MBR1645 is a Preferred Device

SWITCHMODE™ Power Rectifiers

... using the Schottky Barrier principle with a platinum barrier metal. These state-of-the-art devices have the following features:

- Guardring for Stress Protection
- Low Forward Voltage
- 150°C Operating Junction Temperature

Mechanical Characteristics:

- Case: Epoxy, Molded
- Weight: 1.9 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped 50 units per plastic tube
- Marking: B1635, B1645

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage MBR1635 MBR1645	V _{RRM} V _{RWM} V _R	35 45	>
Average Rectified Forward Current (Rated V _R , T _C = 125°C)	I _{F(AV)}	16	А
Peak Repetitive Forward Current, (Rated V _R , Square Wave, 20 kHz, T _C = 125°C)	I _{FRM}	32	А
Non–Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I _{FSM}	150	Α
Peak Repetitive Reverse Surge Current (2.0 μs, 1.0 kHz)	I _{RRM}	1.0	А
Storage Temperature Range	T _{stg}	-65 to +175	°C
Operating Junction Temperature	TJ	-65 to +150	°C
Voltage Rate of Change (Rated V _R)	dv/dt	10,000	V/μs

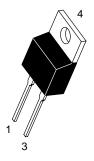


ON Semiconductor™

http://onsemi.com

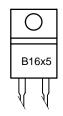
SCHOTTKY BARRIER RECTIFIERS 16 AMPERES 35 and 45 VOLTS





TO-220AC CASE 221B PLASTIC

MARKING DIAGRAM



B16x5 = Device Code x = 3 or 4

ORDERING INFORMATION

Device	Package	Shipping
MBR1635	TO-220	50 Units/Rail
MBR1645	TO-220	50 Units/Rail

Preferred devices are recommended choices for future use and best overall value.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance, Junction to Case	$R_{ heta JC}$	1.5	°C/W

ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (Note 1.) $ (i_F = 16 \text{ Amps}, T_C = 125^{\circ}\text{C}) \\ (i_F = 16 \text{ Amps}, T_C = 25^{\circ}\text{C}) $	VF	0.57 0.63	Volts
Maximum Instantaneous Reverse Current (Note 1.) (Rated dc Voltage, $T_C = 125^{\circ}C$) (Rated dc Voltage, $T_C = 25^{\circ}C$)	i _R	40 0.2	mA

^{1.} Pulse Test: Pulse Width = 300 μ s, Duty Cycle \leq 2.0%.

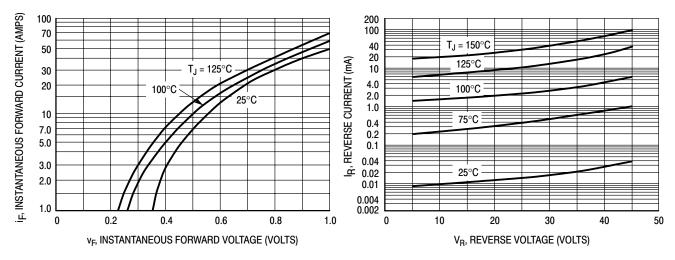


Figure 1. Typical Forward Voltage

Figure 2. Typical Reverse Current

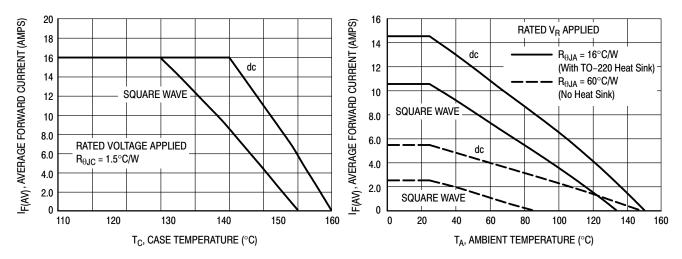


Figure 3. Current Derating, Case

Figure 4. Current Derating, Ambient

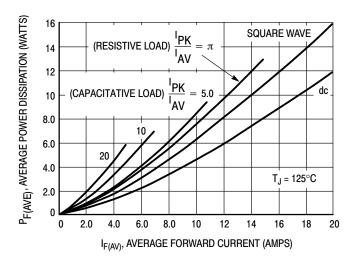
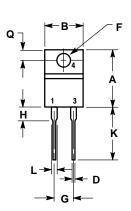
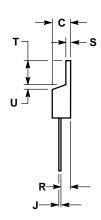


Figure 5. Forward Power Dissipation

PACKAGE DIMENSIONS

TO-220 **PLASTIC** CASE 221B-04 ISSUE D





NOTES

- DIMENSIONING AND TOLERANCING PER ANSI Y14 5M 1982
- 2. CONTROLLING DIMENSION: INCH.

