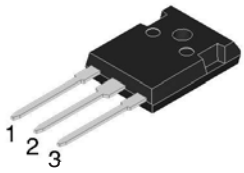
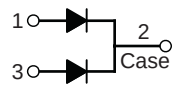
20.0 Amp. Schottky Barrier Rectifier

TO-3P





Common Cathode
Suffix "C"

Voltage	Current
45 V to 150 V	20 A

- Plastic material used carries Underwriters Laboratory Classifications 94V-0
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency.
- High current capability, low forward voltage drop
- High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- High temperature soldering guaranteed: 260°C/10 seconds, 4.3mm from case

Mechanical Data

- Cases: JEDEC TO-3P/TO-247AD molded plastic body
- Terminals: Pure tin plated, lead free. solderable per MIL-STD-750, Method 2026
- Polarity: As marked
- Mounting position: Any
- Mounting torque: 10 in. - lbs. max
- Weight: 5.6 grams

Absolute Maximum Ratings, according to IEC publication No. 134

		MBR 2045PT	MBR 2060PT	MBR 20100PT	MBR 20150PT
V_{RRM}	Peak Recurrent Peak 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 Rectified Current See Fig.	20 A			
I_{FSM}	Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	150 A			
I_{RRM}	Peak Repetitive Reverse Surge Current (Note 1)	1.0 A	0.5 A		
T_j	Operating Junction Temperature Range	– 65 to + 150 °C			
T_{stg}	Storage temperature range	– 65 to + 175 °C			

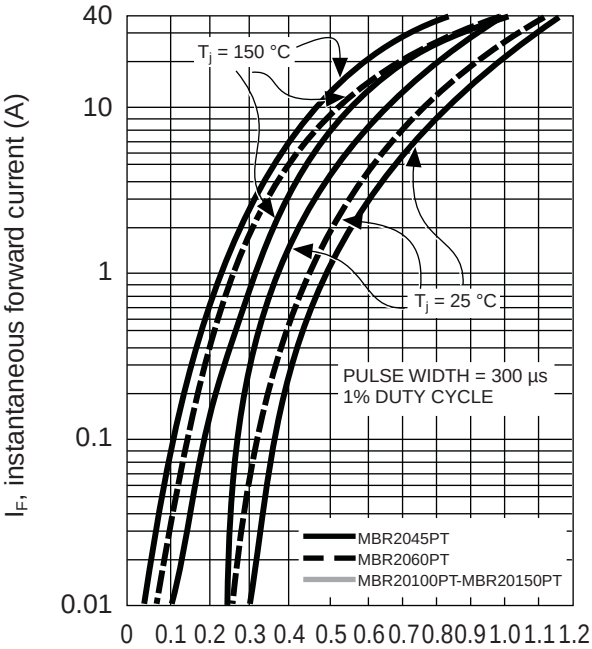
Electrical Characteristics

		MBR 2045PT	MBR 2060PT	MBR 20100PT	MBR 20150PT
V_F	Maximum Instantaneous Forward Voltage at (Note 2) I_F = 7.5 A, Tc = 25 °C I_F = 7.5 A, Tc = 125 °C I_F = 15 A, Tc = 25 °C I_F = 15 A, Tc = 125 °C	 - 0.57 V 0.84 V 0.72 V	 0.80 V 0.70 V 0.95 V 0.85 V	 0.85 V 0.75 V 0.95 V 0.85 V	 0.95 V 0.92 V 1.02 V 0.98 V
I_R	Max. Instantaneous Reverse Current @ T_C=25°C	0.1 mA		0.1 mA	
	at Rated DC Blocking Voltage (Note 2) @ T_C=125°C	15 mA	10 mA	5.0 mA	
R_{thj-C}	Maximum Thermal Resistance Per Leg (Note 3)	1.0 °C/W			

