

## UF4001 THRU UF4007 ULTRA FAST RECTIFIERS

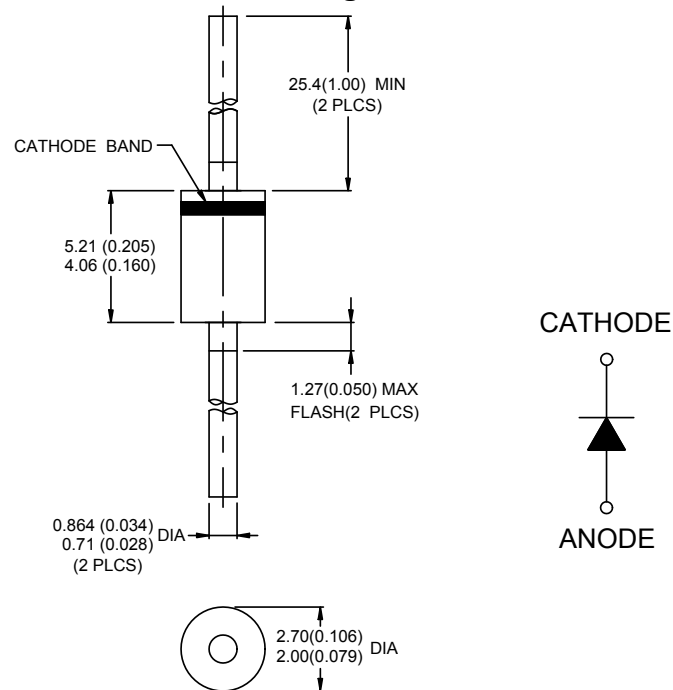
### Applications:

- Switching Power Supply
- Power Switching Circuits
- General Purpose

### Features:

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Ultra-fast switching for high efficiency
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed 250°C/10 seconds, 0.375"(9.5mm) lead length
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Mechanical Dimensions: In mm / Inches and Marking:



**DO-41**

### MARKING, MOLDING RESIN

Marking: UF4001/UF4002/UF4003/UF4004/UF4005/ UF4006/UF4007

**Marking Diagram:**



UF4001 = Part Name

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

**Ordering Information:**

Device	Package	Shipping
UF4001 THRU UF4007	DO-41 (Pb-Free)	5000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

## Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

	SYMBOLS	UF 4001	UF 4002	UF 4003	UF 4004	UF 4005	UF 4006	UF 4007	UNIS	
Maximum repetitive 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 $T_A=55^\circ\text{C}$	$I_{(AV)}$	1.0							A	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load ( JEDEC Method)	$I_{FSM}$	30.0							A	
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.0				1.70			V	
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	5.0 50.0							$\mu\text{A}$	
Power dissipation value	$P_{DV}$	-							1.5	W
Maximum reverse recovery time (Note 1)	$t_{rr}$	50				75			ns	
Typical junction capacitance ( Note 2)	$C_J$	15.0							pF	
Typical thermal resistance ( Note 3)	$R_{CJA}$	50.0							$^\circ\text{C}/\text{W}$	
Approximate Weight	wt	0.35							g	
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +150							$^\circ\text{C}$	

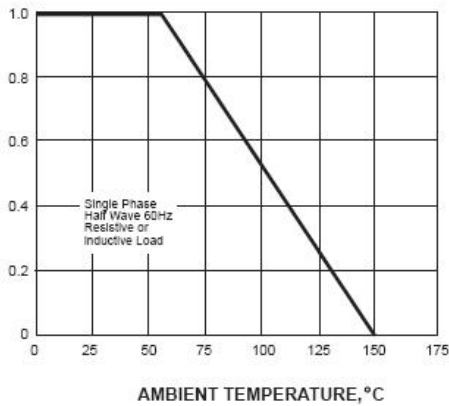
Note: 1. Reverse recovery condition  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ .  $I_{rr}=0.25\text{A}$

