

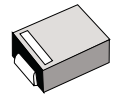
Surface Mount High Efficiency Power Rectifiers

Ideally suited for high voltage, high frequency rectification, or as free wheeling and protection diodes in surface mount applications where compact size and weight are critical to the system.

- * Low Power Loss, High efficiency
- * Glass Passivated chips junction
- * 150 °C Operating Junction Temperature
- * Low Stored Charge Majority Carrier Conduction
- * Low Forward Voltage Drop , High Current Capability
- * High-Switching Speed 100 Nanosecond Recovery Time
- * Small Compact Surface Mountable Package with J-Bend Lead
- * Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O

**HIGH EFFICIENCY
RECTIFIERS**

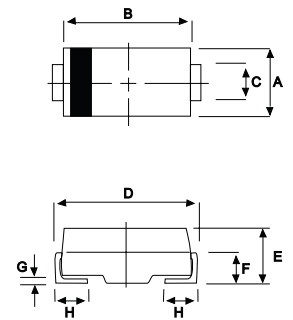
**3.0 AMPERES
600 -- 1000 VOLTS**



DO-214AA(SMB)

MAXIMUM RATINGS

| Characteristic | Symbol | MH36 | MH37 | MH38 | Unit |
|--|---------------------------------|---------------|------|------|------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 600 | 800 | 1000 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 420 | 560 | 700 | V |
| Average Rectifier Forward Current | I_o | 3.0 | | | A |
| Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfwave, single phase, 60Hz) | I_{FSM} | 50 | | | A |
| Operating and Storage Junction Temperature Range | T_J, T_{stg} | - 65 to + 150 | | | °C |



| DIM | MILLIMETERS | |
|-----|-------------|------|
| | MIN | MAX |
| A | 3.30 | 3.90 |
| B | 4.20 | 4.60 |
| C | 1.80 | 2.20 |
| D | 4.90 | 5.60 |
| E | 1.90 | 2.50 |
| F | --- | 1.30 |
| G | --- | 0.22 |
| H | 0.85 | 1.45 |

ELECTRICAL CHARACTERISTICS

| Characteristic | Symbol | MH36 | MH37 | MH38 | Unit |
|---|----------|-----------|------|------|------|
| Maximum Instantaneous Forward Voltage ($I_F=3.0$ Amp, $T_c = 25$ °C) | V_F | 1.50 | | 1.75 | V |
| Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_c = 25$ °C) (Rated DC Voltage, $T_c = 125$ °C) | I_R | 5.0 70 | | | uA |
| Reverse Recovery Time ($I_F = 0.5$ A, $I_R = 1.0$, $I_{rr} = 0.25$ A) | T_{rr} | 100 | | | ns |
| Typical Junction Capacitance (Reverse Voltage of 4 volts & f=1 MHz) | C_p | 25 | 20 | | pF |

