



MBR3040PT thru 3060PT

SCHOTTKY BARRIER RECTIFIERS	REVERSE VOLTAGE - 40 to 60 Volts FORWARD CURRENT - 30 Ampere																																																
<p>FEATURES</p> <ul style="list-style-type: none"> • 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 <p>MECHANICAL DATA</p> <ul style="list-style-type: none"> • Case : TO-3P molded plastic • Polarity : As marked on the body • Weight : 0.2 ounces, 5.6 grams • Mounting position : Any 	<p style="text-align: center;">TO-247AB</p> <table border="1"> <thead> <tr> <th>Dim.</th> <th>Min.</th> <th>Max.</th> </tr> </thead> <tbody> <tr><td>A</td><td>15.45</td><td>16.25</td></tr> <tr><td>B</td><td>20.30</td><td>21.75</td></tr> <tr><td>C</td><td>20.10</td><td>19.60</td></tr> <tr><td>D</td><td>6.50</td><td>Typ.</td></tr> <tr><td>E</td><td>3.70</td><td>4.38</td></tr> <tr><td>F</td><td>3.00</td><td>3.40</td></tr> <tr><td>G</td><td>1.80</td><td>2.20</td></tr> <tr><td>H</td><td>1.00</td><td>1.40</td></tr> <tr><td>I</td><td>5.45</td><td>Typ.</td></tr> <tr><td>J</td><td>4.85</td><td>5.15</td></tr> <tr><td>K</td><td>1.90</td><td>2.10</td></tr> <tr><td>L</td><td>3.50</td><td>Typ.</td></tr> <tr><td>M</td><td>3.20</td><td>Typ.</td></tr> <tr><td>N</td><td>2.20</td><td>2.60</td></tr> <tr><td>O</td><td>0.51</td><td>0.76</td></tr> </tbody> </table> <p style="text-align: center;">All Dimensions in millimeter</p>	Dim.	Min.	Max.	A	15.45	16.25	B	20.30	21.75	C	20.10	19.60	D	6.50	Typ.	E	3.70	4.38	F	3.00	3.40	G	1.80	2.20	H	1.00	1.40	I	5.45	Typ.	J	4.85	5.15	K	1.90	2.10	L	3.50	Typ.	M	3.20	Typ.	N	2.20	2.60	O	0.51	0.76
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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 3040PT	MBR 3045PT	MBR 3060PT	UNIT
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	40	45	60	V
Maximum RMS Voltage	V_{RMS}	28	31.5	42	V
Maximum DC Blocking Voltage	V_{DC}	40	45	60	V
Maximum Average Forward Rectified Current (See Fig.1) @ $T_c=125^\circ\text{C}$	I_{AV}	30			A
Peak Forward Surge current 8.3ms single half sine-wave super imposed on rated load (JEDEC METHOD)	I_{FSM}	200			A
Voltage Rate of Change (Rated VR)	dv/dt	10000			V/us
Maximum forward Voltage (Note 1)	V_F	-	0.60	0.75	V
$I_F=20A @T_c=25^\circ\text{C}$					
$I_F=20A @T_c=125^\circ\text{C}$			0.76	0.65	
$I_F=30A @T_c=25^\circ\text{C}$			0.72	0.80	
$I_F=30A @T_c=125^\circ\text{C}$				0.75	
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	1	5	100	mA
@ $T_c=25^\circ\text{C}$		60			
@ $T_c=125^\circ\text{C}$					
Typical Thermal Resistance (Note 2)	$R_{\theta JC}$	1.4			$^\circ\text{C/W}$
Typical Junction Capacitance per element (Note 3)	C_j	500			pF
Operating Temperature Range	T_j	-55 to +150			$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +175			$^\circ\text{C}$

NOTES : 1. 300us Pulse Width, 2% Duty Cycle. REV.0, 01.-Oct-2013
 2. Thermal Resistance Junction to Case.
 3. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

RATING AND CHARACTERISTIC CURVES
MBR3040PT thru MBR3060PT

