

DO-41/DO-204AL

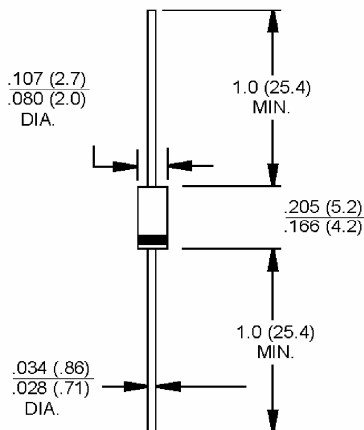


Features

- ✦ Plastic package has Underwriters Laboratory Flammability Classification 94V0
- ✦ 1.0 ampere operation at $T_A=55^{\circ}\text{C}$ with no thermal runaway
- ✦ Glass passivated chip junction
- ✦ Low cost
- ✦ Ultrafast recovery time for high efficiency
- ✦ High efficiency, low VF
- ✦ Low leakage current
- ✦ High surge current capability

Mechanical Data

- ✦ Case: JEDEC DO-204AL molded plastic body over passivated chip
- ✦ Terminals: Pure tin plated, lead free, solderable per MIL-STD-750, Method 2026
- ✦ Polarity: Color band denotes cathode
- ✦ Mounting Position: Any
- ✦ High temperature soldering guaranteed:
260°C/10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✦ Weight: 0.012 ounce, 0.34 gram



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| Type Number | Symbol | UF 4001 | UF 4002 | UF 4003 | UF 4004 | UF 4005 | UF 4006 | UF 4007 | Units |
|--|------------------------------------|--------------|---------|---------|------------|---------|---------|--------------------------------|--------------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current .375 (9.5mm) Lead Length @ $T_A = 55^{\circ}\text{C}$ | $I_{(AV)}$ | 1.0 | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 30 | | | | | | | A |
| Maximum Instantaneous Forward Voltage @ 1.0A | V_F | 1.0 | | | 1.7 | | | V | |
| Maximum DC Reverse Current @ $T_A=25^{\circ}\text{C}$ at Rated DC Blocking Voltage @ $T_A=125^{\circ}\text{C}$ | I_R | | | | 5.0 150 | | | μA μA | |
| Maximum Reverse Recovery Time (Note 1) | T_{rr} | 50 | | | 75 | | | nS | |
| Typical Junction Capacitance (Note 2) | | 17 | | | | | | | pF |
| Typical Thermal Resistance (Note 3) | $R_{\theta JA}$ $R_{\theta JL}$ | | | | 60 15 | | | $^{\circ}\text{C/W}$ | |
| Operating/Storage Temperature Range | T_J, T_{STG} | -65 to + 150 | | | | | | | $^{\circ}\text{C}$ |

- Notes:
1. Reverse Recovery Test Conditions: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$
 2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.
 3. Thermal Resistance from junction to ambient and from Junction to Lead Length .375"(9.5mm), P.C.B. Mounted.

RATINGS AND CHARACTERISTIC CURVES (UF4001 THRU UF4007)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

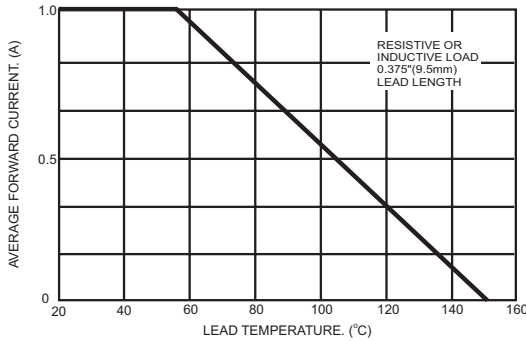


FIG.2- TYPICAL FORWARD CHARACTERISTICS

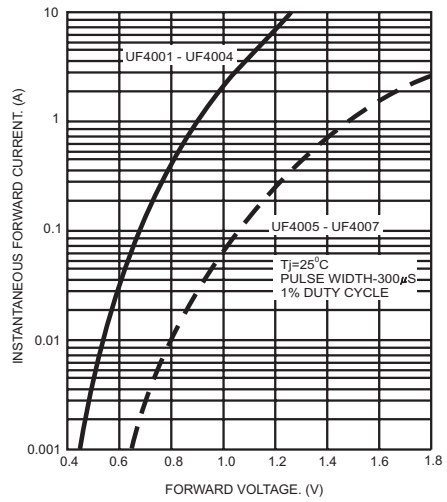


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

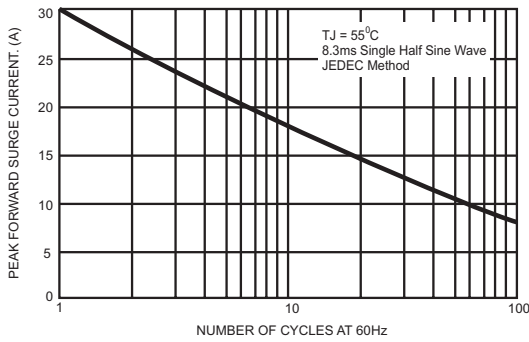


FIG.5- TYPICAL REVERSE CHARACTERISTICS

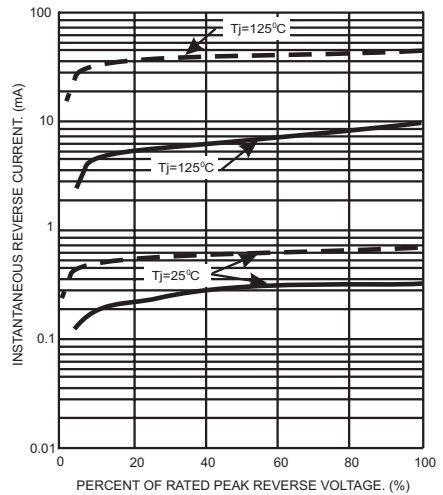


FIG.4- TYPICAL JUNCTION CAPACITANCE

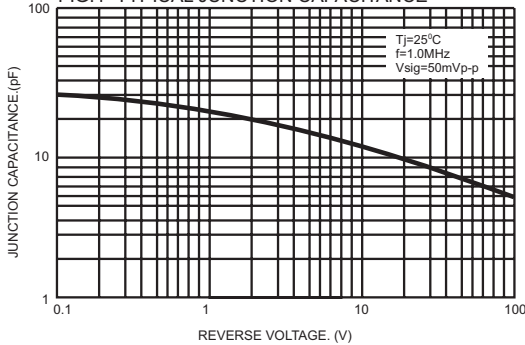
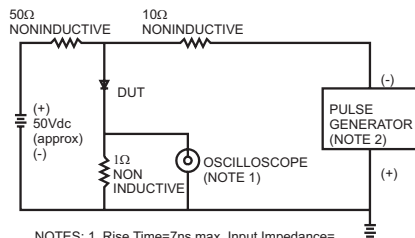


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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

