

Fast Recovery Power Rectifiers

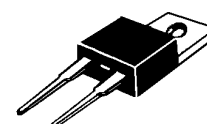
Designed for use in switching power supplies, inverters and as free wheeling diodes. These state-of-the-art devices have the following features:

- * Glass Passivated chip junctions
- * Low Reverse Leakage Current
- * Fast Switching for High Efficiency
- * 150°C Operating Junction Temperature
- * Low Forward Voltage , High Current Capability
- * Plastic Material used Carries Underwriters Laboratory
- * Flammability Classification 94V-O
- * **Pb Free**
- * **In compliance with EU RoHs directives**



FAST RECOVERY RECTIFIERS

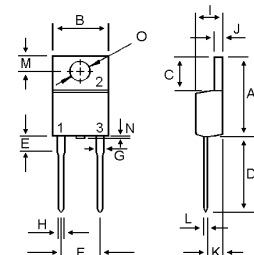
**8 AMPERES
30-600 VOLTS**



TO-220A

MAXIMUM RATINGS

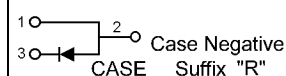
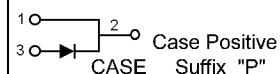
| Characteristic | Symbol | F08A | | | | Unit |
|--|---------------------------------|-------------|-----|-----|-----|------|
| | | 30 | 40 | 50 | 60 | |
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 300 | 400 | 500 | 600 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 210 | 280 | 350 | 420 | V |
| Average Rectifier Forward Current | $I_{F(AV)}$ | 8.0 | | | | A |
| Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfwave, single phase, 60Hz) | I_{FSM} | 100 | | | | A |
| Operating and Storage Junction Temperature Range | T_J, T_{stg} | -65 to +150 | | | | °C |



| DIM | MILLIMETERS | |
|-----|-------------|-------|
| | MIN | MAX |
| A | 14.68 | 16.00 |
| B | 9.78 | 10.42 |
| C | 5.02 | 6.60 |
| D | 13.00 | 14.62 |
| E | 3.10 | 4.19 |
| F | 2.41 | 2.67 |
| G | 1.10 | 1.67 |
| H | 0.69 | 1.01 |
| I | 3.21 | 4.98 |
| J | 1.14 | 1.40 |
| K | 2.20 | 3.30 |
| L | 0.28 | 0.61 |
| M | 2.48 | 3.00 |
| N | --- | 1.00 |
| O | 3.50 | 4.00 |

ELECTRICAL CHARACTERISTICS

| Characteristic | Symbol | F08A | | | | Unit |
|--|-----------------|-----------|----|-----|----|------|
| | | 30 | 40 | 50 | 60 | |
| Maximum Instantaneous Forward Voltage (I _F =8.0 Amp T _C = 25°C) | V _F | 1.30 | | 1.5 | | V |
| Maximum Instantaneous Reverse Current (Rated DC Voltage, T _C = 25°C) (Rated DC Voltage, T _C = 100°C) | I _R | 10 500 | | | | uA |
| Reverse Recovery Time (I _F = 0.5 A, I _R =1.0 , I _{rr} =0.25 A) | T _{rr} | 250 | | | | ns |
| Typical Junction Capacitance (Reverse Voltage of 4 volts & f=1 MHz) | C _P | 70 | | | | pF |



