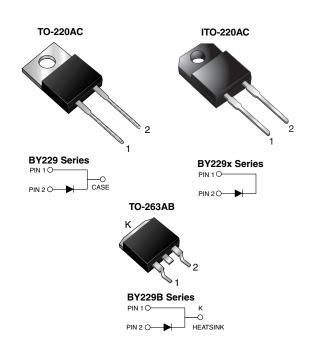


Vishay General Semiconductor

Fast Switching Plastic Rectifier



PRIMARY CHARACTERISTICS					
I _{F(AV)}	8.0 A				
V_{RRM}	200 V to 800 V				
I _{FSM}	100 A				
t _{rr}	145 ns				
V _F	1.85 V				
T _J max.	150 °C				

FEATURES



- Glass passivated chip junction
- Superfast recovery time for high efficiency
- · Low leakage current
- High forward surge capability

- Meets MSL level 1, per J-STD-020, LF COMPLIANT maximum peak of 245 °C (for TO-263AB package)
- Solder dip 260 °C, 40 s (for TO-220AC and ITO-220AC package)
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

TYPICAL APPLICATIONS

For use in fast switching rectification of power supply, inverters, converters and freewheeling diodes application.

MECHANICAL DATA

Case: TO-220AC, ITO-220AC, TO-263AB Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD22-B102

E3 suffix for commercial grade, meets JESD 201 class 1A whiskter test, HE3 suffix for high reliability grade (AEC Q101 qualified), meets JESD 201 class 2 whisker test

Polarity: As marked

Mounting Torque: 10 in-lbs maximum

MAXIMUM RATINGS (T _C = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL	BY229-200	BY229-400	BY229-600	BY229-800	UNIT	
Maximum recurrent peak reverse voltage	V_{RRM}	200	400	600	800	V	
Maximum RMS voltage	V _{RMS}	140	280	420	560	V	
Maximum DC blocking voltage	V_{DC}	200	400	600	800	V	
Maximum average forward rectified current at T _C = 100 °C	I _{F(AV)}	8.0					
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	100					
Maximum slope of reverse recovery current $I_F = 2.0 \text{ A}, V_R = 30 \text{ V}, \text{ dl/dt} = 20 \mu \text{s}$	dl/dt	60				A/μs	
Operating junction and storage temperature range	T _J , T _{STG}	- 40 to + 150					
Isolation voltage (ITO-220AC only) from terminal to heatsink t = 1 min	V _{AC}	1500				V	

BY229(X,B)-200 thru BY229(X,B)-800

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ELECTRICAL CHARACTERISTICS (T _C = 25 °C unless otherwise noted)								
PARAMETER	TEST COI	NDITIONS	SYMBOL	OL BY229-200 BY229-400 BY229-600 BY229-8		BY229-800	UNIT	
Maximum instantaneous forward voltage ⁽¹⁾	20 A		V _F	1.85			٧	
Maximum DC reverse current at rated DC blocking voltage		T _J = 25 °C T _J = 125 °C	I _R	10 300				μΑ
Maximum reverse recovery time	I _F = 1.0 A, V _R dI/dt = 50 A/μs		t _{rr}	145			ns	
Maximum recovered stored charge	I _F = 2.0 A, V _R dI/dt = 20 A/μs		Q _{rr}	700			nC	

Note:

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T _C = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	BY229	BY229X	BY229B	UNIT	
Typical thermal resistance from junction to case	$R_{\theta JC}$	2.0	4.8	2.0	°C/W	
Typical thermal resistance from junction to air	$R_{\theta JA}$	20	-	20	°C/W	

ORDERING INFORMATION (Example)								
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE			
TO-220AC	BY229-200-E3/45	1.80	45	50/tube	Tube			
ITO-220AC	BY229X-200-E3/45	1.95	45	50/tube	Tube			
TO-263AB	BY229B-200-E3/45	1.77	45	50/tube	Tube			
TO-263AB	BY229B-200-E3/81	1.77	81	800/reel	Tape reel			
TO-220AC	BY229-200HE3/45 (1)	1.80	45	50/tube	Tube			
ITO-220AC	BY229X-200HE3/45 (1)	1.95	45	50/tube	Tube			
TO-263AB	BY229B-200HE3/45 (1)	1.77	45	50/tube	Tube			
TO-263AB	BY229B-200HE3/81 (1)	1.77	81	800/reel	Tape reel			

Note:

(1) Automotive grade AEC Q101 qualified

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RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

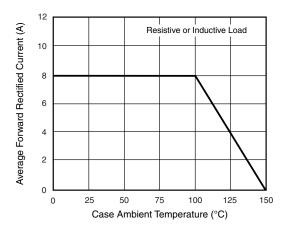


Figure 1. Forward Current Derating Curve

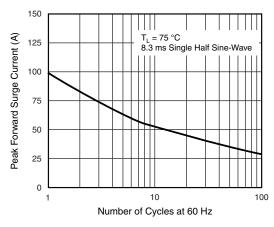


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

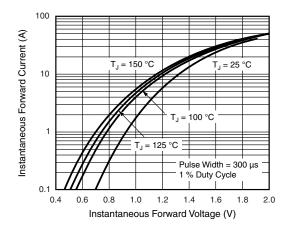


Figure 3. Typical Instantaneous Forward Characteristics

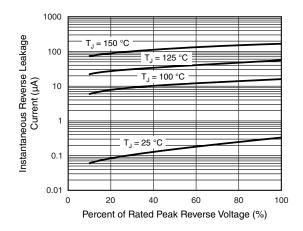


Figure 4. Typical Reverse Leakage Characteristics

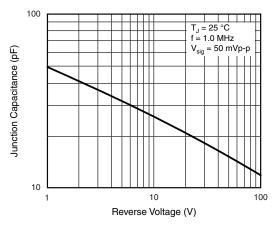


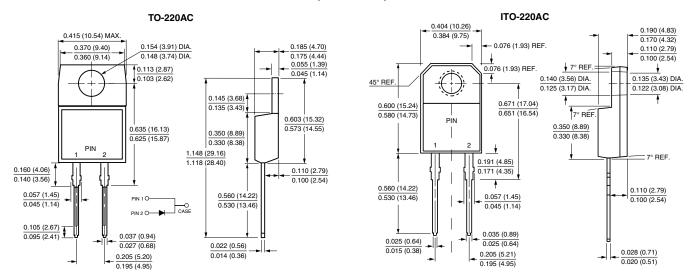
Figure 5. Typical Junction Capacitance

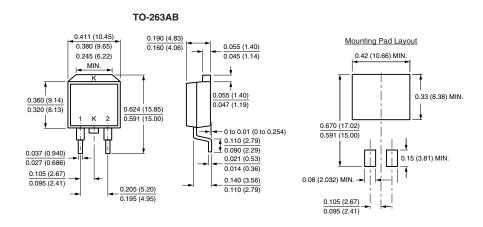
BY229(X,B)-200 thru BY229(X,B)-800

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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)







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