DUAL SCHOTTKY RECTIFIERS
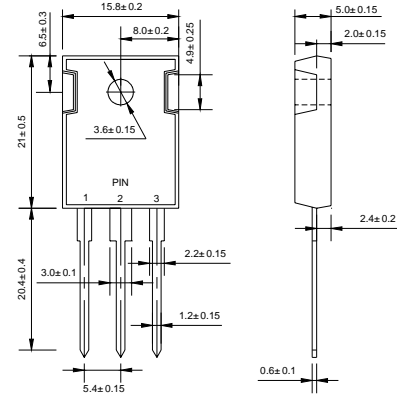
VOLTAGE RANGE: 35 - 60 V
CURRENT: 16 A

FEATURES

◇ High surge capacity.

◇ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

◇ Metal silicon junction, majority carrier conduction.

◇ High current capacity, low forward voltage drop.

◇ Guard ring for over voltage protection.

MECHANICAL DATA

◇ Case:JEDEC TO-3P,molded plastic body

◇ Terminals:Leads, solderable per MIL-STD-750, Method 2026

◇ Polarity: As marked

◇ Weight: 0.223 ounce, 6.3 grams

◇ Position: Any

TO-3P

Dimensions in millimeters

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

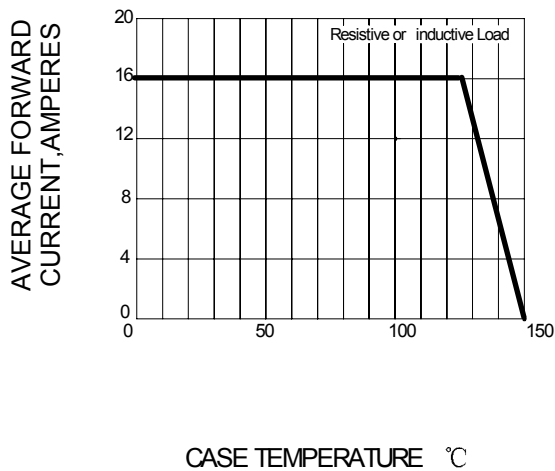Ratings at 25℃ ambient temperature unless otherwise specified.

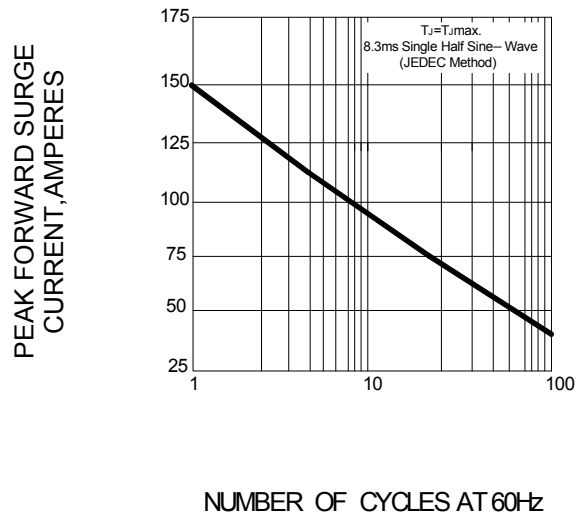|		MBR 1635PT	MBR 1645PT	MBR 1650PT	MBR 1660PT	UNITS
Maximum recurrent peak reverse voltage	V_{RRM}	35	45	50	60	V
Maximum RMS Voltage	V_{RMS}	25	32	35	42	V
Maximum DC blocking voltage	V_{DC}	35	45	50	60	V
Maximum average forward total device rectified current @T_C = 125°C	$I_{F(AV)}$	16.0				A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	150.0				A
Maximum forward voltage per leg (NOTE 1) (I_F=8.0A,T_C=25℃) (I_F=8.0A,T_C=125 ℃)	V_F	0.63 0.57		0.75 0.65		V
Maximum reverse current at rated DC blocking voltage @T_C=25℃ @T_C=125℃	I_R	0.2 40		1.0 50		m A
Maximum thermal resistance (NOTE 2)	$R_{\theta JC}$	1.5				℃/W
Operating junction temperature range	T_J	- 55 ---- + 150				℃
Storage temperature range	T_{STG}	- 55 ---- + 175				℃

NOTE: 1. Pulse test:300μs pulse width,1% duty cycle.
2. Thermal resistance from junction to case and thermal resistance from junction to ambient.
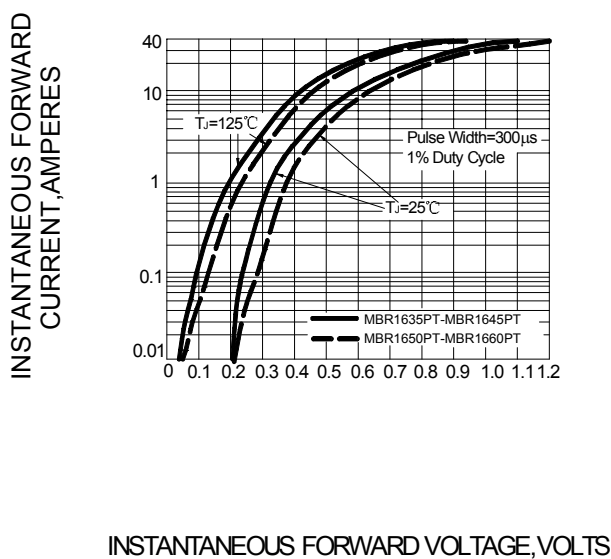
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RATINGS AND CHARACTERISTIC CURVES

FIG.1 – FORWARD CURRENT DERATING CURVE

Resistive or inductive Load

AVERAGE FORWARD CURRENT, AMPERES

CASE TEMPERATURE ℃

FIG.2 – MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PERLEG

$T_J = T_J$max.
8.3ms Single Half Sine– Wave
(JEDEC Method)

PEAK FORWARD SURGE CURRENT, AMPERES

NUMBER OF CYCLES AT 60Hz

FIG.3 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC PERLEG

INSTANTANEOUS FORWARD CURRENT, AMPERES

$T_J = 125℃$

Pulse Width=300μs
1% Duty Cycle

$T_J = 25℃$

MBR1635PT-MBR1645PT
MBR1650PT-MBR1660PT

INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG.4 – TYPICAL REVERSE CHARACTERISTICS

INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

$T_J = 125℃$

$T_J = 75℃$

MBR1635PT-MBR1645PT
MBR1650PT-MBR1660PT

$T_J = 25℃$

PERCENT OF RATED PEAK REVERSE VOLTAGE, ％