

SCHOTTKY BARRIER RECTIFIERS

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

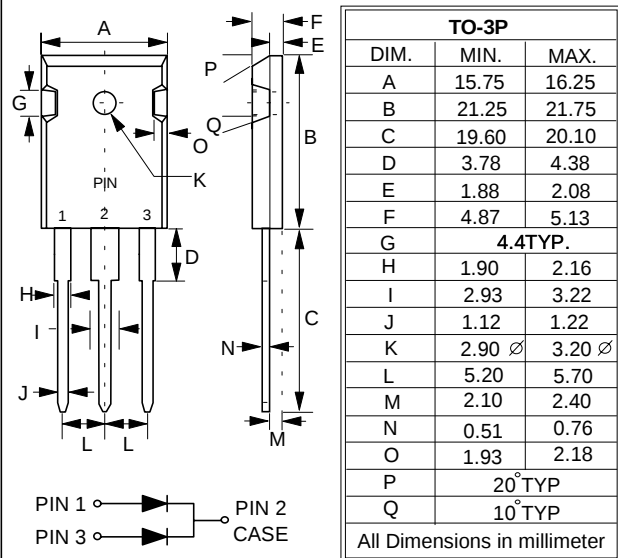
FEATURES

- 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

TO-3P



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

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 superimposed on rated load (JEDEC METHOD)	I _{FSM}	400						A
Voltage Rate of Change (Rated VR)	dv/dt	10000						V/us
Maximum Forward Voltage (Note 1) IF=20A @ Tj=25°C IF=20A @ Tj=125°C IF=40A @ Tj=25°C IF=40A @ Tj=125°C	VF	0.70 0.60 0.80 0.75				0.80 0.70 - -		V
Maximum DC Reverse Current at Rated DC Blocking Voltage @Tj=125°C	IR	1.0 100						mA
Typical Thermal Resistance (Note 2)	RθJC	1.4						°C/W
Typical Junction Capacitance per element (Note 3)	Cj	700						pF
Operating Temperature Range	Tj	-55 to +150						°C
Storage Temperature Range	TSTG	-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. 2, 01-Dec-2000, KTH11

FIG.1 - FORWARD CURRENT DERATING CURVE

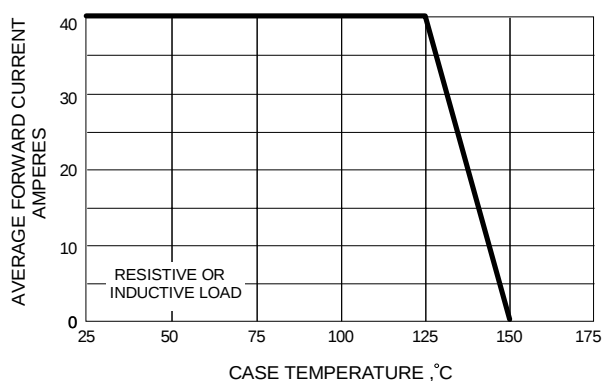


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

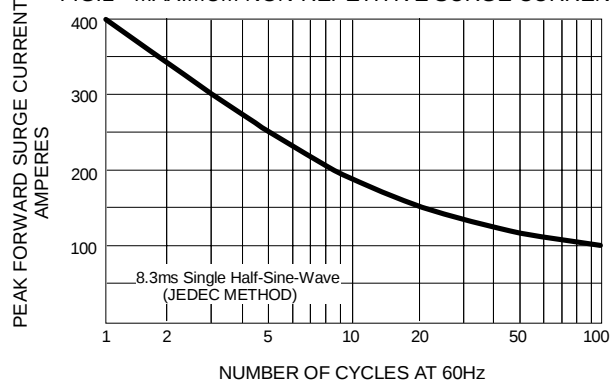


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

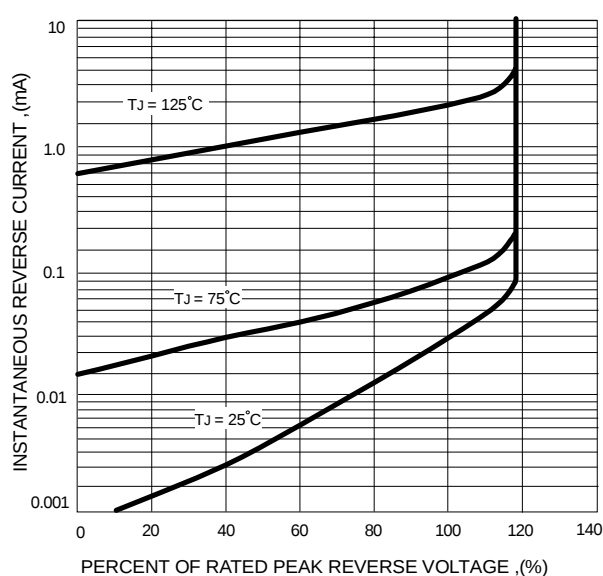


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

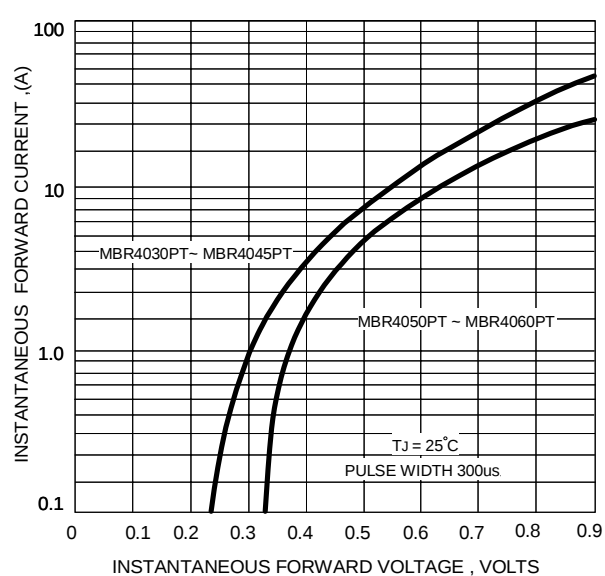


FIG.5 - TYPICAL JUNCTION CAPACITANCE

