

TO-247 Plastic-Encapsulate Diode

SCHOTTKY BARRIER RECTIFIER

FEATURES

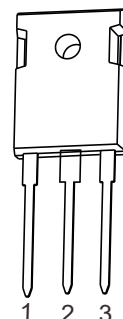
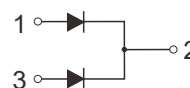
- Low Power Loss, High Efficiency
- Guard Ring Die Construction for Transient Protection
- High Current Capability and Low Forward Voltage Drop

MAIN CHARACTERISTICS

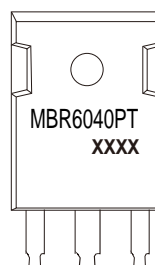
I_O	60A (2×30) A
V_{RRM}	40V
T_j	150 °C
V_{F(typ)}	0.43V (@T_j=125 °C)

TO-247

1. ANODE
2. CATHODE
3. ANODE



MARKING



MBR6040PT= Device code
 XXXX= Code

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{RRM}	Peak repetitive reverse voltage	40	V
V_{RWM}	Working peak reverse voltage		
V_R	DC blocking voltage		
V_{R(RMS)}	RMS reverse voltage	28	V
I_O	Average rectified output current	60	A
I_{FSM}	Non-Repetitive peak forward surge current (8.3ms half sine wave)	400	A
R_{θJC}	Thermal resistance from junction to case	3.5	°C/W
R_{θJA}	Thermal resistance from junction to ambient	40	°C/W
T_j	Junction temperature	-55~+150	°C
T_{stg}	Storage temperature	-55~+150	°C

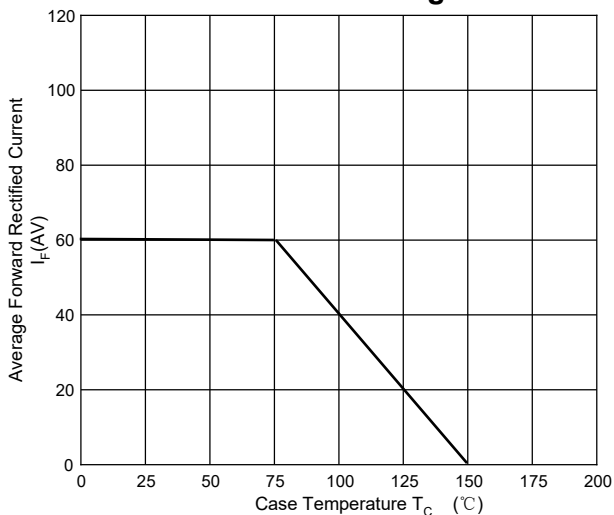
ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	V _(BR)	I _R =1mA	40			V
Reverse current	I _R	V _R =40V	T _j =25°C	0.1	2.5	mA
			T _j =125°C		20	mA
Forward voltage	V _F	I _F =15A	T _j =25°C	0.47		V
			T _j =125°C	0.40		V
		I _F =30A	T _j =25°C	0.53	0.58	V
			T _j =125°C	0.43		V

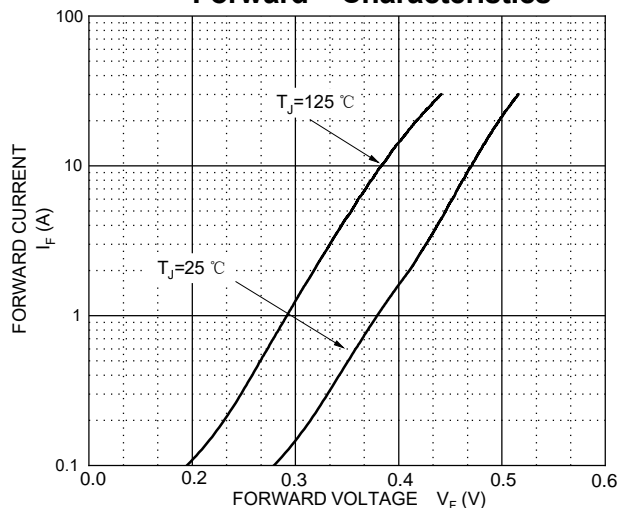
*Pulse test: pulse width ≤300μs, duty cycles ≤ 2.0%.

