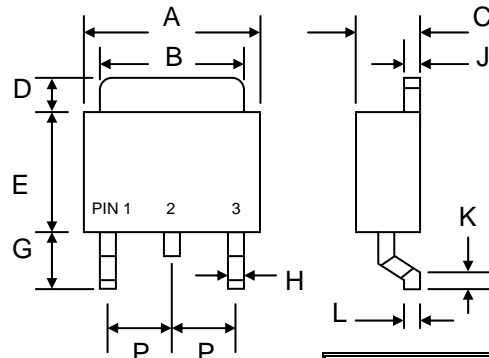


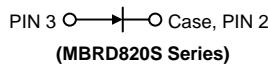
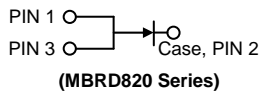
### Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- High Surge Current Capability
- Low Power Loss, High Efficiency
- Ideally Suited for Automatic Assembly
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications



### Mechanical Data

- Case: DPAK/TO-252, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 0.3 grams (approx.)
- Mounting Position: Any
- Marking: Device Code, See Page 3
- **Lead Free: For RoHS / Lead Free Version, Add “-LF” Suffix to Part Number, See Page 4**



DPAK/TO-252		
Dim	Min	Max
A	6.05	6.65
B	5.05	5.55
C	2.25	2.40
D	1.05	1.25
E	5.48	6.08
G	2.55	3.00
H	0.55	0.90
J	0.49	0.55
K	0.95	1.25
L	0.49	0.55
P	2.30 Typical	
All Dimensions in mm		

### Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	MBRD 820/S	MBRD 830/S	MBRD 840/S	MBRD 845/S	MBRD 850/S	MBRD 860/S	MBRD 880/S	MBRD 8100/S	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	20	30	40	45	50	60	80	100	V
Working Peak Reverse Voltage	$V_{RWM}$									
DC Blocking Voltage	$V_R$									
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	32	35	42	56	70	V
Average Rectified Output Current @ $T_C = 125^\circ\text{C}$	$I_O$	8.0								A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	85								A
Forward Voltage @ $I_F = 8.0\text{A}$	$V_{FM}$	0.55			0.75		0.85			V
Peak Reverse Current @ $T_J = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_J = 100^\circ\text{C}$	$I_{RM}$	0.2				20				mA
Typical Junction Capacitance (Note 1)	$C_J$	450			350					pF
Thermal Resistance, Junction to Ambient (Note 2)	$R_{JA}$	80								$^\circ\text{C/W}$
Thermal Resistance, Junction to Case (Note 2)	$R_{JC}$	3.0								
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150								$^\circ\text{C}$

Note: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.  
2. Mounted on FR-4 PC board with minimum recommended pad layout.

