



# HIGH VOLTAGE RECTIFIER

## R1200F THRU R5000F

VOLTAGE RANGE  
CURRENT

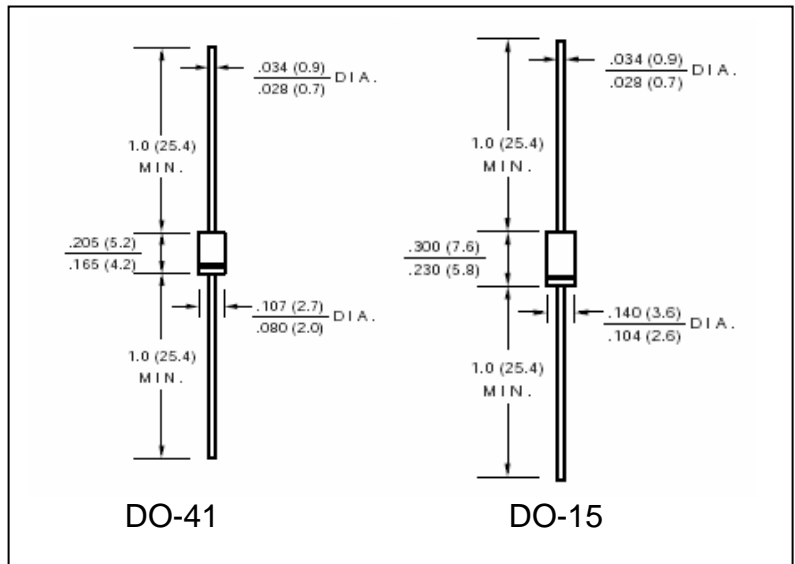
1200 to 5000 Volts  
0.2 to 0.5 Ampere

### FEATURES

- Low Leakage
- High Surge Capacity
- High current capability
- High Temperature soldering guaranteed:  
260°C / 10 second, 0.375" (9.5mm) lead length

### MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V – 0 rate flame retardant
- Polarity: Color Band denotes cathode end
- Lead: Plated axial lead, solderable per MIL – STD-202E Method 208C
- Mounting Position: Any
- Weight: 0.012 ounce, 0.33 gram (DO-41)  
0.014 ounce, 0.39 gram (DO-15)



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25°C ambient temperature unless otherwise specified
- Single Phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

|   | SYMBOLS     | R<br>1200F | R<br>1500F | R<br>1800F | R<br>2000F | R<br>2500F    | R<br>3000F | R<br>4000F | R<br>5000F | UNIT       |
|---|-------------|------------|------------|------------|------------|---------------|------------|------------|------------|------------|
| Package   |             | DO-41      | DO-41      | DO-41      | DO-41      | DO-15         | DO-15      | DO-15      | DO-15      |            |
| Maximum Repetitive Peak Reverse Voltage   | $V_{RRM}$   | 1200       | 1500       | 1800       | 2000       | 2500          | 3000       | 4000       | 5000       | Volts      |
| Maximum RMS Voltage   | $V_{RMS}$   | 840        | 1050       | 1260       | 1400       | 1750          | 2100       | 2800       | 3500       | Volts      |
| Maximum DC Blocking Voltage   | $V_{DC}$    | 1200       | 1500       | 1800       | 2000       | 2500          | 3000       | 4000       | 5000       | Volts      |
| Maximum Average Forward Rectified Current,<br>0.375" (9.5mm) lead length at $T_A = 50^\circ C$            | $I_{(AV)}$  | 500        |            |            |            | 200           |            |            |            | mA         |
| Peak Forward Surge Current<br>8.3mS single half sine wave superimposed on<br>rated load (JEDEC method)    | $I_{FSM}$   |            |            |            |            | 30            |            |            |            | Amps       |
| Maximum Instantaneous Forward Voltage @ 0.5/0.2A  | $V_F$       | 2.5        |            | 6.0        |            | 5.0           | 6.5        |            |            | Volts      |
| Maximum DC Reverse Current at Rated $T_A = 25^\circ C$  | $I_R$       |            |            |            |            | 5.0           |            |            |            | $\mu A$    |
| Maximum Full Load Reverse Current, Full Cycle average<br>0.375" (9.5mm) lead length at $T_A = 55^\circ C$ | $I_{R(AV)}$ |            |            |            |            | 100           |            |            |            | $\mu A$    |
| Maximum Reverse Recovery Time<br>Test conditions $I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A$                 | $t_{rr}$    |            |            |            |            | 500           |            |            |            | nS         |
| Operating Junction Temperature Range  | $T_J$       |            |            |            |            | (-65 to +150) |            |            |            | $^\circ C$ |
| Storage Temperature Range   | $T_{STG}$   |            |            |            |            | (-65 to +150) |            |            |            | $^\circ C$ |



