

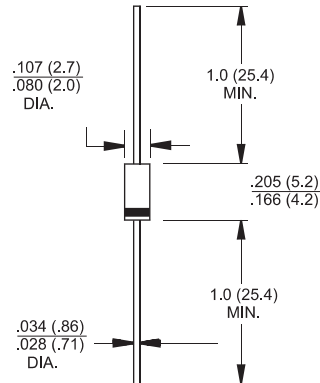
DO-41 / DO-204AL

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
- ✦ 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: 0.35 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)	C_j	17							pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	15				60			$^{\circ}\text{C}/\text{W}$
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

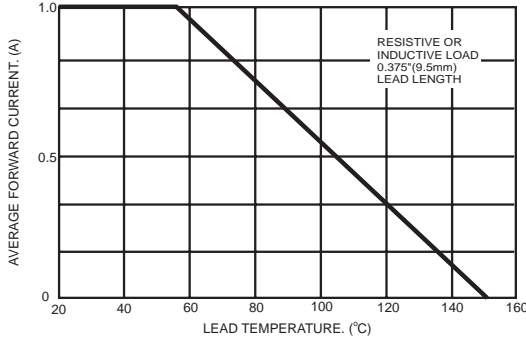


FIG.2- TYPICAL FORWARD CHARACTERISTICS

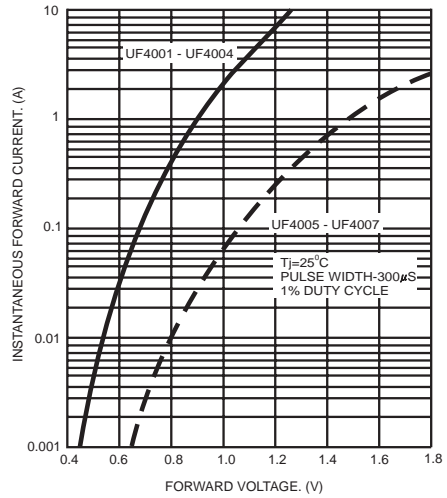


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

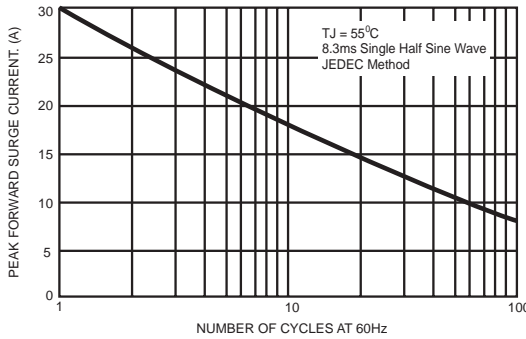


FIG.5- TYPICAL REVERSE CHARACTERISTICS

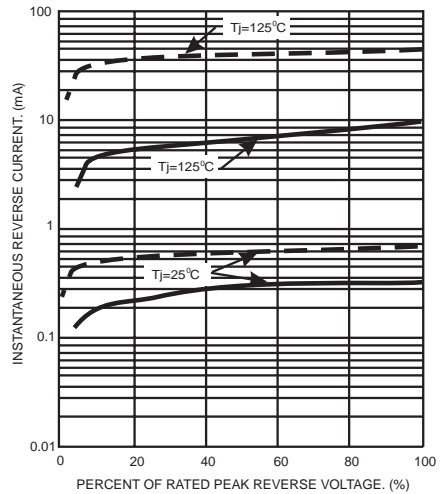


FIG.4- TYPICAL JUNCTION CAPACITANCE

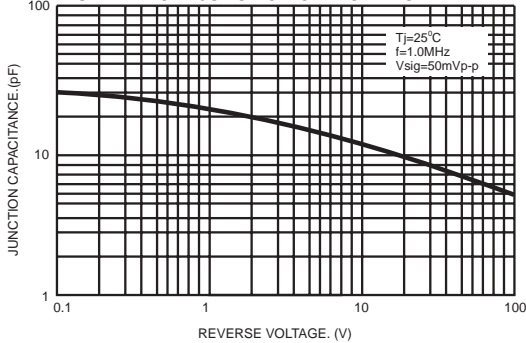
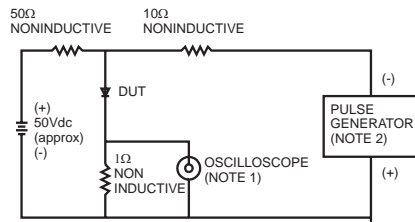


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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

