BYW29-200

SWITCHMODE™ Power Rectifiers

. . . designed for use in switching power supplies, inverters and as free wheeling diodes, these state-of-the-art devices have the following features:

- Ultrafast 35 Nanosecond Recovery Time
- 175°C Operating Junction Temperature
- Popular TO-220 Package
- Epoxy Meets UL94, V_O @ 0.125 in
- Low Forward Voltage
- Low Leakage Current
- High Temperature Glass Passivated Junction

Mechanical Characteristics:

- Case: Epoxy, Molded, Epoxy Meets UL 94, V-0
- 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: BYW29-200
- Device Meets MSL1 Requirements
- ESD Ratings: Machine Model, C (> 400 V)
  Human Body Model, 3B (> 8000 V)

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	200	V
Average Rectified Forward Current Total Device, (Rated V_R), T_C = 150°C	$I_{F(AV)}$	8.0	A
Peak Repetitive Forward Current (Rated V_R, Square Wave, 20 kHz), T_C = 150°C	I_{FM}	16	A
Nonrepetitive Peak Surge Current (Surge Applied at Rated Load Conditions Half-wave, Single Phase, 60 Hz)	I_{FSM}	100	A
Operating Junction Temperature and Storage Temperature Range	T_J, T_{stg}	-65 to +175	°C

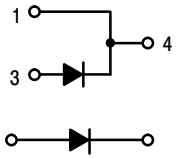
THERMAL CHARACTERISTICS

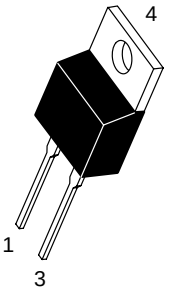
Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$	3.0	°C/W

ON Semiconductor®

http://onsemi.com

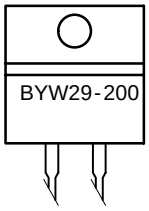
ULTRAFAST RECTIFIERS 8.0 AMPERES 200 V





CASE 221B
TO-220AC
PLASTIC

MARKING DIAGRAM



BYW29-200 = Device Code

ORDERING INFORMATION

Device	Package	Shipping
BYW29-200	TO-220	50 Units/Rail

ELECTRICAL CHARACTERISTICS

Rating	Symbol	Value	Unit
Maximum Instantaneous Forward Voltage (Note 1) (i_F = 5.0 A, T_C = 100°C) (i_F = 20 A, T_C = 25°C)	v_F	 0.85 1.3	V
Maximum Instantaneous Reverse Current (Note 1) (Rated Dc Voltage, T_J = 100°C) (Rated Dc Voltage, T_J = 25°C)	i_R	 600 5.0	μA
Maximum Reverse Recovery Time (I_F = 1.0 A, di/dt = 50 A/μs) (I_F = 0.5 A, i_R = 1.0 A, I_{REC} = 0.25 A)	t_{rr}	 35 25	ns

1. Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2.0%.

