

SCHOTTKY BARRIER RECTIFIERS

REVERSE VOLTAGE - **30 to 60** Volts
FORWARD CURRENT - **40** Amperes

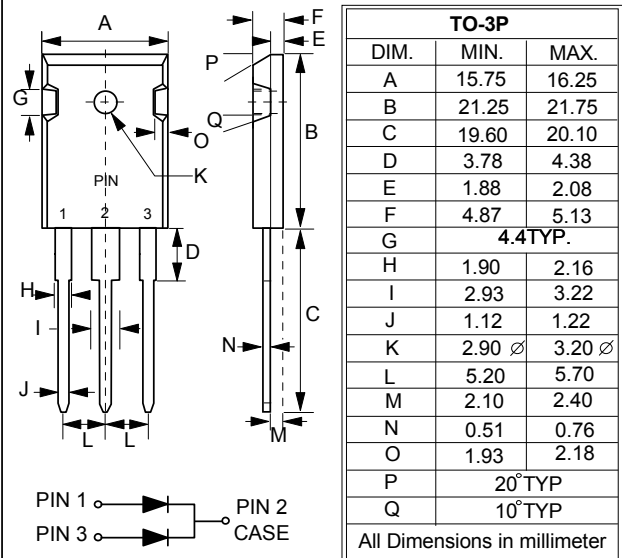
FEATURES

- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss, high efficiency
- High current capability, low VF
- High surge capacity
- Plastic package has UL flammability classification 94V-0
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

MECHANICAL DATA

- Case : TO-3P molded plastic
- Polarity : As marked on the body
- Weight : 0.2 ounces, 5.6 grams
- Mounting position : Any
- Max. mounting torque = 0.5 N.m (5.1 Kgf.cm)

TO-3P



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

CHARACTERISTICS	SYMBOL	MBR 4030PT	MBR 4035PT	MBR 4040PT	MBR 4045PT	MBR 4050PT	MBR 4060PT	UNIT
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	30	35	40	45	50	60	V
Maximum RMS Voltage	V _{RMS}	21	24.5	28	31.5	35	42	V
Maximum DC Blocking Voltage	V _{DC}	30	35	40	45	50	60	V
Maximum Average Forward Rectified Current (See Fig.1) @T _C =125°C	I _(AV)	40						A
Peak Forward Surge Current 8.3ms single half sine-wave @T _J =25 °C	I _{FSM}	400						A
Voltage Rate of Change (Rated VR)	dv/dt	10000						V/us
Maximum Forward Voltage (Note 1)	V _F	I _F =20A @ T _J =25°C I _F =20A @ T _J =125°C I _F =40A @ T _J =25°C I _F =40A @ T _J =125°C				0.70 0.60 0.80 0.75		V
Maximum DC Reverse Current at Rated DC Blocking Voltage @T _J =25°C @T _J =125°C		I _R	0.1 100				0.80 0.70 - -	
Typical Thermal Resistance (Note 2) Per leg Total		R _{θJC}	1.5 1.2					
Typical Junction Capacitance per element (Note 3)		C _J	700					
Operating Temperature Range	T _J	-55 to +150						°C
Storage Temperature Range	T _{STG}	-55 to +175						°C

NOTES : 1. 300us Pulse Width, 2% Duty Cycle.
2. Thermal Resistance Junction to Case
3. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

