ST	MBR3045ST	MBR3050ST	MBR3060ST	MBR3080ST	MBR3090ST	MBR30100ST	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	20	30	40	45	50	60	80	90	100	V
Maximum RMS Voltage	$V_{RMS}$	14	21	28	31.5	35	42	56	63	70	V
Maximum DC Blocking Voltage	$V_{DC}$	20	30	40	45	50	60	80	90	100	V
Maximum Average Forward Current	$I_{F(AV)}$	30									A
Peak Forward Surge Current :8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	275									A
Maximum Forward Voltage at 15A per leg	$V_F$	0.70			0.75		0.8			V	
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	$I_R$	0.1 20						0.05 20		mA	
Typical Thermal Resistance	$R_{\theta JC}$	1.4									$^\circ\text{C} / \text{W}$
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to + 150				-65 to + 175					$^\circ\text{C}$

Note :

Both Bonding and Chip structure are available.



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## RATING AND CHARACTERISTIC CURVES

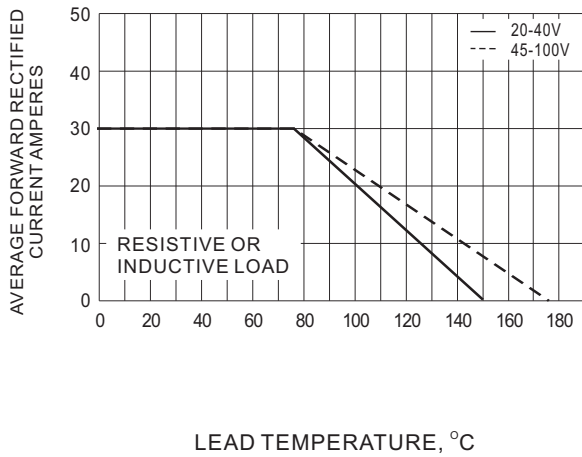


Fig.1- FORWARD CURRENT DERATING CURVE

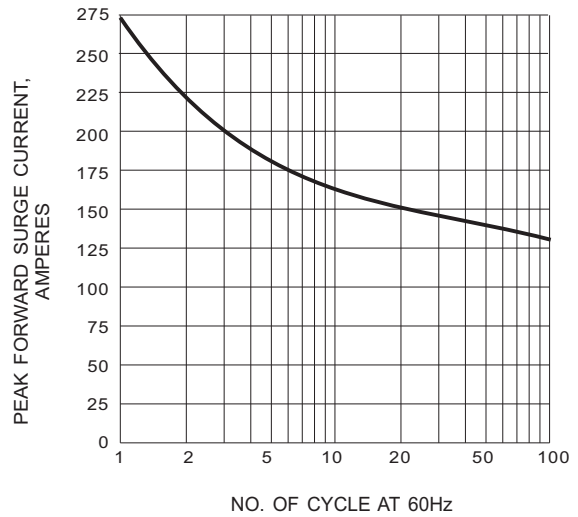


Fig.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

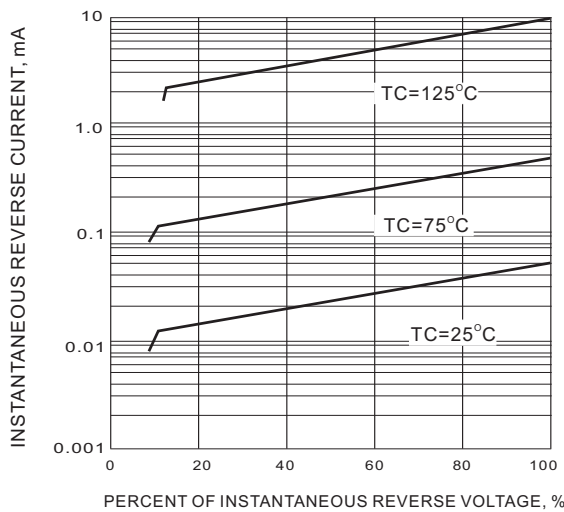


Fig.3- TYPICAL REVERSE CHARACTERISTIC

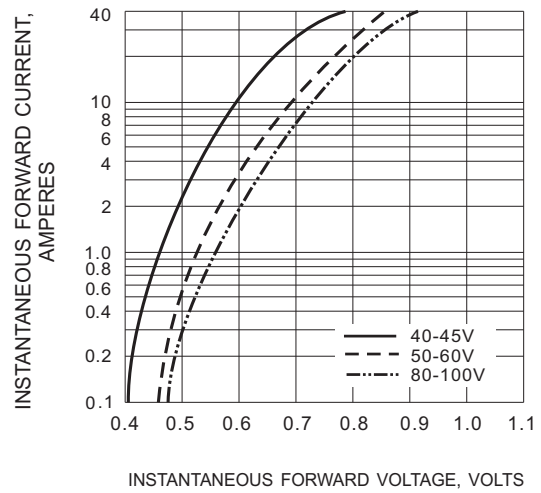


Fig.4- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC