

Pb Free Plating Product

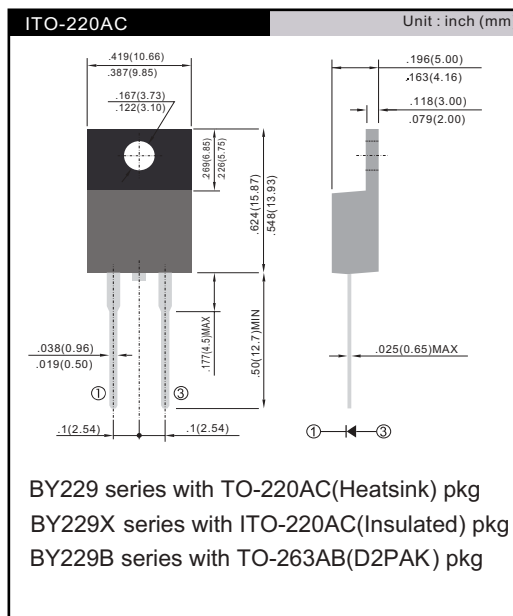
BY229X200 thru BY229X800



8.0 Ampere Insulated Glass Passivated Ultra Fast Recovery Rectifiers

- Features**
- \* Fast switching for high efficiency
  - \* Low forward voltage drop
  - \* High current capability
  - \* Low reverse leakage current
  - \* High surge current capability
- Application**
- \* Switching mode power supply
  - \* Inverter/converter
  - \* TV receiver, monitor/set top box

- Mechanical Data**
- \* Case: Molded plastic Isolated/Insulated ITO-220AC
  - \* Epoxy: UL 94V-0 rate flame retardant
  - \* Terminals: Solderable per MIL-STD-202 method 208
  - \* Polarity: As marked on diodes body
  - \* Mounting position: Any
  - \* Weight: 2.03 grams approximately



MAXIMUM RATINGS (T <sub>C</sub> = 25 °C unless otherwise noted)						
PARAMETER	SYMBOL	BY229X200 BY229X-200	BY229X400 BY229X-400	BY229X600 BY229X-600	BY229X800 BY229X-800	UNIT
Maximum recurrent peak reverse voltage	V <sub>RRM</sub>	200	400	600	800	V
Maximum RMS voltage	V <sub>RMS</sub>	140	280	420	560	V
Maximum DC blocking voltage	V <sub>DC</sub>	200	400	600	800	V
Maximum average forward rectified current at T <sub>C</sub> = 100 °C	I <sub>F(AV)</sub>	8.0				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	100				A
Maximum slope of reverse recovery current I <sub>F</sub> = 2.0 A, V <sub>R</sub> = 30 V, di/dt = 20 μs	di/dt	60				A/μs
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	- 40 to + 150				°C
Isolation voltage (ITO-220AC only) from terminal to heatsink t = 1 min	V <sub>AC</sub>	1500				V

ELECTRICAL CHARACTERISTICS (T <sub>C</sub> = 25 °C unless otherwise noted)								
PARAMETER	TEST CONDITIONS		SYMBOL	BY229X200 BY229X-200	BY229X400 BY229X-400	BY229X600 BY229X-600	BY229X800 BY229X-800	UNIT
Maximum instantaneous forward voltage <sup>(1)</sup>	8.0 A		V <sub>F</sub>	0.98	1.3	1.7	1.8	V
Maximum DC reverse current at rated DC blocking voltage		T <sub>J</sub> = 25 °C T <sub>J</sub> = 125 °C	I <sub>R</sub>	10 250				μA
Maximum reverse recovery time	I <sub>F</sub> = 1.0 A, V <sub>R</sub> = 30 V, di/dt = 50 A/μs, I <sub>rr</sub> = 10 % I <sub>RM</sub>		t <sub>rr</sub>	35			50	ns
Maximum recovered stored charge	I <sub>F</sub> = 2.0 A, V <sub>R</sub> = 30 V, di/dt = 20 A/μs		Q <sub>rr</sub>	700				nC

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

THERMAL CHARACTERISTICS (T <sub>C</sub> = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	BY229 series	BY229X series	BY229B series	UNIT
Typical thermal resistance from junction to case	R <sub>θJC</sub>	2.0	4.8	2.0	°C/W
Typical thermal resistance from junction to air	R <sub>θJA</sub>	20	-	20	°C/W