# MBRD820/S – MBRD8100/S

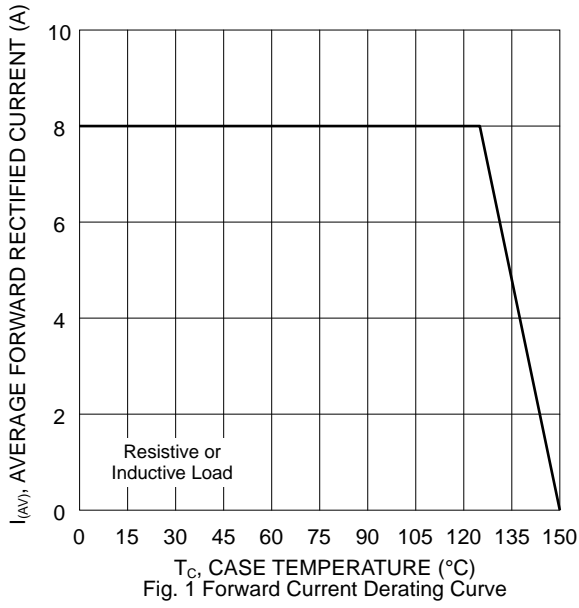


Fig. 1 Forward Current Derating Curve

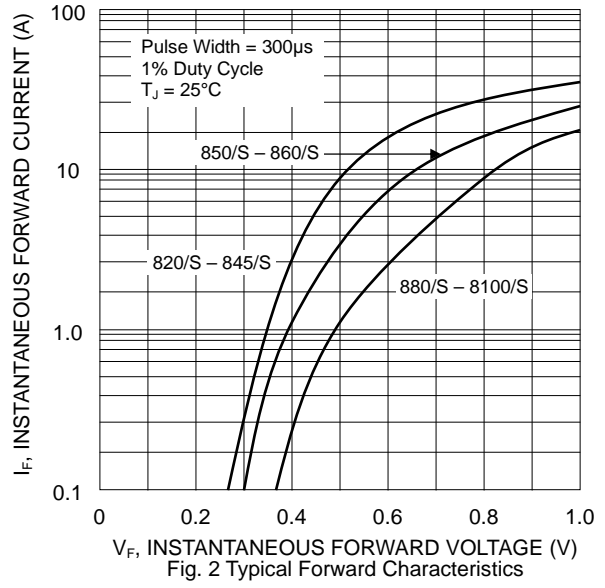


Fig. 2 Typical Forward Characteristics

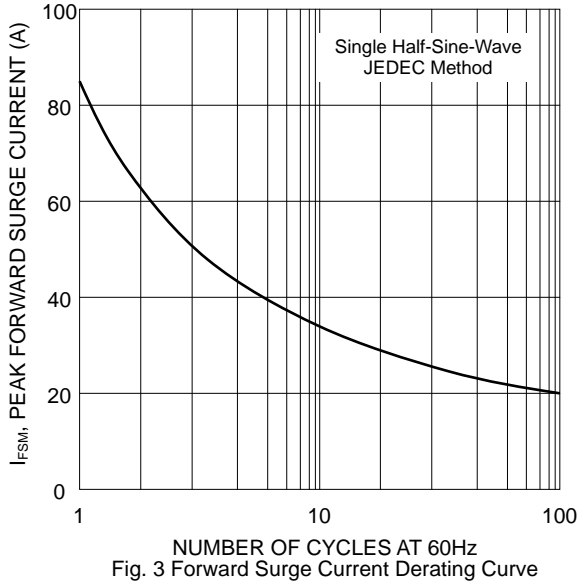


Fig. 3 Forward Surge Current Derating Curve

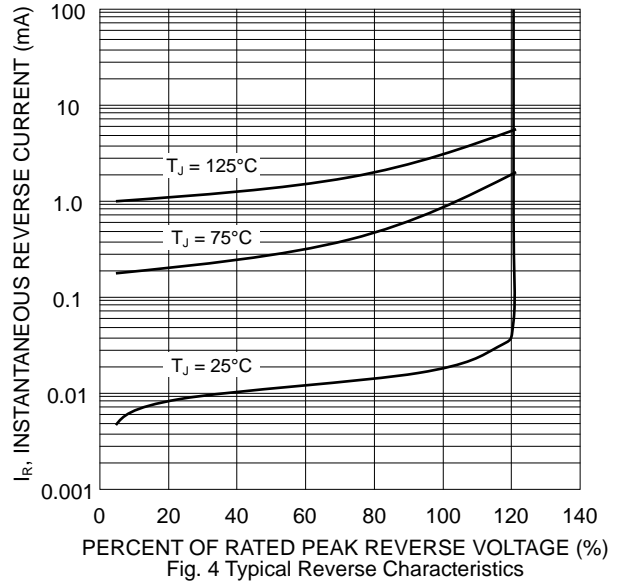


Fig. 4 Typical Reverse Characteristics

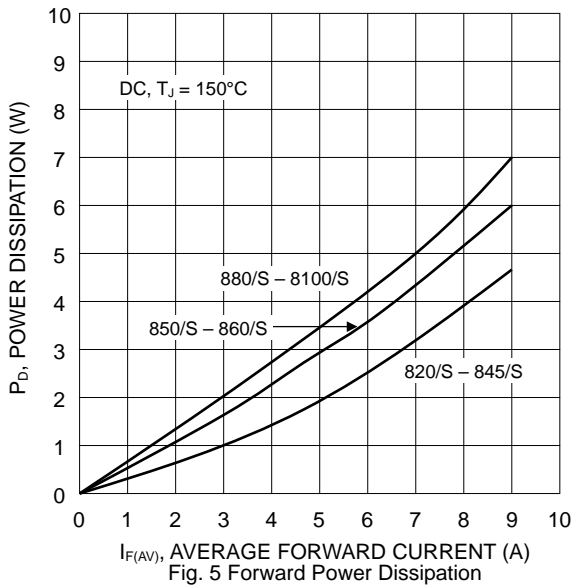


Fig. 5 Forward Power Dissipation

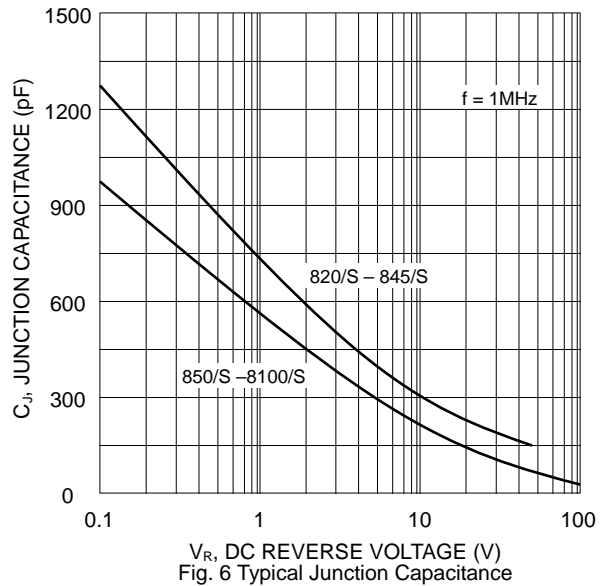
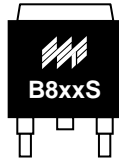


