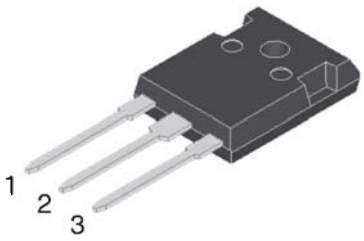
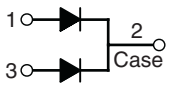
30.0 Amp. Schottky Barrier Rectifier

TO-3P / TO-247AD





Common Cathode
Suffix "C"

Voltage	Current
45 to 150 V	30.0 A

FEATURES

- Ideal for automated placement
- Low power losses, high efficiency
- High surge current capability
- Guarding for overvoltage protection
- Low forward voltage drop
- Solder dip 260°C, 10s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260° C

Pb

e3

RoHS COMPLIANT

MECHANICAL DATA

- **Case:** TO-3P / TO-247AD. Epoxy meets UL 94V-0 flammability rating.
- **Polarity:** As marked on the body.
- **Mounting Torque:** 10 in-lbs maximum.
- **Terminals:** Matte tin plated leads, solderable per MIL-STD-750 Method 2026, J-STD-002 and JESD22-B102. Consumer grade, meets JESD 201 class 1A whisker test.

TYPICAL APPLICATIONS

Used in low voltage high frequency inverters, freewheeling, dc-to-dc converters, and polarity protection applications.

Maximun Ratings and Electrical Characteristics at 25°C

		MBR3045PT	MBR3060PT	MBR30100PT	MBR30150PT
Marking Code		MBR3045PT	MBR3060PT	MBR30100PT	MBR30150PT
V_{RRM}	Peak recurrent reverse voltage (V)	45	60	100	150
V_{RMS}	Maximum RMS voltage (V)	31	42	70	105
V_{DC}	Maximum DC blocking voltage (V)	45	60	100	150
$I_{F\ (AV)}$	Maximum average Forward current (both diodes conducting) (See graphic)	30 A			
I_{FSM}	8.3 ms. peak forward surge current (Jedec Method)	200 A			
I_{RRM}	Peak repetitive reverse surge current	2.0 A	1.0 A		
T_j	Operating temperature range	– 65 to + 150 °C			
T_{stg}	Storage temperature range	– 65 to + 175 °C			

Electrical Characteristics at Tamb = 25 °C

V_F	Max. forward voltage drop at I_F = 15 A (Note 1)	Tc = 25 °C	--	0.75 V	0.85 V	0.95 V
		Tc = 125 °C	0.60 V	0.65 V	0.75 V	0.92 V
	Max. forward voltage drop at I_F = 30 A	Tc = 25 °C	0.82 V	--	--	1.02 V
		Tc = 125 °C	0.72 V	--	--	0.98 V
I_R	Max. Instantaneous reverse current at $V_R = V_{RRMax}$ (Note 3)	Tc = 25 °C	1.0 mA		0.5 mA	
		Tc = 125 °C	20.0 mA	15.0 mA	10.0 mA	
R_{thj-C}	Typical Thermal Resistance (Note 2)		1.4 °C/W			

Notes: 1. Pulse Test: 300µ Pulse Width, 1% Duty Cycle
2. Thermal Resistance from Junction to Case per diode
3. Pulse test: Pulse width ≤ 40ms

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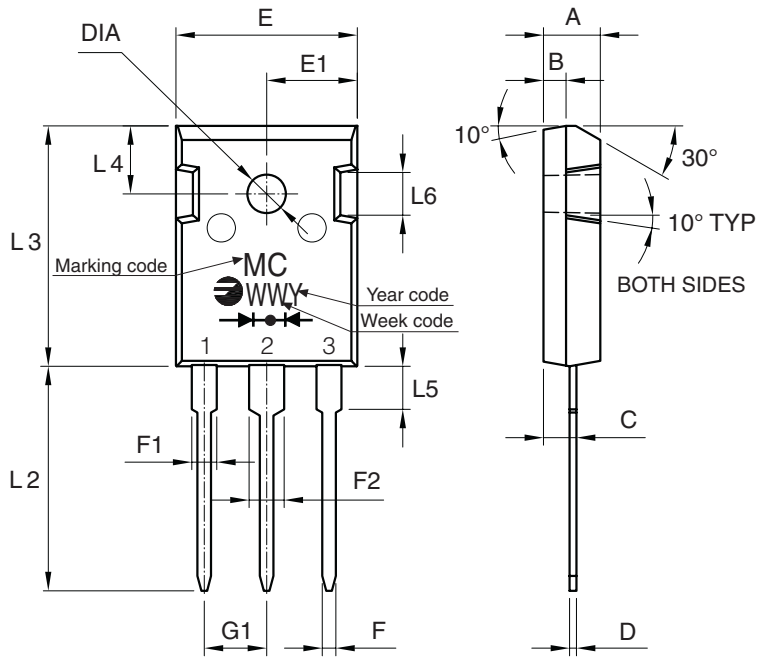
Ordering information