CASE---
Transfer molded
plastic

POLARITY---
Cathode indicated
polarity band

MH36 Thru MH38

FIG-1 TYPICAL FORWARD CHARACTERISTICS

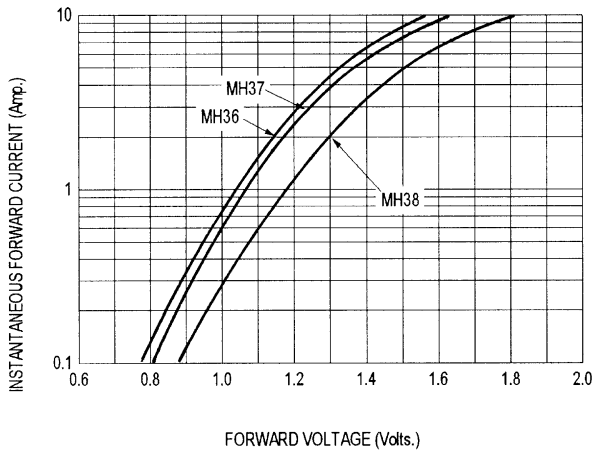


FIG-2 TYPICAL REVERSE CHARACTERISTICS

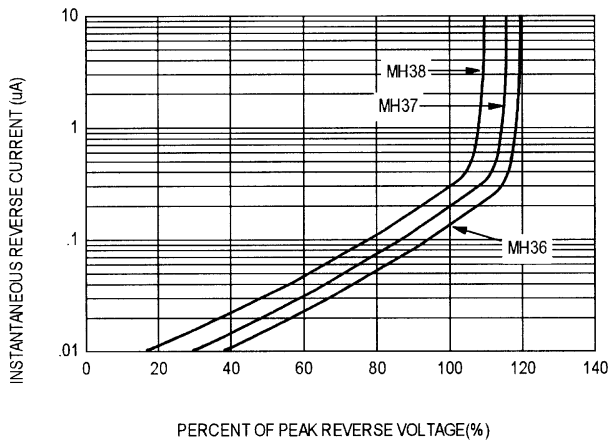


FIG-3 FORWARD CURRENT DERATING CURVE

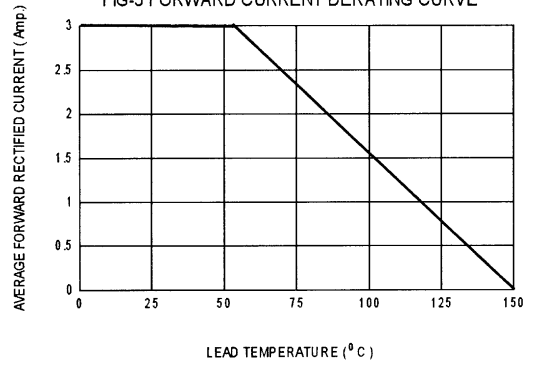


FIG-4 TYPICAL JUNCTION CAPACITANCE

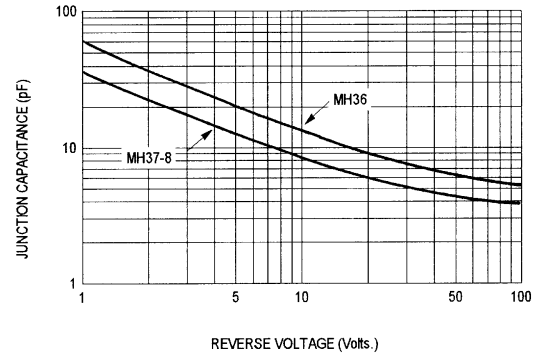
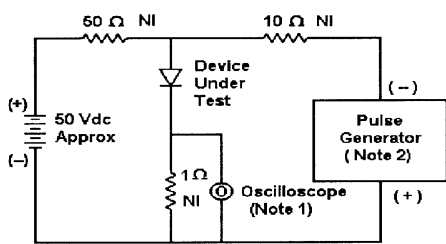
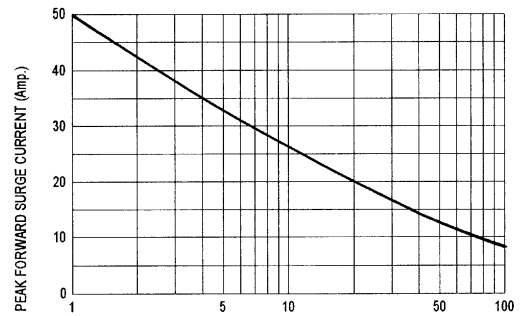
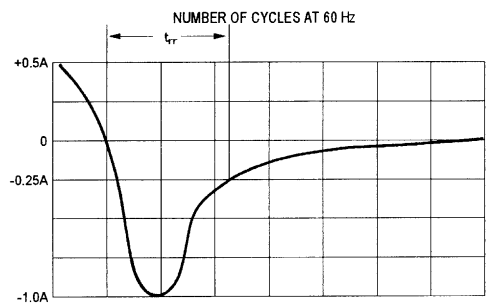


FIG-5 PEAK FORWARD SURGE CURRENT



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



Set time base for 20/50 ns/div

Fig-6 Reverse Recovery Time Characteristic and Test Circuit Diagram