**RATINGS AND CHARACTERISTICS CURVES**

( $T_A = 25\text{ }^\circ\text{C}$  unless otherwise noted)

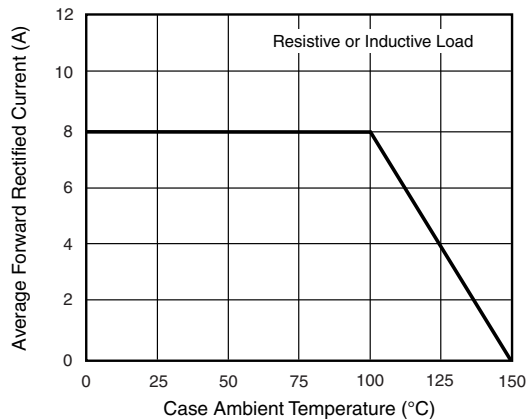


Figure 1. Forward Current Derating Curve

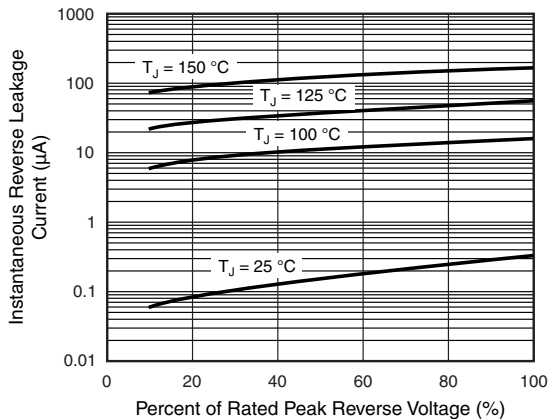


Figure 4. Typical Reverse Leakage Characteristics

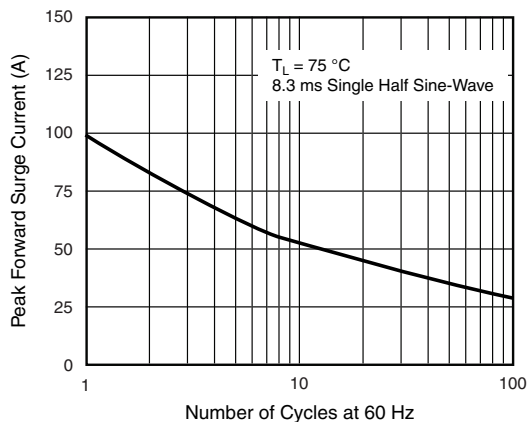


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

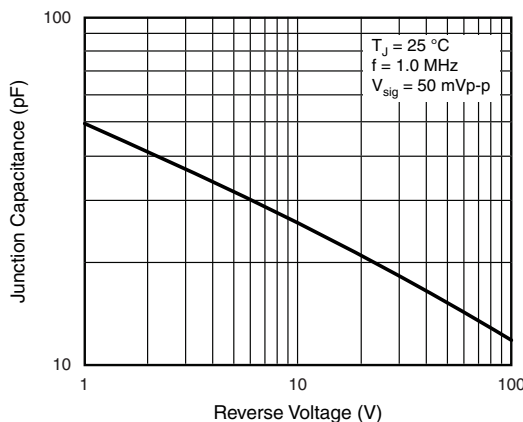


Figure 5. Typical Junction Capacitance

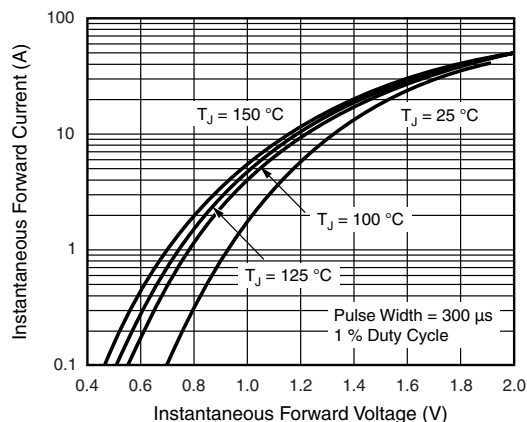


Figure 3. Typical Instantaneous Forward Characteristics