REV. 6, Apr-2011, KTH11

FIG.1 - FORWARD CURRENT DERATING CURVE

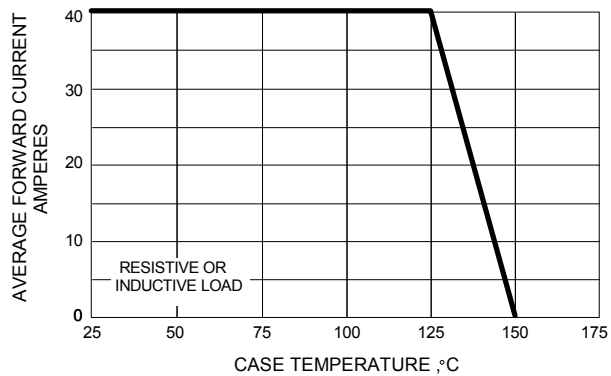


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

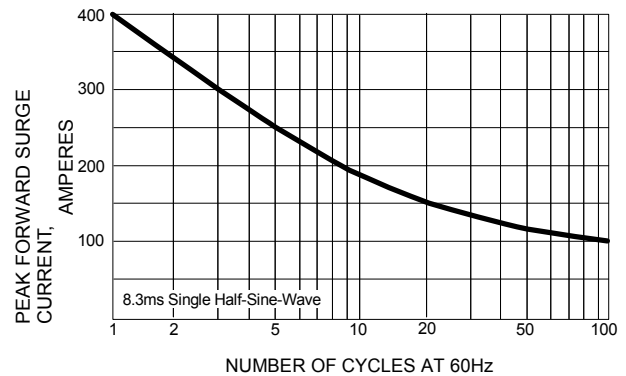


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

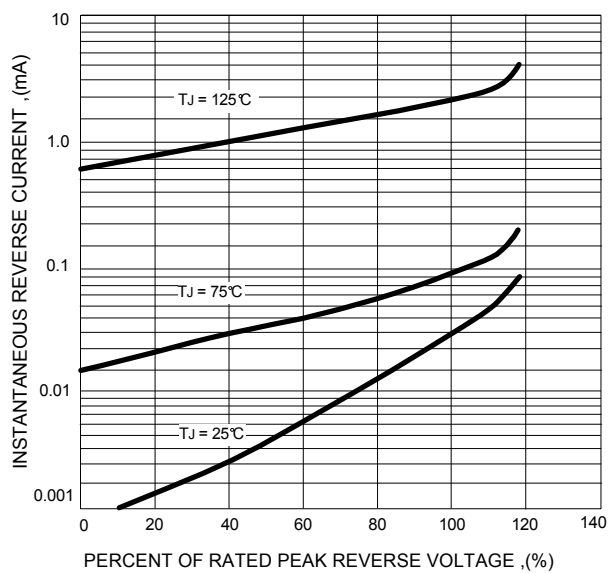


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

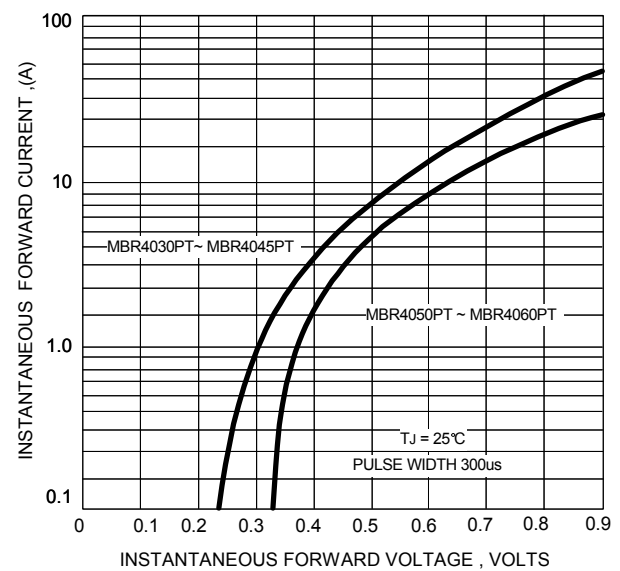
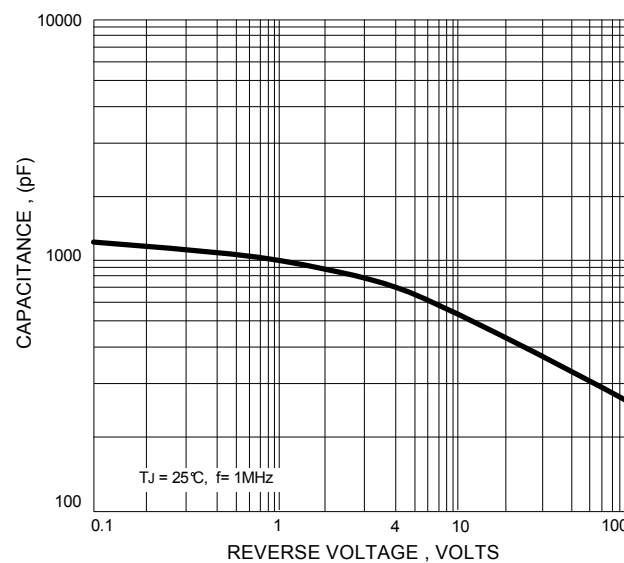


FIG.5 - TYPICAL JUNCTION CAPACITANCE



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