

Pb Free Plating Product

BY229X200 thru BY229X800



8.0 Ampere Insulated Glass Passivated Ultra Fast Recovery Rectifiers

Features

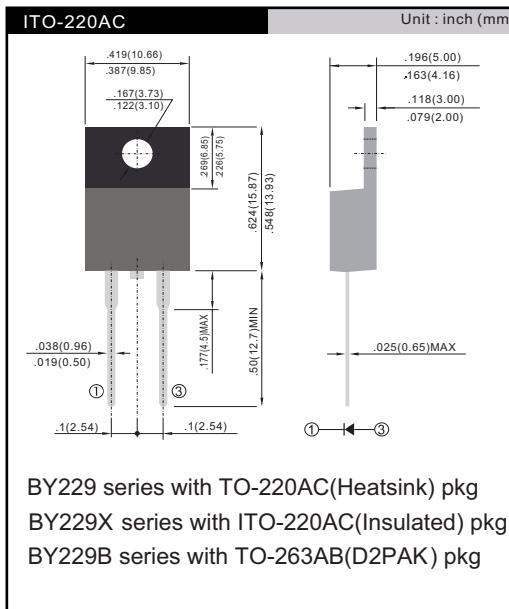
- ★ Fast switching for high efficiency
- ★ Low forward voltage drop
- ★ High current capability
- ★ Low reverse leakage current
- ★ High surge current capability

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

PARAMETER	SYMBOL	BY229X200 BY229X-200	BY229X400 BY229X-400	BY229X600 BY229X-600	BY229X800 BY229X-800	UNIT
Maximum recurrent peak reverse voltage	V_{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 $T_C = 100^\circ\text{C}$	$I_{F(AV)}$	8.0				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	100				A
Maximum slope of reverse recovery current $I_F = 2.0\text{ A}$, $V_R = 30\text{ V}$, $di/dt = 20\text{ A}/\mu\text{s}$	di/dt	60				A/ μs
Operating junction and storage temperature range	T_J, T_{STG}	- 40 to + 150				$^\circ\text{C}$
Isolation voltage (ITO-220AC only) from terminal to heatsink $t = 1\text{ min}$	V_{AC}	1500				V

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	BY229X200 BY229X-200	BY229X400 BY229X-400	BY229X600 BY229X-600	BY229X800 BY229X-800	UNIT
Maximum instantaneous forward voltage ⁽¹⁾	8.0 A	V_F	0.98	1.3	1.7	1.8	V
Maximum DC reverse current at rated DC blocking voltage	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	I_R	10 250				μA
Maximum reverse recovery time	$I_F = 1.0\text{ A}$, $V_R = 30\text{ V}$, $di/dt = 50\text{ A}/\mu\text{s}$, $t_{rr} = 10\% I_{RM}$	t_{rr}	35			50	ns
Maximum recovered stored charge	$I_F = 2.0\text{ A}$, $V_R = 30\text{ V}$, $di/dt = 20\text{ A}/\mu\text{s}$	Q_{rr}	700				nC

Note: (1) Pulse test: 300 μs pulse width, 1 % duty cycle**THERMAL CHARACTERISTICS** ($T_C = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	BY229 series	BY229X series	BY229B series	UNIT
Typical thermal resistance from junction to case	$R_{\theta JC}$	2.0	4.8	2.0	$^\circ\text{C}/\text{W}$
Typical thermal resistance from junction to air	$R_{\theta JA}$	20	-	20	$^\circ\text{C}/\text{W}$