PREFERRED P/N	PACKAGE CODE	DELIVERY MODE	BASE QUANTITY	UNIT WEIGHT (g)
MBR3060PTC 00TUC	TU	TUBE	900	5.6

Package Outline Dimensions: (mm) TO-3P / TO-247AD

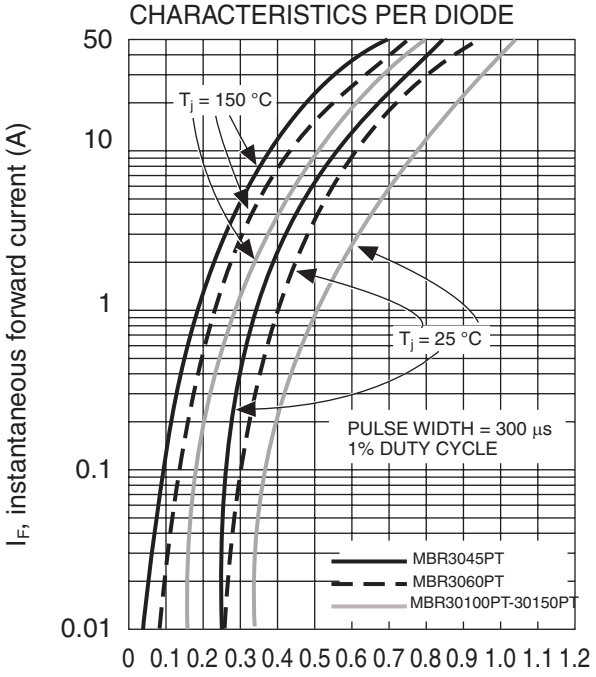


REF.	DIMENSIONS Milimeters		
	Min.	Nominal	Max.
A	4.90		5.16
B		1.98	
C	2.7		3.0
D	0.51		0.76
E	15.9		16.4
E1	7.9		8.2
F	1.12		1.22
F1	1.93		2.18
F2	2.97		3.22
G1	5.2		5.7
L2	19.7		20.2
L3	20.8		21.3
L4	5.7		6.2
L5	3.5		4.1
L6		4.3	
DIA	2.9		3.4

30.0 Amp. Schottky Barrier Rectifier

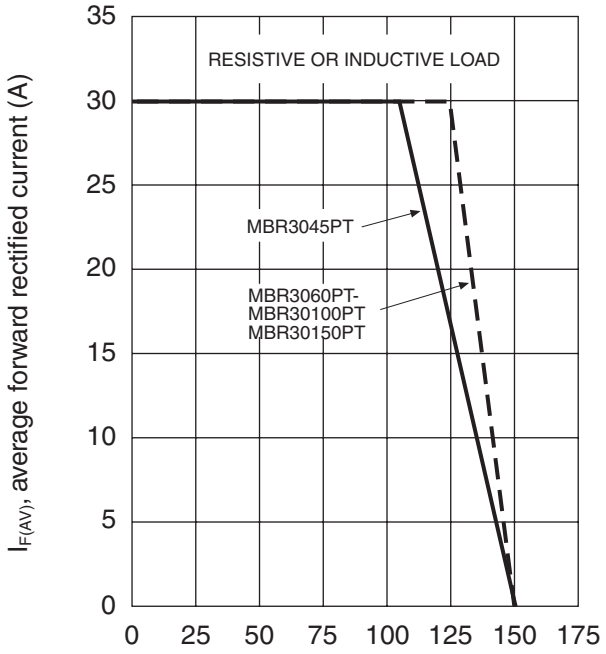
Ratings and Characteristics (Ta 25 ºC unless otherwise noted)

TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER DIODE



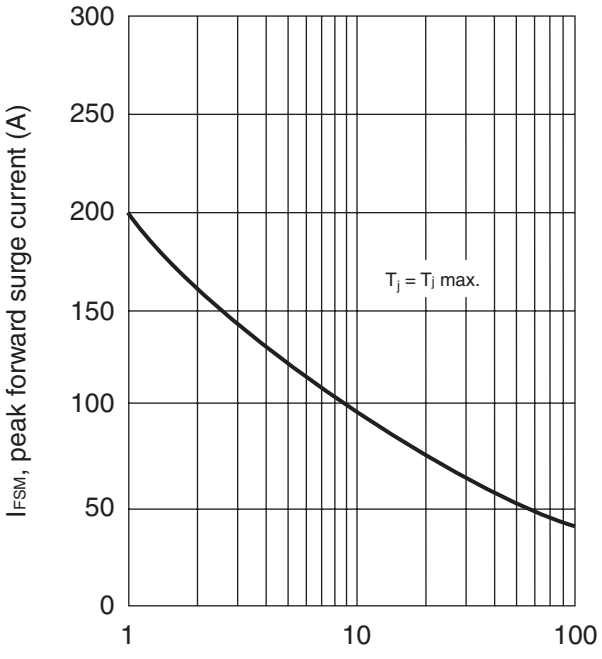
V_F, instantaneous forward voltage (V)

