SWITCHMODE™ Power Rectifier

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

- Center-Tap Configuration
- Guardring for Stress Protection
- Low Forward Voltage
- 150°C Operating Junction Temperature
- Epoxy Meets UL94, VO at 1/8"

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: B1545P

MAXIMUM RATINGS

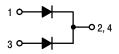
Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	45	V
Average Rectified Forward Current (Rated V _R , T _C = 105°C) Per Diode Per Device	I _{F(AV)}	7.5 15	A
Peak Repetitive Forward Current (Rated V _R , Square Wave, 20 kHz, T _C = 105°C) Per Diode	I _{FRM}	15	A
Non–Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I _{FSM}	150	A
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 RECTIFIER 15 AMPERES 45 VOLTS





CASE 221A TO-220AB PLASTIC

MARKING DIAGRAM



YY = Year WW = Work Week B1545P= Device Code AKA = Diode Polarity

ORDERING INFORMATION

Device	Package	Shipping
MBR1545CTP	TO-220	50 Units/Rail

THERMAL CHARACTERISTICS (Per Diode)

Characteristic	Symbol	Value	Unit
Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$	3.0	°C/W
Maximum Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	60	°C/W

ELECTRICAL CHARACTERISTICS (Per Diode)

Maximum Instantaneous Forward Voltage (Note 1.) ($i_F = 7.5 \text{ Amps}$, $T_C = 125^{\circ}\text{C}$) ($i_F = 15 \text{ Amps}$, $T_C = 125^{\circ}\text{C}$) ($i_F = 15 \text{ Amps}$, $T_C = 25^{\circ}\text{C}$)	V _F	0.57 0.72 0.84	Volts
Maximum Instantaneous Reverse Current (Note 1.) (Rated dc Voltage, $T_C = 125^{\circ}C$) (Rated dc Voltage, $T_C = 25^{\circ}C$)	İR	15 0.1	mA

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

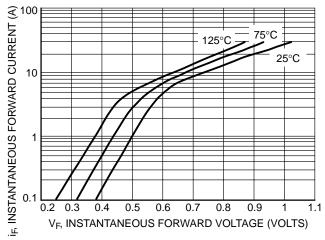


Figure 1. Maximum Forward Voltage

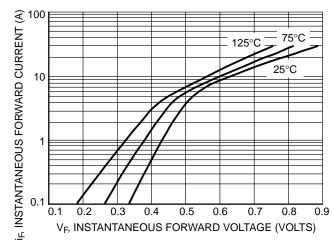


Figure 2. Typical Forward Voltage

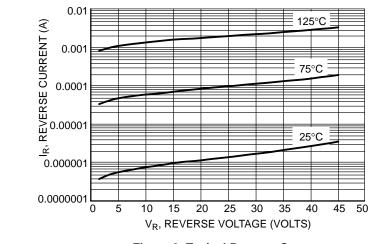


Figure 3. Typical Reverse Current

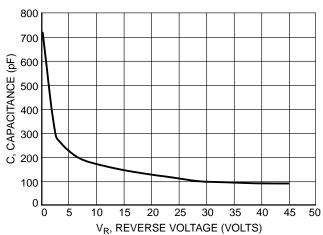
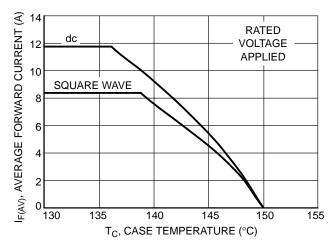


Figure 4. Typical Capacitance





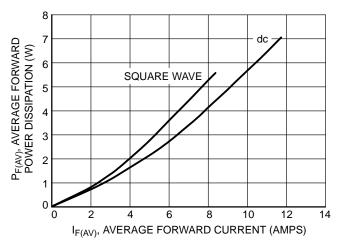
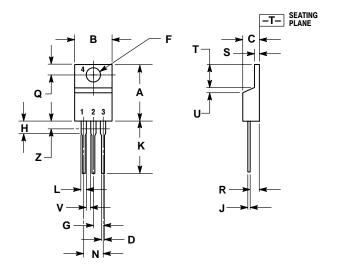


Figure 6. Forward Power Dissipation, Per Diode

PACKAGE DIMENSIONS

TO-220 THREE-LEAD TO-220AB

CASE 221A-09 **ISSUE AA**



- NOTES:
 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982. CONTROLLING DIMENSION: INCH.
- DIMENSION Z DEFINES A ZONE WHERE ALL BODY AND LEAD IRREGULARITIES ARE

	INC	INCHES MILLIMETER		IETERS
DIM	MIN	MAX	MIN	MAX
Α	0.570	0.620	14.48	15.75
В	0.380	0.405	9.66	10.28
С	0.160	0.190	4.07	4.82
D	0.025	0.035	0.64	0.88
F	0.142	0.147	3.61	3.73
G	0.095	0.105	2.42	2.66
Н	0.110	0.155	2.80	3.93
J	0.018	0.025	0.46	0.64
K	0.500	0.562	12.70	14.27
L	0.045	0.060	1.15	1.52
N	0.190	0.210	4.83	5.33
Q	0.100	0.120	2.54	3.04
R	0.080	0.110	2.04	2.79
S	0.045	0.055	1.15	1.39
T	0.235	0.255	5.97	6.47
U	0.000	0.050	0.00	1.27
٧	0.045		1.15	
Z		0.080		2.04

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