

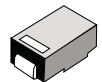
**Surface Mount  
High Efficiency Power Rectifiers**

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 50 & 75 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**

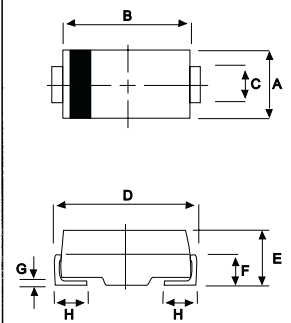
**1.0 AMPERES  
50 -- 400 VOLTS**



**DO-214AC(SMA)**

**MAXIMUM RATINGS**

| Characteristic   | Symbol                          | HS11          | HS12 | HS13 | HS14 | HS15 | Unit |
|--|---------------------------------|---------------|------|------|------|------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                         | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 50            | 100  | 200  | 300  | 400  | V    |
| RMS Reverse Voltage  | $V_{R(RMS)}$                    | 35            | 70   | 140  | 210  | 280  | V    |
| Average Rectifier Forward Current  | $I_o$                           | 1.0           |      |      |      |      | A    |
| Non-Repetitive Peak Surge Current<br>( Surge applied at rate load conditions<br>halfwave, single phase, 60Hz ) | $I_{FSM}$                       | 25            |      |      |      |      | A    |
| Operating and Storage Junction<br>Temperature Range  | $T_J, T_{stg}$                  | - 65 to + 150 |      |      |      |      | °C   |



| DIM | MILLMETERS |      |
|-----|------------|------|
|     | MIN        | MAX  |
| A   | 2.20       | 2.80 |
| B   | 4.10       | 4.70 |
| C   | 1.30       | 1.70 |
| D   | 4.60       | 5.30 |
| E   | 1.90       | 2.50 |
| F   | ---        | 1.30 |
| G   | ---        | 0.22 |
| H   | 0.85       | 1.45 |

**ELECTRICAL CHARACTERISTICS**

| Characteristic  | Symbol   | HS11      | HS12 | HS13 | HS14 | HS15 | Unit |
|---|----------|-----------|------|------|------|------|------|
| Maximum Instantaneous Forward<br>Voltage<br>( $I_F=1.0$ Amp, $T_C=25$ °C)   | $V_F$    | 1.00      |      | 1.30 |      |      | V    |
| Maximum Instantaneous Reverse<br>Current<br>( Rated DC Voltage, $T_C=25$ °C)<br>( Rated DC Voltage, $T_C=125$ °C) | $I_R$    | 5.0<br>50 |      |      |      |      | uA   |
| Reverse Recovery Time<br>( $I_F=0.5$ A, $I_R=1.0$ , $I_{rr}=0.25$ A )   | $T_{rr}$ | 50        |      |      | 75   |      | ns   |
| Typical Junction Capacitance<br>( Reverse Voltage of 4 volts & f=1 MHz)   | $C_P$    | 25        |      |      | 20   |      | pF   |