FORWARD CURRENT DERATING CURVE



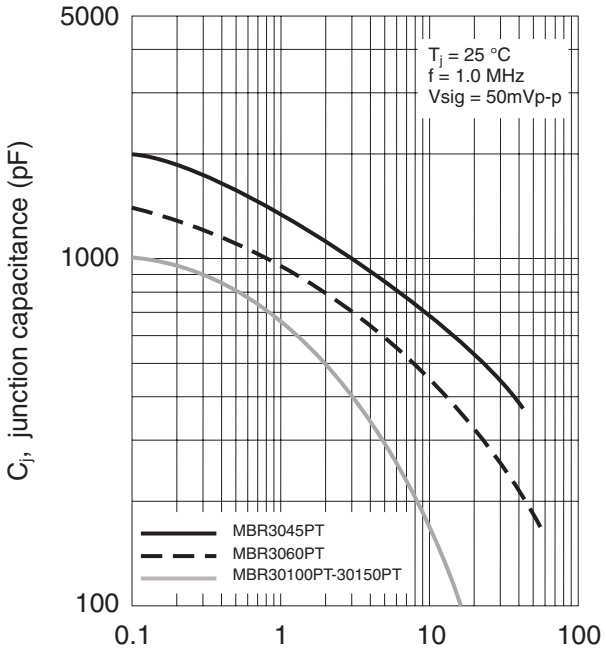
T_C, case temperature (ºC)

MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER DIODE



Number of cycles at 60 Hz.

TYPICAL JUNCTION CAPACITANCE PER DIODE



V_R, reverse voltage (V)

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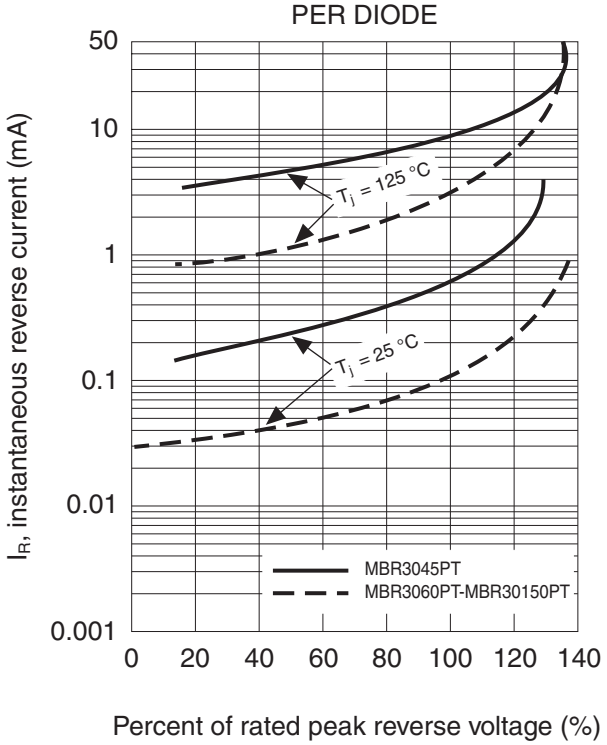
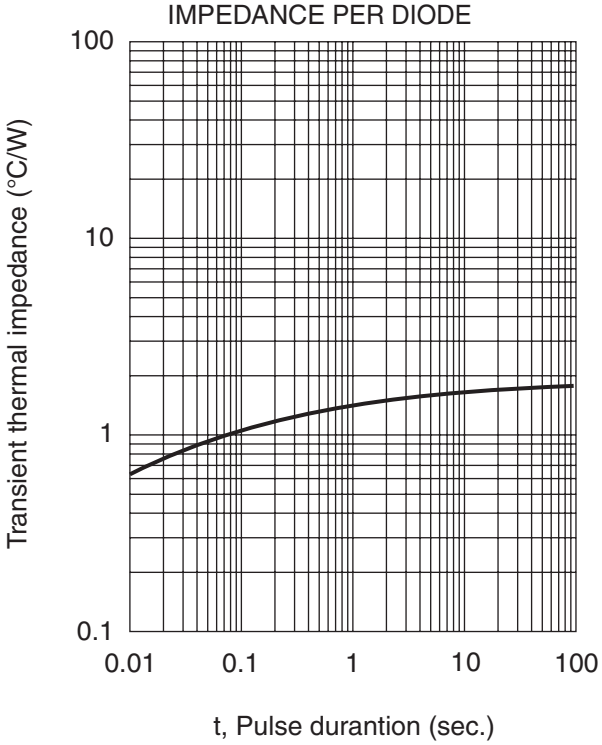
TYPICAL REVERSE CHARACTERISTICS PER DIODE



TYPICAL TRANSIENT THERMAL IMPEDANCE PER DIODE



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