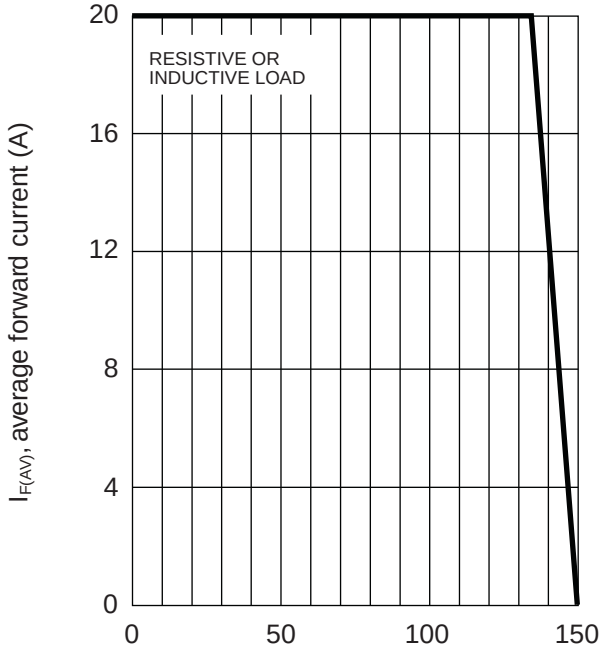
Notes: 1. 2.0µs Pulse Width, f=1.0 KHz
2. Pulse Test: 300µs Pulse Width, 1% Duty Cycle
3. Thermal Resistance from junction to Case Per Leg. With Heatsink Size of 101.6 mm x 152.4 mm x 6.35 mm Al-Plate.

Rating And Characteristic Curves

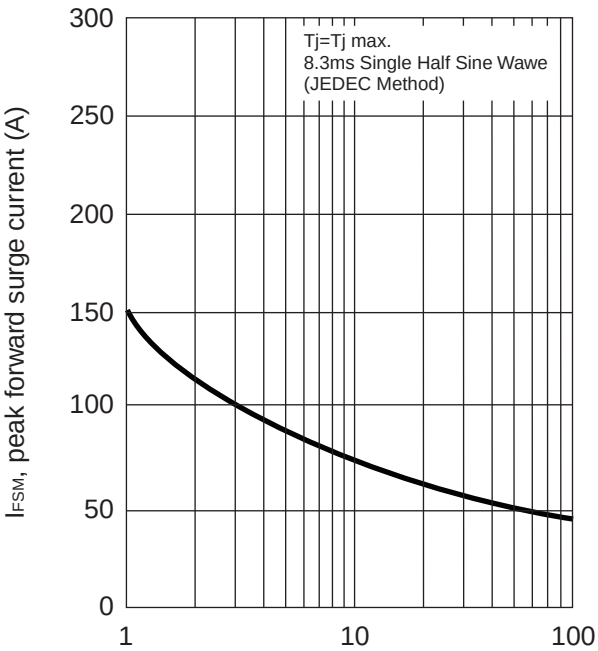
TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG



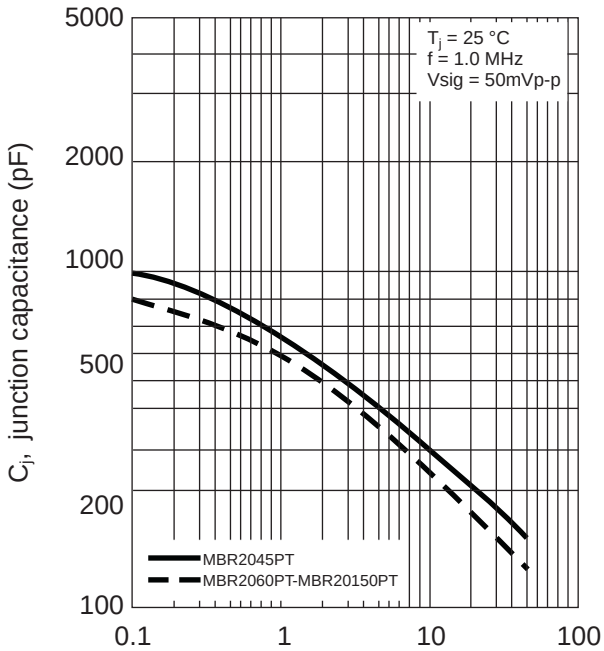
FORWARD CURRENT DERATING CURVE



MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

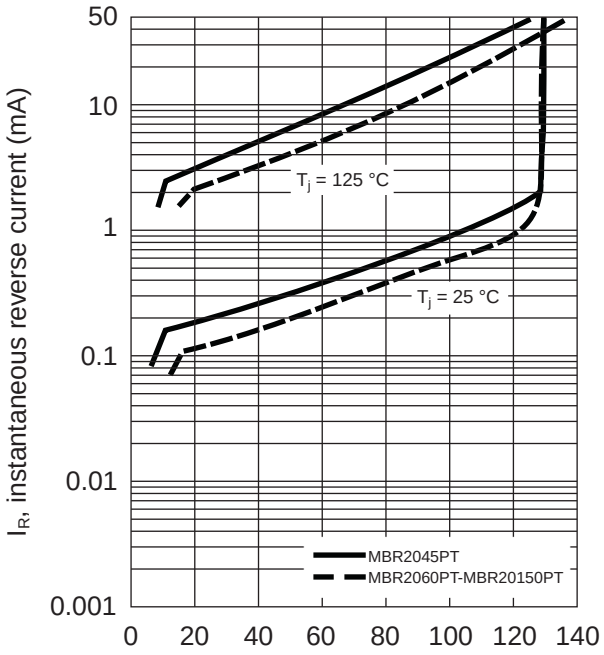


TYPICAL JUNCTION CAPACITANCE PER LEG

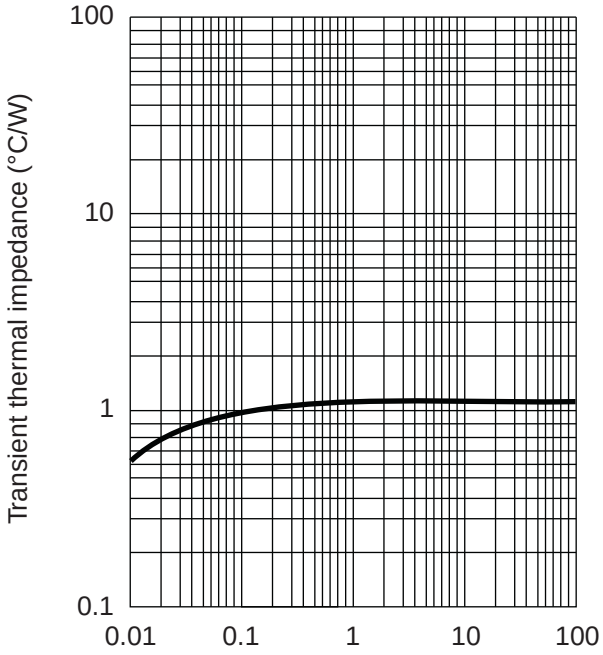


Rating And Characteristic Curves

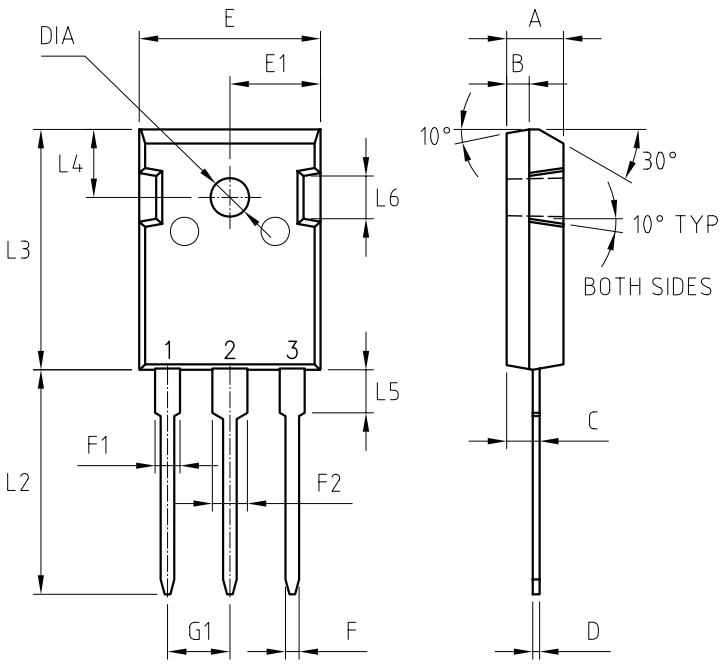
TYPICAL REVERSE CHARACTERISTICS
PER LEG



TYPICAL TRANSIENT THERMAL IMPEDANCE
PER LEG



PACKAGE MECHANICAL DATA TO-3P



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