2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

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

AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT,  
AMPERES

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

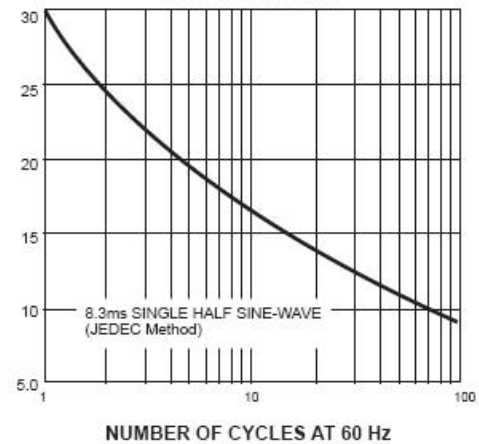
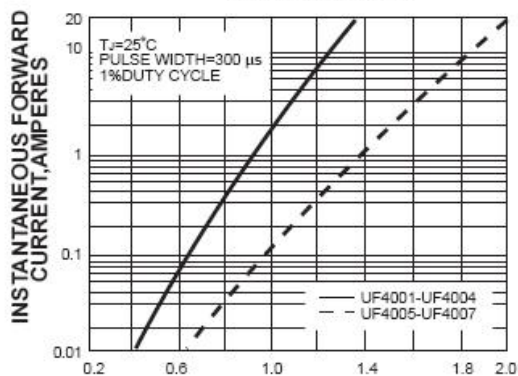


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

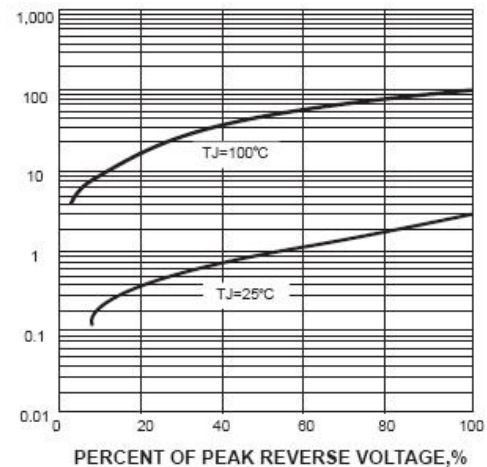
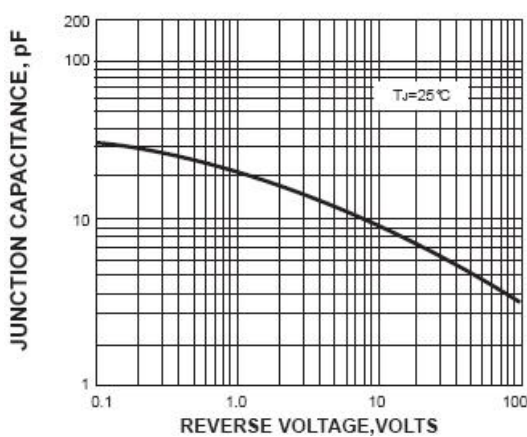
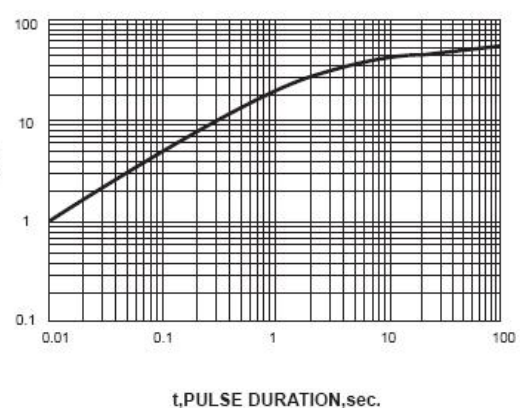


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE





**UF4001  
THRU  
UF4007**

**Technical Data  
Data Sheet N0115, Rev. B**

***Green Products***

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