F08A30 Thru F08A60

FIG-1 TYPICAL FORWARD CHARACTERISTICS

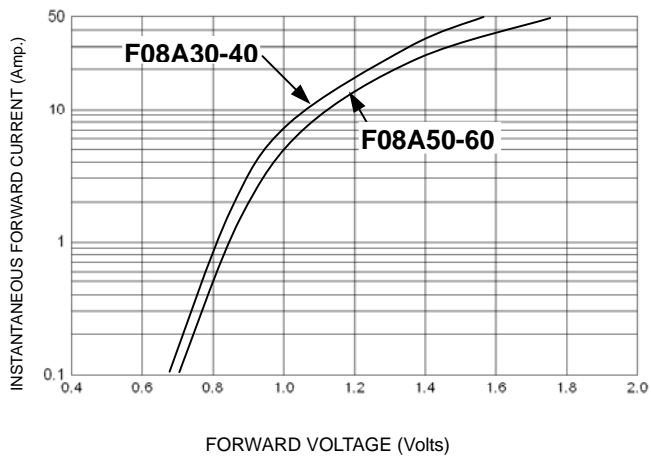


FIG-2 TYPICAL REVERSE CHARACTERISTICS

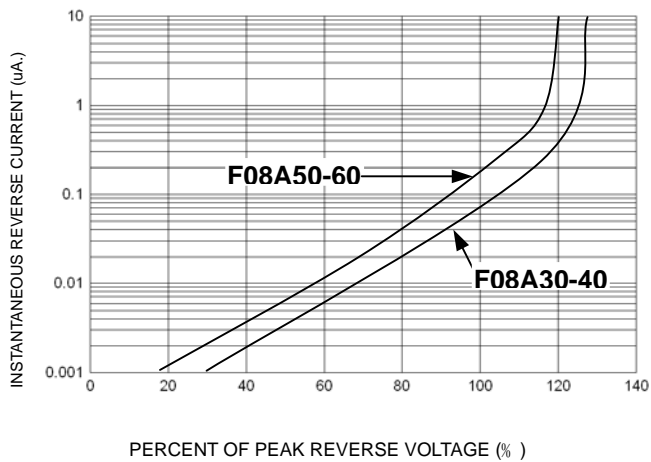


FIG-3 FORWARD CURRENT DERATING CURVE

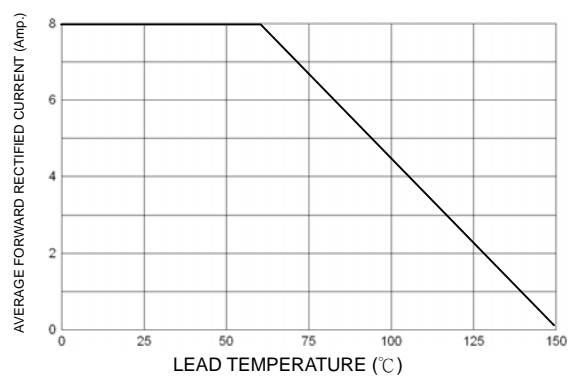


FIG-4 TYPICAL JUNCTION CAPACITANCE

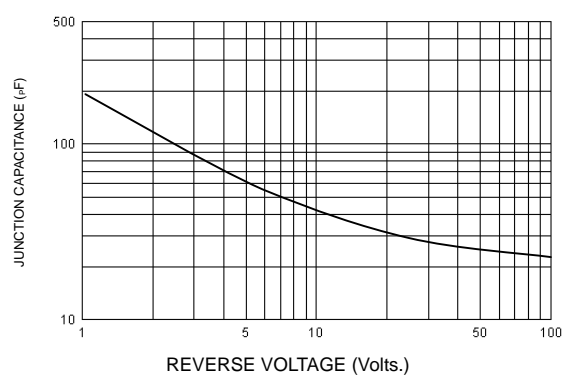
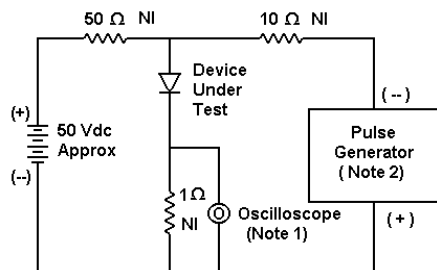
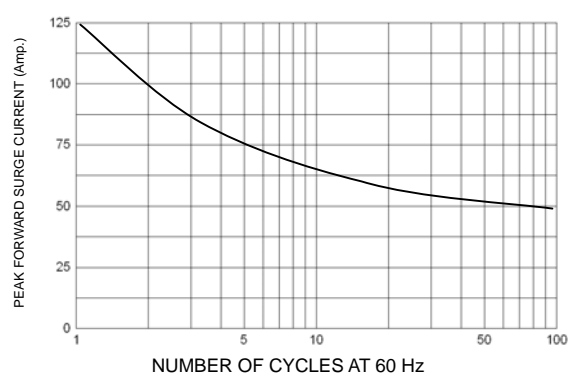
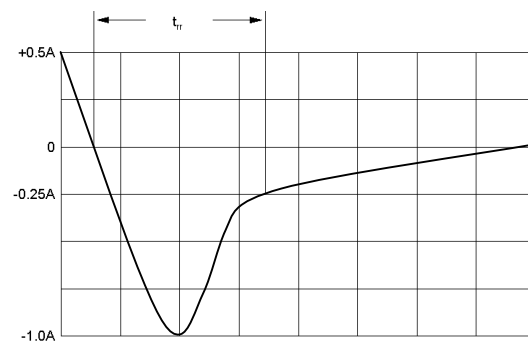


FIG-5 PEAK FORWARD SURGE CURRENT



- Notes:
1. Rise Time = 7 ns max. Input Impedance = 1 M Ω , 22 pF
 2. Rise Time = 10 ns max. Input Impedance = 50 Ω



Set time base for 50/100 ns/cm

FIG-6 Reverse Recovery Time Characteristic and Test Circuit Diagram

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