RATINGS AND CHARACTERISTICS CURVES

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

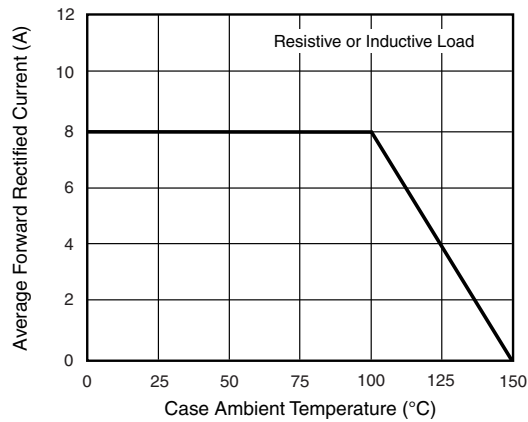


Figure 1. Forward Current Derating Curve

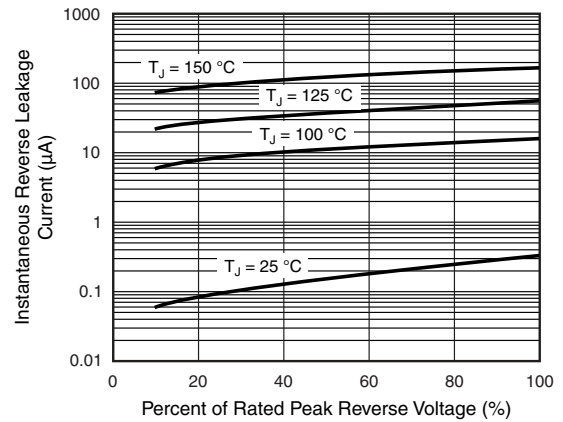


Figure 4. Typical Reverse Leakage Characteristics

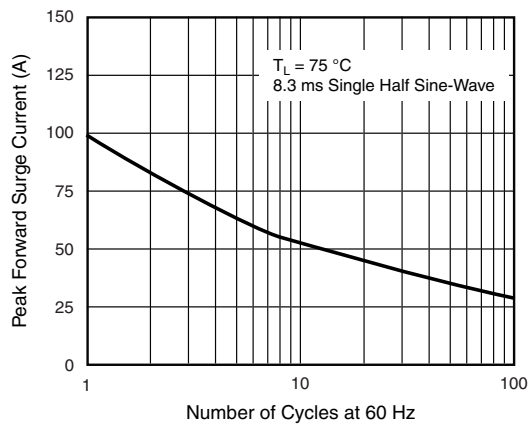


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

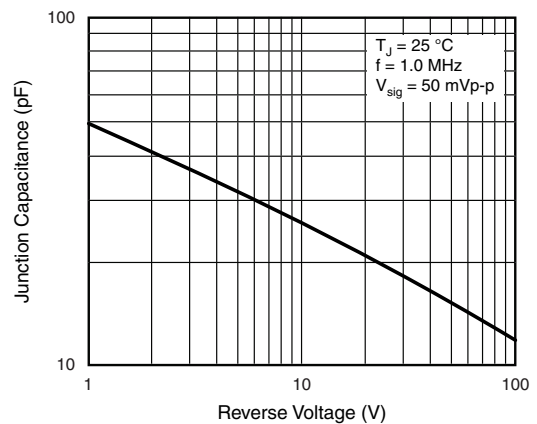


Figure 5. Typical Junction Capacitance

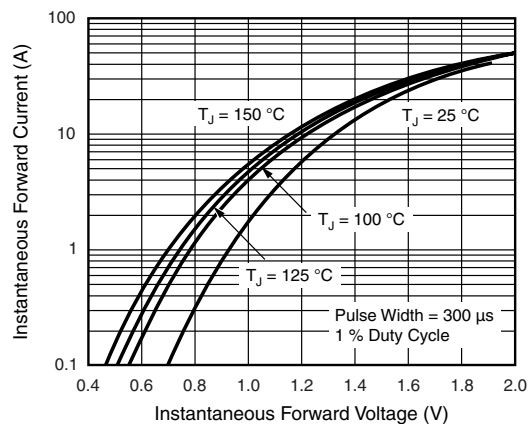


Figure 3. Typical Instantaneous Forward Characteristics