

UF4001 - UF4007

1.0 AMP. Glass Passivated High Efficient Plastic Rectifiers



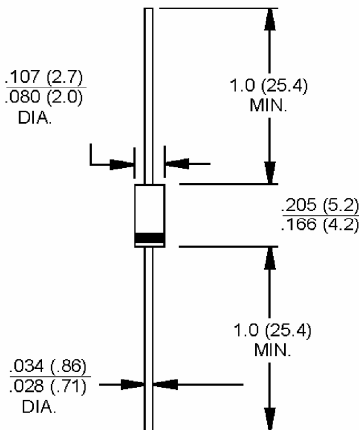
DO-41/DO-204AL

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: $260^{\circ}\text{C}/10$ 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 °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 °C at Rated DC Blocking Voltage @ T _A =125 °C	I _R	5.0 150							uA uA
Maximum Reverse Recovery Time (Note 1)	T _{rr}	50				75			nS
Typical Junction Capacitance (Note 2)		17							pF
Typical Thermal Resistance (Note 3)	R _{ΘJA} R _{ΘJL}	60 15							°C/W
Operating/Storage Temperature Range	T _J , T _{STG}	-65 to + 150							°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

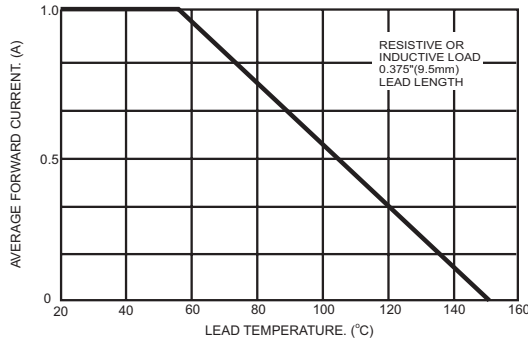


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

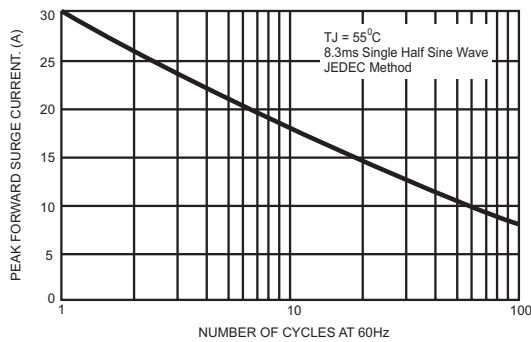


FIG.4- TYPICAL JUNCTION CAPACITANCE

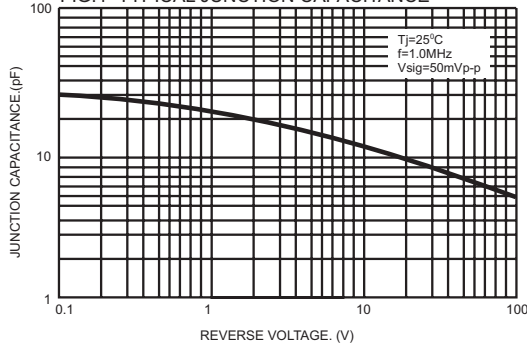


FIG.2- TYPICAL FORWARD CHARACTERISTICS

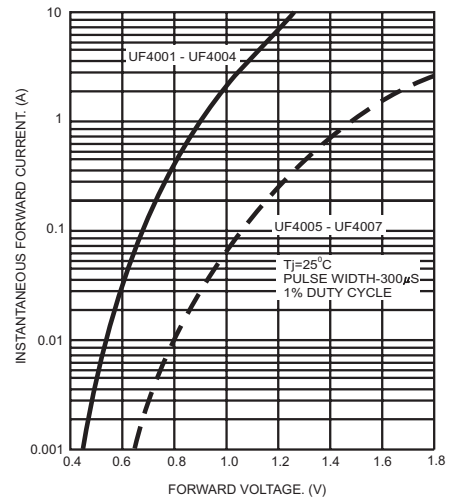


FIG.5- TYPICAL REVERSE CHARACTERISTICS

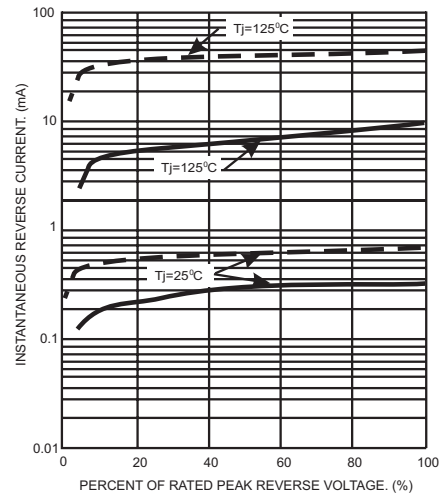
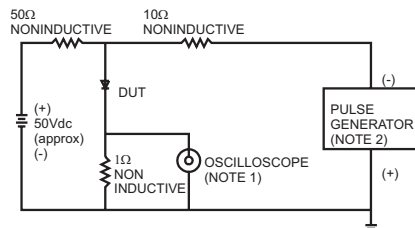


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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

