

High Efficiency Rectifier



Features

- Low cost
- Diffused junction
- Ultra fast switching for high efficiency
- Low reverse leakage current
- Low forward voltage drop
- High current capability
- The plastic material carries UL recognition 94V-0

Mechanical Data

Case	: JEDEC DO-41 molded plastic
Polarity	: Colour band denotes cathode
Weight	: 0.012 ounces, 0.34 grams
Mounting Position	: Any
Reverse Voltage	: 50 to 1000 Volts
Forward Current	: 1 Ampere

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

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

For capacitive load, derate current by 20%

Characteristics	Symbol	UF4001+	UF4002+	UF4003+	UF4005+	UF4007+	Unit
Max. Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	800	V
Max. RMS Voltage	V_{RMS}	35	70	140	280	560	V
Max. DC Blocking Voltage	V_{DC}	50	100	200	400	800	V
Max. Average Forward Rectified Current @ $T_A = 75^\circ C$	$I_{(AV)}$	1.0					A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method)	I_{FSM}	30					A
Peak Forward Voltage at 1A DC	V_F	1		1.3		1.7	V
Maximum DC Reverse Current @ $T_J = 25^\circ C$ at Rated DC Blocking Voltage @ $T_J = 100^\circ C$	I_R	5 100					μA
Maximum Reverse Recovery Time (Note 1)	T_{RR}	50				75	nS
Typical Junction Capacitance (Note 2)	C_J	20				10	pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	25					$^\circ C/W$
Operating Temperature Range	T_J	-55 to +150					$^\circ C$
Storage Temperature Range	T_{STG}						

- Notes** : 1. Measured with $I_F = 0.5A$, $I_R = 1A$, $I_{RR} = 0.25A$
2. Measured at 1MHz and applied reverse voltage of 4V DC
3. Thermal resistance junction to ambient.
4. The typical data above is for reference only

Rating and Characteristic Curves

FIG. 1 – FORWARD CURRENT DERATING CURVE

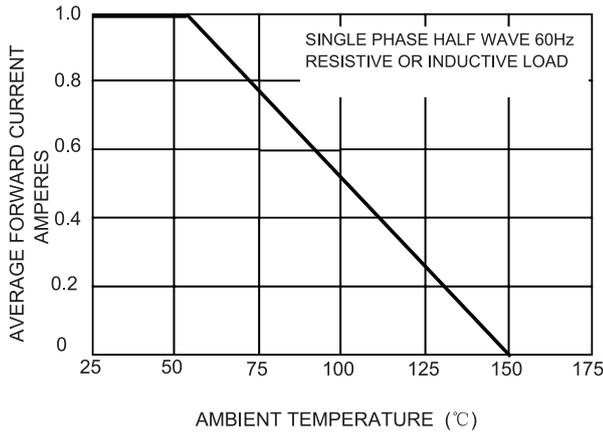


FIG. 2 – MAXIMUM NON-REPETITIVE SURGE CURRENT

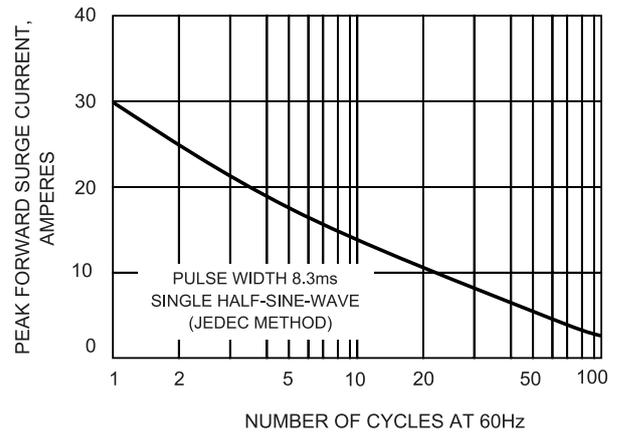


FIG. 3 – TYPICAL JUNCTION CAPACITANCE

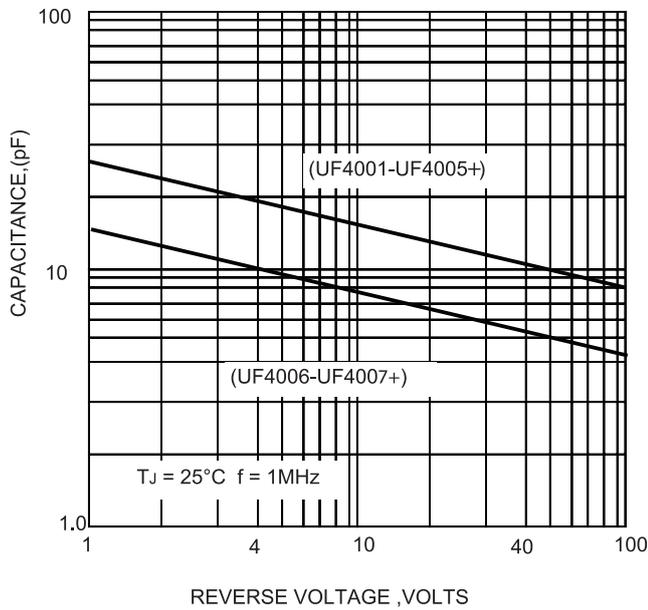
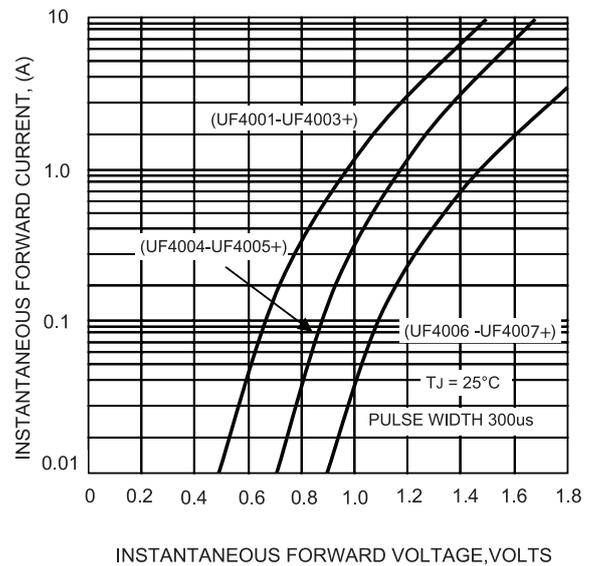


FIG.4-TYPICAL FORWARD CHARACTERISTICS

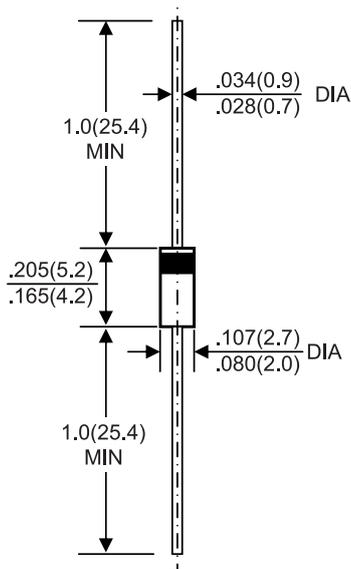


High Efficiency Rectifier



Dimensions:

DO- 41



Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
High Efficiency Rectifiers (Ultra Fast)	UF4001+
	UF4002+
	UF4003+
	UF4005+
	UF4007+

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