CASE---  
Transfer molded  
plastic

POLARITY---  
Cathode indicated  
polarity band

# HS11 Thru HS15

FIG-1 TYPICAL FORWARD CHARACTERISTICS

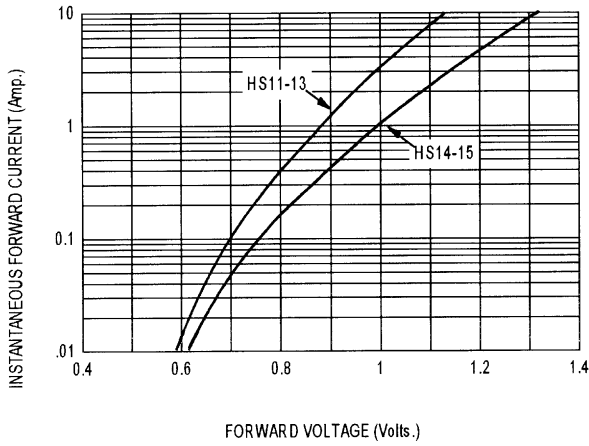


FIG-3 FORWARD CURRENT DERATING CURVE

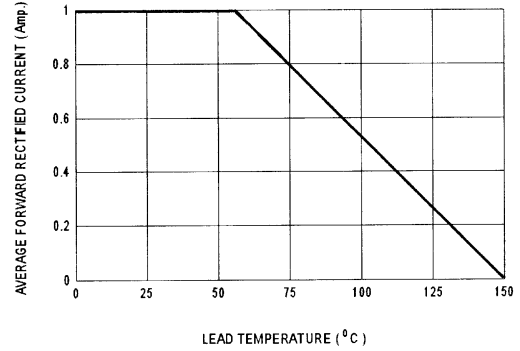


FIG-2 TYPICAL REVERSE CHARACTERISTICS

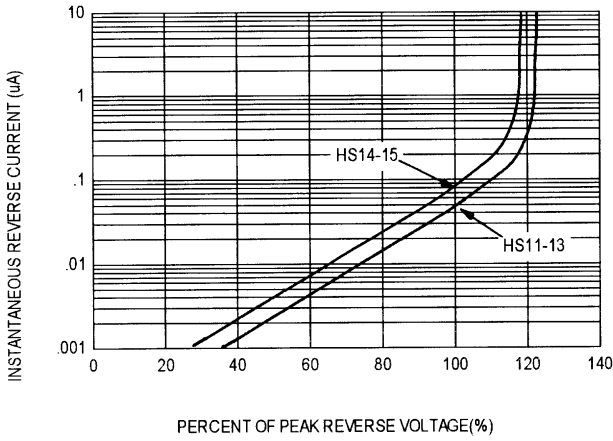


FIG-4 TYPICAL JUNCTION CAPACITANCE

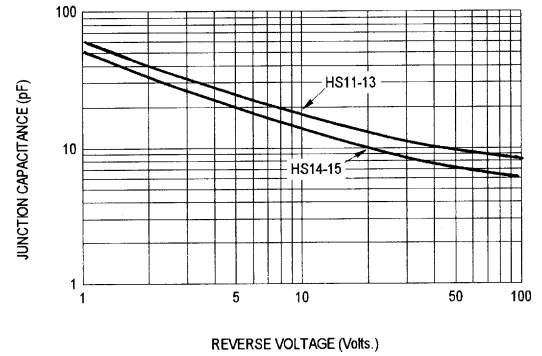
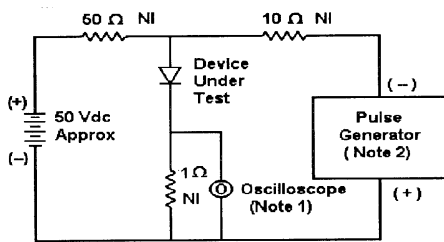
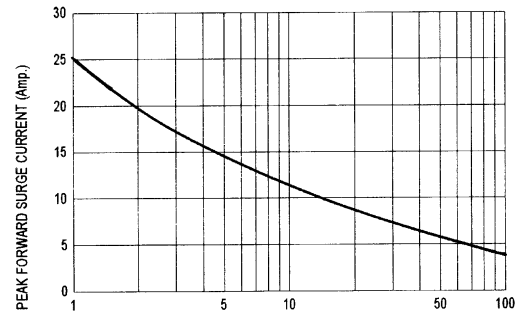
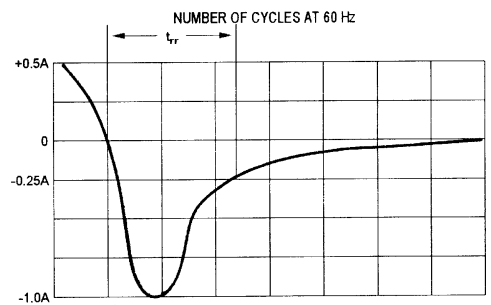


FIG-5 PEAK FORWARD SURGE CURRENT



- 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 20 ns/cm

Fig-6 Reverse Recovery Time Characteristic and Test Circuit Diagram