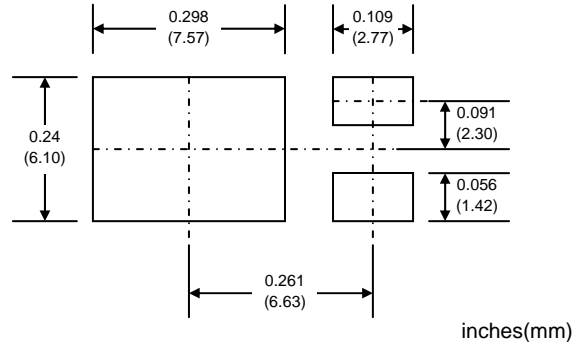
Fig. 6 Typical Junction Capacitance

## MARKING INFORMATION



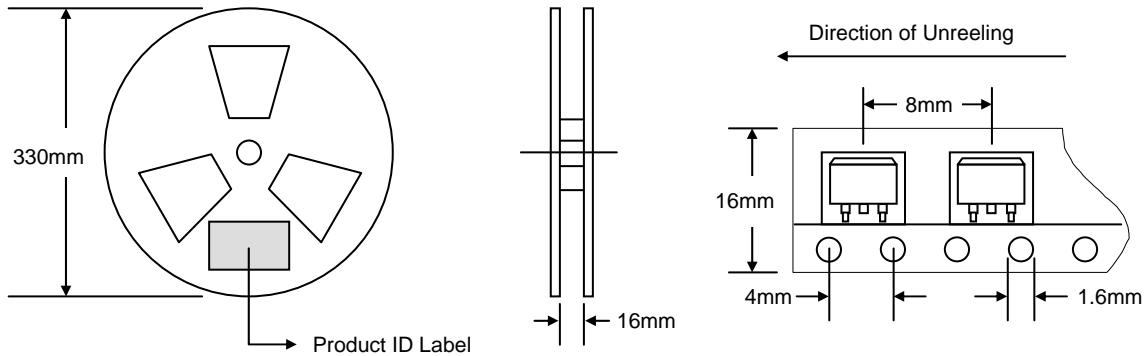
**B8xx** = Device Number  
**xx** = 20, 30, 40, 45, 50, 60, 80 or 100  
**S** = Suffix for MBRD820S Series (remove when ordering MBRD820 series)

## RECOMMENDED FOOTPRINT



## PACKAGING INFORMATION

### TAPE & REEL




Reel Diameter (mm)	Quantity (PCS)	Inner Box Size L x W x H (mm)	Quantity (PCS)	Carton Size L x W x H (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
330	2,500	340 x 337 x 45	5,000	370 x 370 x 420	40,000	18.0

**Note:** 1. Paper reel, white or gray color.  
 2. Components are packed in accordance with EIA standard 481-1 and 481-2.

## ORDERING INFORMATION

Product No.	Package Type	Shipping Quantity
MBRD820/S-T3	DPAK	2500/Tape & Reel
MBRD830/S-T3	DPAK	2500/Tape & Reel
MBRD840/S-T3	DPAK	2500/Tape & Reel
MBRD845/S-T3	DPAK	2500/Tape & Reel
MBRD850/S-T3	DPAK	2500/Tape & Reel
MBRD860/S-T3	DPAK	2500/Tape & Reel
MBRD880/S-T3	DPAK	2500/Tape & Reel
MBRD8100/S-T3	DPAK	2500/Tape & Reel

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order RoHS / Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, MBRD820-T3-LF.**

WON-TOP ELECTRONICS and  are registered trademarks of Won-Top Electronics Co., Ltd (WTE). WTE has checked all information carefully and believes it to be correct and accurate. However, WTE cannot assume any responsibility for inaccuracies. Furthermore, this information does not give the purchaser of semiconductor devices any license under patent rights to manufacturer. WTE reserves the right to change any or all information herein without further notice.

**WARNING: DO NOT USE IN LIFE SUPPORT EQUIPMENT.** WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

**Won-Top Electronics Co., Ltd.**  
No. 44 Yu Kang North 3rd Road,  
Chine Chen Dist., Kaohsiung 806, Taiwan  
**Phone:** 886-7-822-5408 or 886-7-822-5410  
**Fax:** 886-7-822-5417  
**Email:** sales@wontop.com  
**Internet:** <http://www.wontop.com>

*We power your everyday.*