

UF4001 THRU UF4007

ULTRAFAST RECOVERY RECTIFIERS

Reverse Voltage – 50 to 1000 V

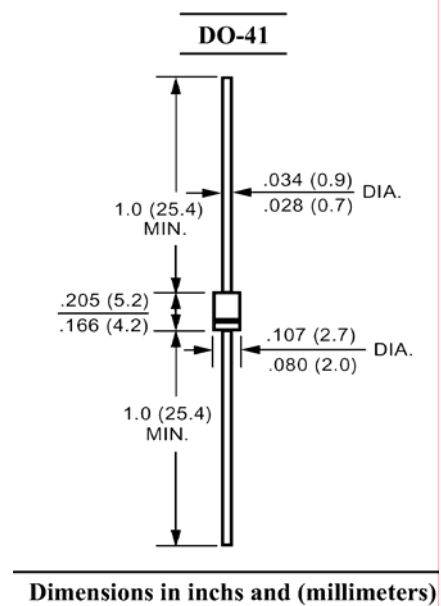
Forward Current – 1 A

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes
- Ultrafast recovery time for high efficiency
- Excellent high temperature switching
- Soft recovery characteristics

Mechanical Data

- Case: molded plastic, DO-41
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting Position: Any



Absolute Maximum Ratings and Characteristics

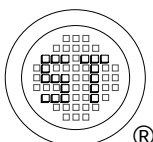
Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	UF4001	UF4002	UF4003	UF4004	UF4005	UF4006	UF4007	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 0.375"(9.5mm) Lead Length at T _A = 55 °C	I _(AV)	1							A
Peak Forward Surge Current, 8.3 ms Single Half-sine -wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	30							A
Maximum Forward Voltage at 1 A DC	V _F	1				1.7			V
Maximum Reverse Current T _A = 25 °C at Rated DC Blocking Voltage T _A = 100 °C	I _R	5 500							μA
Typical Junction Capacitance ¹⁾	C _J	17							pF
Typical Thermal Resistance ²⁾	R _{θJA}	60							°C/W
Maximum Reverse Recovery Time ³⁾	t _{rr}	50				75			ns
Operating and Storage Temperature Range	T _J , T _S	-55 to +150							°C

¹⁾ Measured at 1 MHz and applied reverse voltage of 4 V DC.

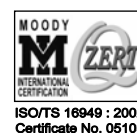
²⁾ Thermal resistance junction to ambient and from junction to lead at 0.375"(9.5mm) lead length P.C.B mounted.

³⁾ Reverse recovery test conditions: $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{rr} = 0.25\text{ A}$.



SEMTECH ELECTRONICS LTD.

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



Dated : 12/04/2006 H

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FIG. 1 - MAXIMUM FORWARD CURRENT DERATING CURVE

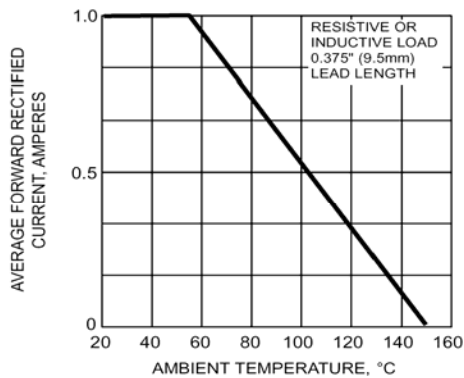


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

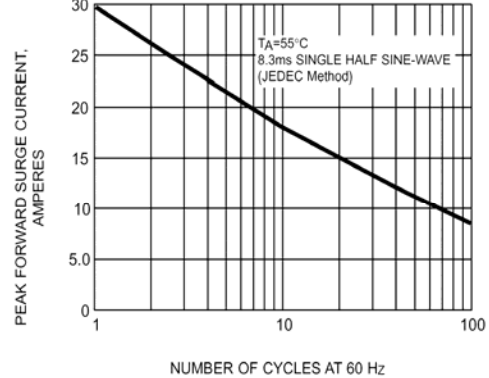


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

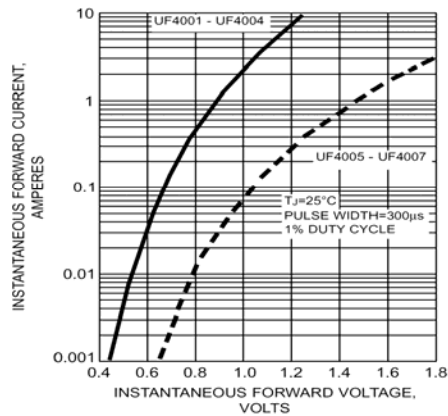


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS

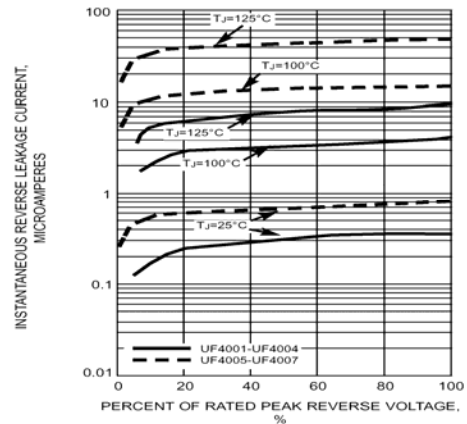
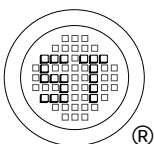
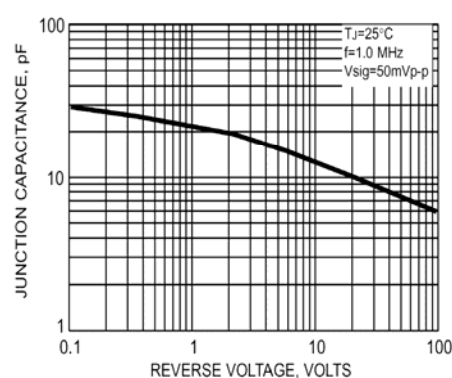


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



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ISO/TS 16949 : 2002
Certificate No. 05103



ISO 14001:2004
Certificate No. 7116



ISO 9001:2000
Certificate No. 0506098

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