Typical Characteristics

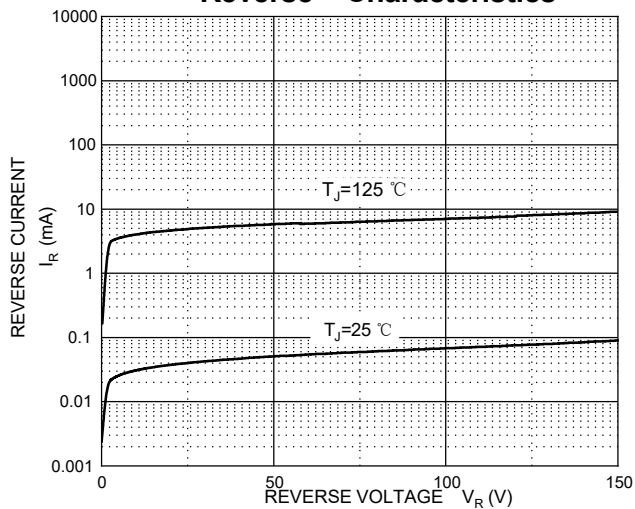
Current Derating



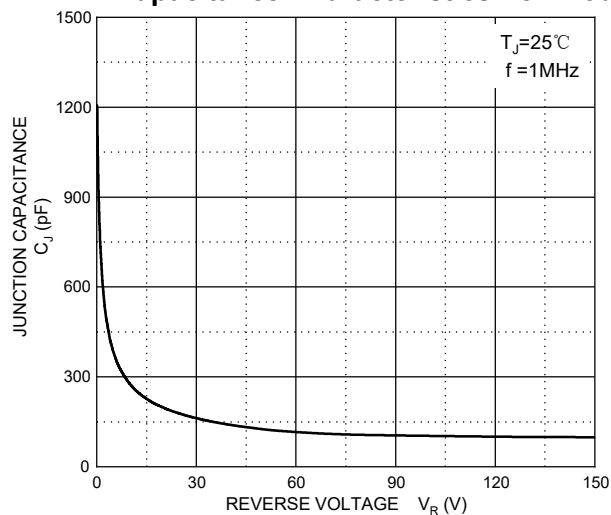
Forward Characteristics



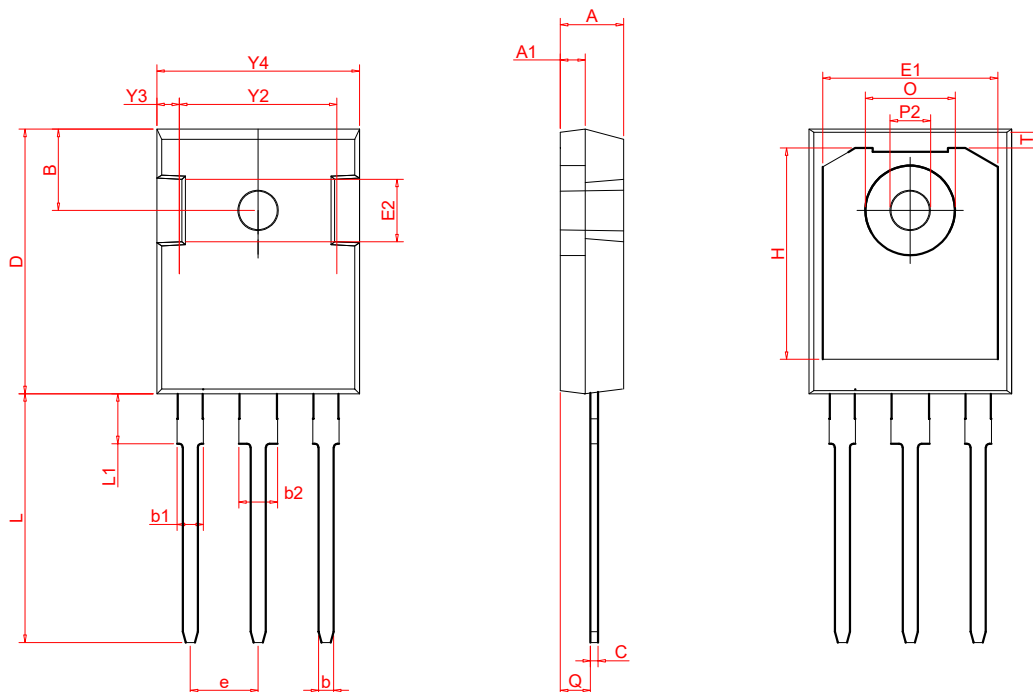
Reverse Characteristics



Capacitance Characteristics Per Diode



TO-247 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.700	5.300	0.185	0.209
A1	1.700	2.300	0.067	0.091
C	0.450	0.750	0.018	0.030
Q	2.200	2.600	0.087	0.102
O	7.100	7.400	0.280	0.291
P2	3.450	3.750	0.136	0.148
L	19.000	21.000	0.748	0.827
L1	4.2	4.5	0.165	0.177
b	1.000	1.400	0.039	0.055
b1	1.800	2.250	0.071	0.089
b2	3.000	3.300	0.118	0.130
e	5.250	5.550	0.207	0.219
D	20.950	21.350	0.825	0.841
Y1	7.600	8.100	0.299	0.319
Y2	11.000	13.000	0.433	0.512
Y3	1.750	2.250	0.069	0.089
Y4	16.000	16.400	0.630	0.646
E2	4.600	4.900	0.181	0.193
T	1.35REF		0.053REF	
H	16.25REF		0.639REF	
E1	14REF		0.551REF	
B	6.55REF		0.257REF	