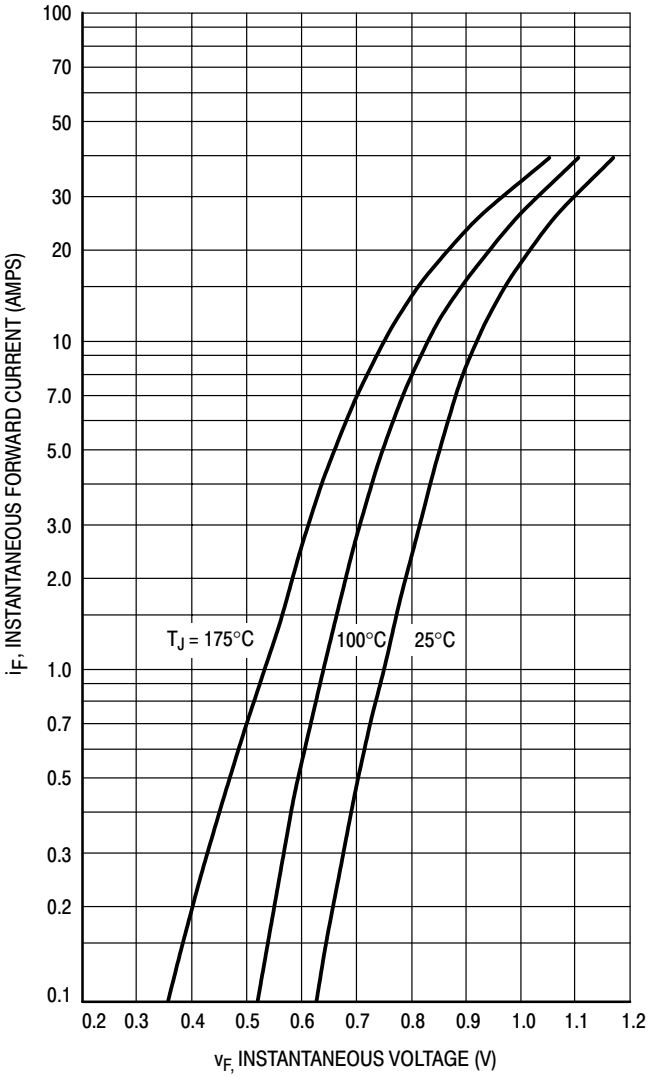


Figure 1. Typical Forward Voltage

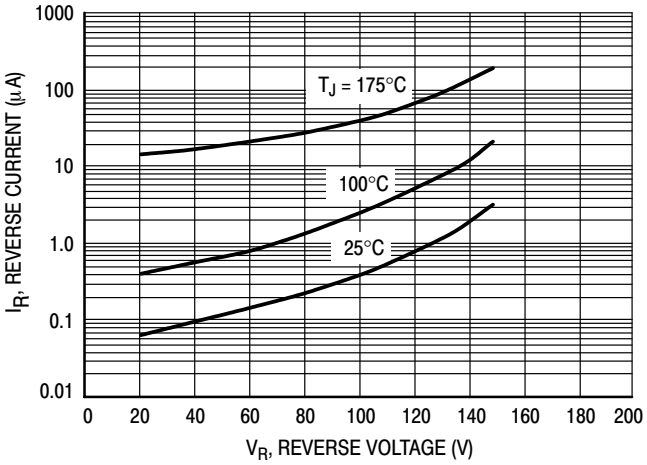


Figure 2. Typical Reverse Current*

* The curves shown are typical for the highest voltage device in the grouping. Typical reverse current for lower voltage selections can be estimated from these same curves if V_R is sufficiently below rated V_R.