# RATINGS AND CHARACTERISTIC CURVES R1200F THRU R5000F

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

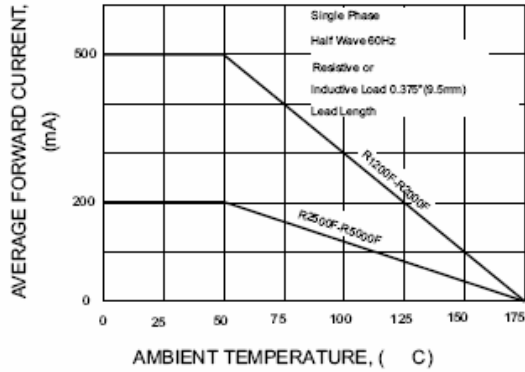


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

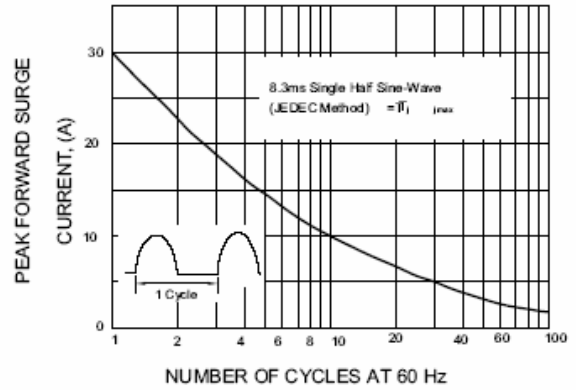


FIG.3-TYPICAL REVERSE CHARACTERISTICS

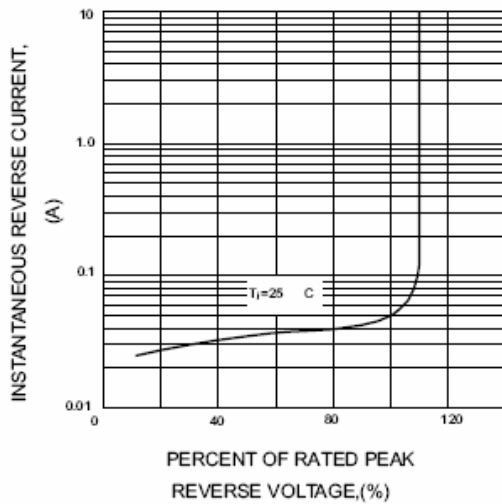
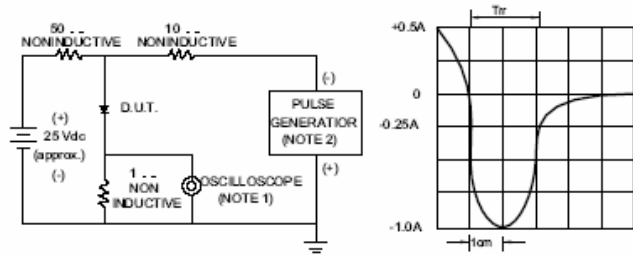


FIG.4-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES: 1. Rise Time = 7ns max. Input Impedance = 1 megohm, 22pF  
2. Rise Time = 10ns max. Source Impedance = 50 ohms

SET TIME BASE FOR 50/100ns/cm