

### FEATURES

- \* Low forward voltage drop
- \* High current capability
- \* High reliability
- \* High surge current capability
- \* Epitaxial construction

### MECHANICAL DATA

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant

### VOLTAGE RANGE

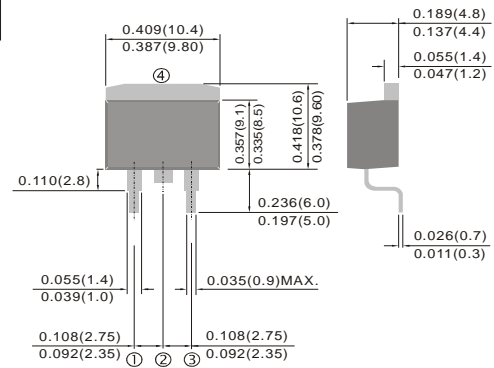
45 Volts

### CURRENT

30.0 Amperes



### TO-263 / D<sup>2</sup>PAK



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.  
 Single phase half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

TYPE NUMBER	MBR30L45	UNITS
Maximum Recurrent Peak Reverse Voltage	45	V
Maximum RMS Voltage	45	V
Maximum DC Blocking Voltage	32	V
Maximum Average Forward Rectified Current		
at T <sub>c</sub> =125°C	30	A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	200	A
Maximum Instantaneous Forward Voltage at 30A	0.5	V
Maximum DC Reverse Current	T <sub>a</sub> =25°C	0.2
at Rated DC Blocking Voltage	T <sub>a</sub> =100°C	50
Typical Junction Capacitance (Note1)	500	pF
Typical Thermal Resistance R <sub>θJC</sub> (Note 2)	2.5	°C/W
Operating Temperature Range T <sub>j</sub>	-65 — +150	°C
Storage Temperature Range T <sub>stg</sub>	-65 — +150	°C

#### NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Thermal Resistance Junction to Case.

## RATING AND CHARACTERISTIC CURVES (MBR30L45)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

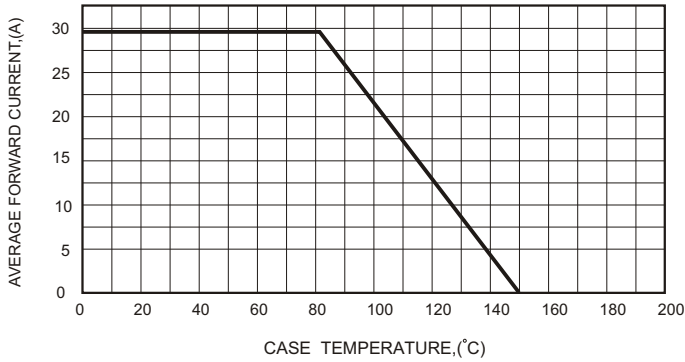


FIG.2-TYPICAL FORWARD CHARACTERISTICS

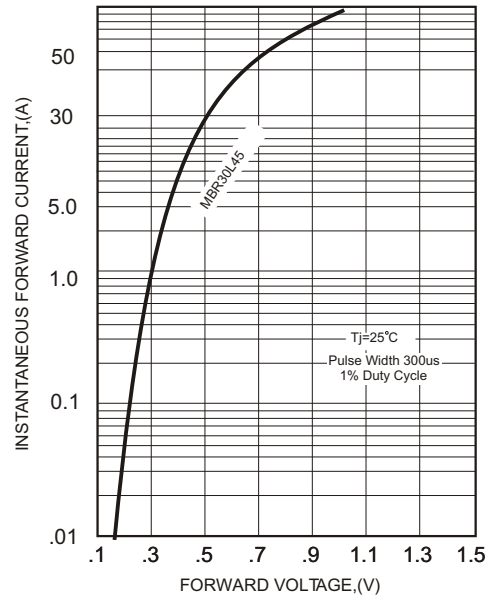


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

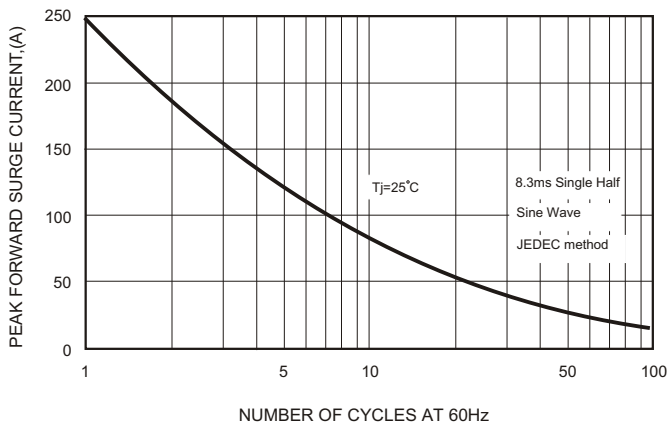


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

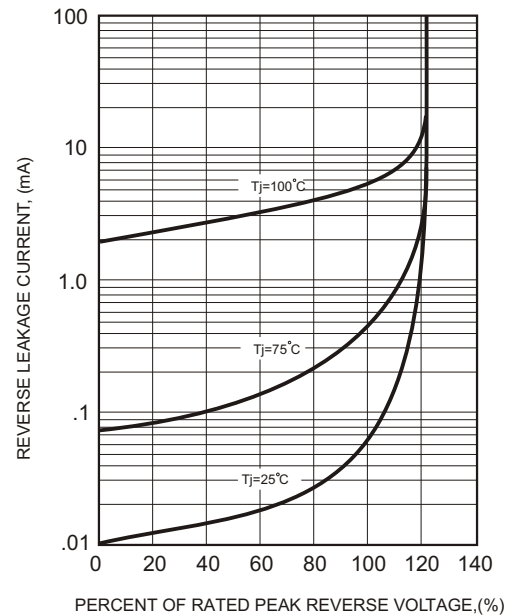
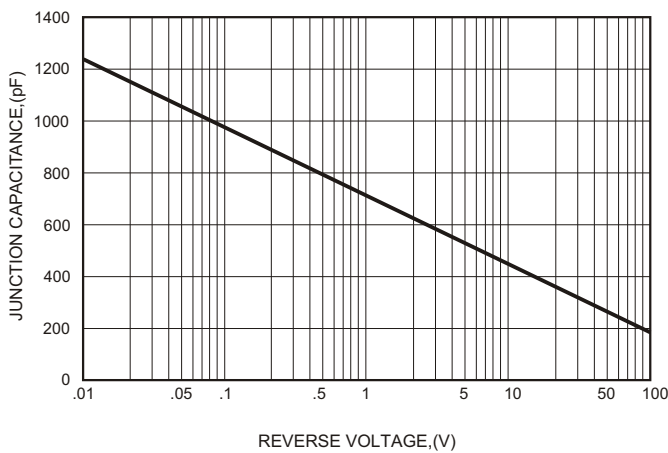


FIG.4-TYPICAL JUNCTION CAPACITANCE



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