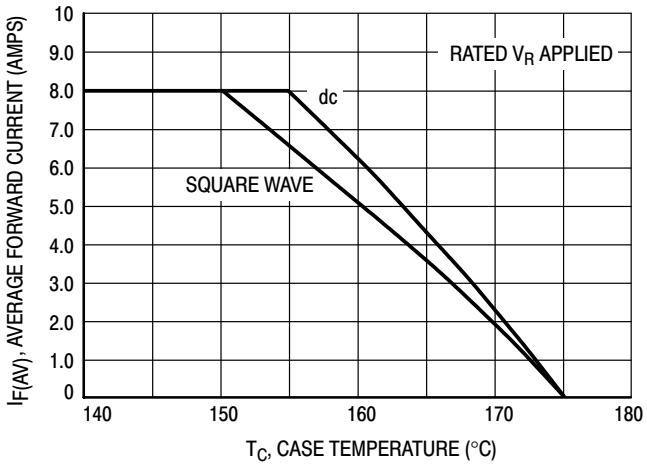


Figure 3. Current Derating, Case

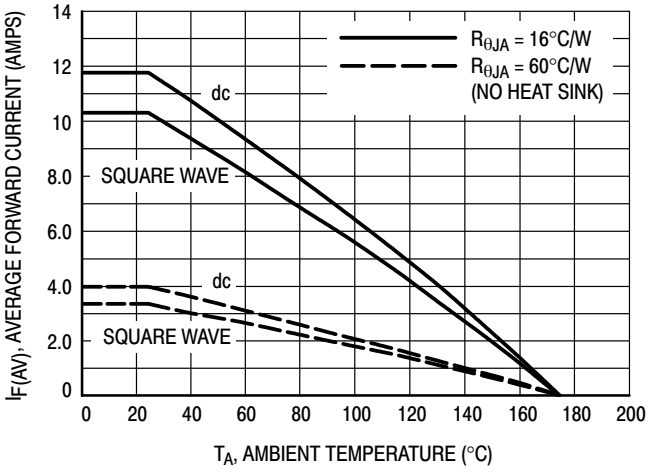


Figure 4. Current Derating, Ambient

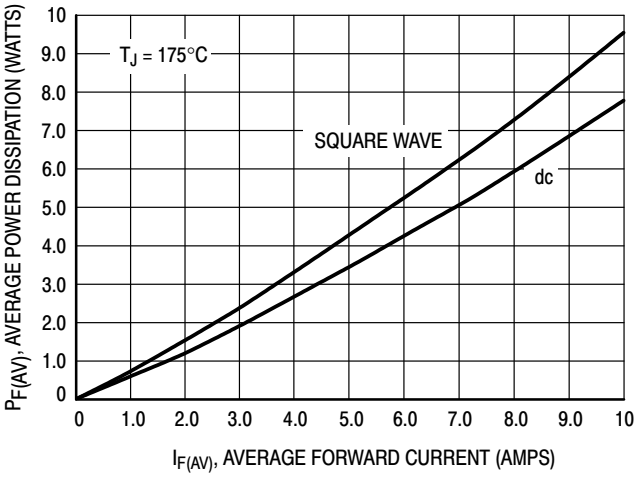


Figure 5. Power Dissipation

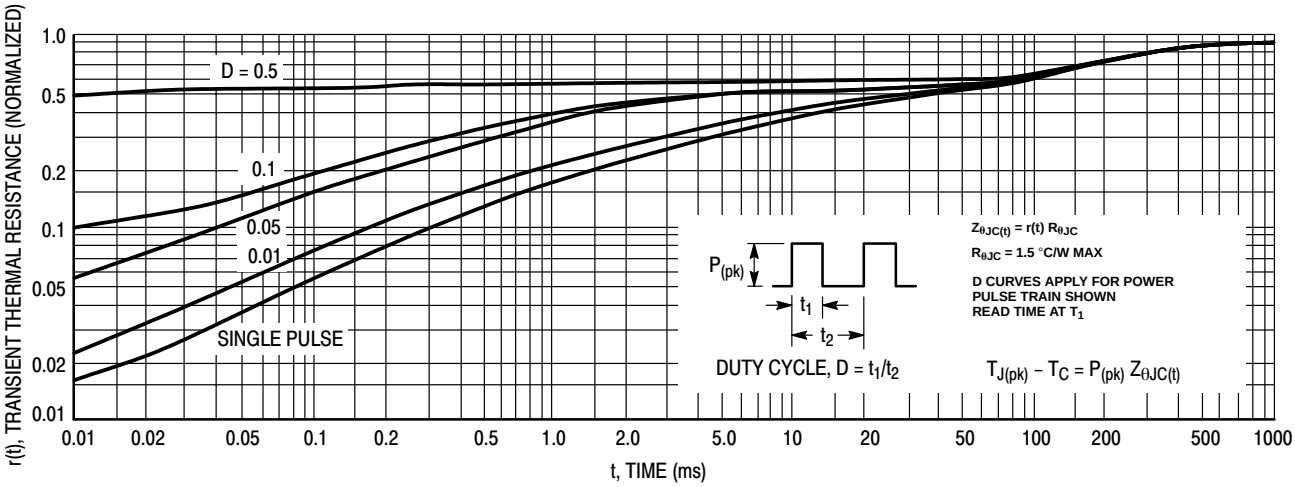


Figure 6. Thermal Response

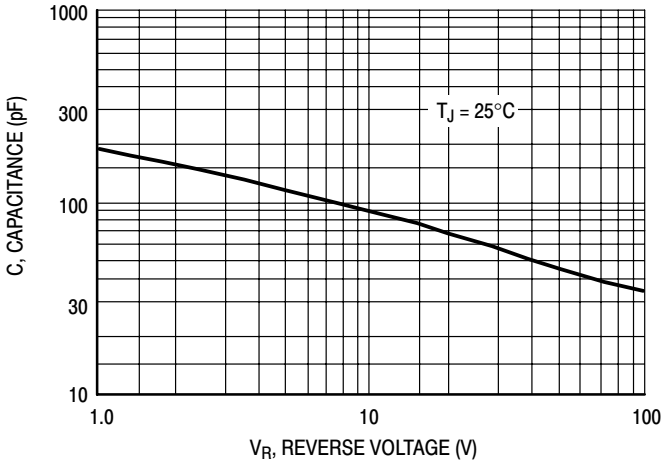
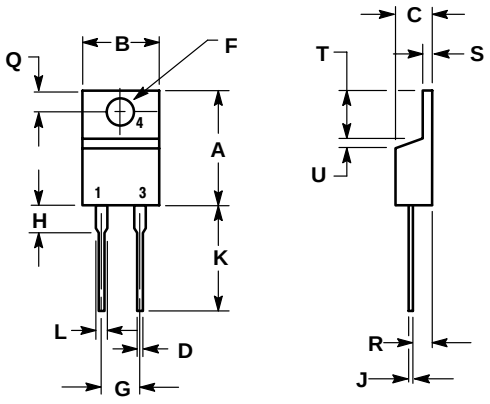


Figure 7. Typical Capacitance

PACKAGE DIMENSIONS

TO-220 TWO-LEAD
CASE 221B-04
ISSUE D



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.595	0.620	15.11	15.75
B	0.380	0.405	9.65	10.29
C	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
J	0.018	0.025	0.46	0.64
K	0.500	0.562	12.70	14.27
L	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

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PUBLICATION ORDERING INFORMATION

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