	INCHES MILLIMETER		IETERS	
DIM	MIN	MAX	MIN	MAX
Α	0.595	0.620	15.11	15.75
В	0.380	0.405	9.65	10.29
С	0.160	0.190	4.06	4.82
D	0.025	0.035	0.64	0.89
F	0.142	0.147	3.61	3.73
G	0.190	0.210	4.83	5.33
H	0.110	0.130	2.79	3.30
_	0.018	0.025	0.46	0.64
K	0.500	0.562	12.70	14.27
٦	0.045	0.060	1.14	1.52
Q	0.100	0.120	2.54	3.04
R	0.080	0.110	2.04	2.79
S	0.045	0.055	1.14	1.39
T	0.235	0.255	5.97	6.48
U	0.000	0.050	0.000	1.27

SWITCHMODE is a trademark of Semiconductor Components Industries, LLC.

are trademarks of Semiconductor Components Industries, LLC (SCILLC). SCILLC reserves the right to make changes ON Semiconductor and without further notice to any products herein. SCILLC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILLC assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. "Typical" parameters which may be provided in SCILLC data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. SCILLC does not convey any license under its patent rights nor the rights of others. SCILLC products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the SCILLC product could create a situation where personal injury or death may occur. Should Buyer purchase or use SCILLC products for any such unintended or unauthorized application, Buyer shall indemnify and hold SCILLC and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that SCILLC was negligent regarding the design or manufacture of the part. SCILLC is an Equal Opportunity/Affirmative Action Employer.

PUBLICATION ORDERING INFORMATION

NORTH AMERICA Literature Fulfillment:

Literature Distribution Center for ON Semiconductor P.O. Box 5163, Denver, Colorado 80217 USA

Phone: 303-675-2175 or 800-344-3860 Toll Free USA/Canada Fax: 303-675-2176 or 800-344-3867 Toll Free USA/Canada

Email: ONlit@hibbertco.com

Fax Response Line: 303-675-2167 or 800-344-3810 Toll Free USA/Canada

N. American Technical Support: 800-282-9855 Toll Free USA/Canada

EUROPE: LDC for ON Semiconductor - European Support

German Phone: (+1) 303-308-7140 (Mon-Fri 2:30pm to 7:00pm CET)

Email: ONlit-german@hibbertco.com

Phone: (+1) 303–308–7141 (Mon–Fri 2:00pm to 7:00pm CET)

Email: ONlit-french@hibbertco.com

English Phone: (+1) 303-308-7142 (Mon-Fri 12:00pm to 5:00pm GMT)

Email: ONlit@hibbertco.com

EUROPEAN TOLL-FREE ACCESS*: 00-800-4422-3781

*Available from Germany, France, Italy, UK, Ireland

CENTRAL/SOUTH AMERICA:

Spanish Phone: 303-308-7143 (Mon-Fri 8:00am to 5:00pm MST)

Email: ONlit-spanish@hibbertco.com

Toll-Free from Mexico: Dial 01-800-288-2872 for Access -

then Dial 866-297-9322

ASIA/PACIFIC: LDC for ON Semiconductor – Asia Support

Phone: 303–675–2121 (Tue–Fri 9:00am to 1:00pm, Hong Kong Time)

Toll Free from Hong Kong & Singapore:

001-800-4422-3781 Email: ONlit-asia@hibbertco.com

JAPAN: ON Semiconductor, Japan Customer Focus Center

4-32-1 Nishi-Gotanda, Shinagawa-ku, Tokyo, Japan 141-0031

Phone: 81-3-5740-2700

Email: r14525@onsemi.com

ON Semiconductor Website: http://onsemi.com

For additional information, please contact your local

Sales Representative.