

# DIGITRON SEMICONDUCTORS

UF4001-UF4007

ULTRAFAST PLASTIC RECTIFIER

## MAXIMUM RATINGS

Parameter	Symbol	UF4001	UF4002	UF4003	UF4004	UF4005	UF4006	UF4007	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$R_{MS}$	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" lead length @ $T_A = 55^\circ C$	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3 ms single half sine wave superimposed on rated load	$I_{FSM}$	30							A
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							$^\circ C$

## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ C$ unless otherwise noted)

Parameter	Test Conditions	Symbol	UF 4001	UF 4002	UF 4003	UF 4004	UF 4005	UF 4006	UF 4007	Unit
Maximum instantaneous forward voltage <sup>(1)</sup>	1.0A	$V_F$	1.0				1.7			V
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25^\circ C$ $T_A = 100^\circ C$	$I_R$	10				50			$\mu A$
Maximum reverse recovery time	$I_F = 0.5A,$ $I_R = 1.0A,$ $I_{rr} = 0.25A$	$t_{rr}$	50				75			ns
Typical junction capacitance	4.0V, 1 MHz	$C_J$	17							pF

1. Pulse test: 300 $\mu s$  pulse width, 1% duty cycle

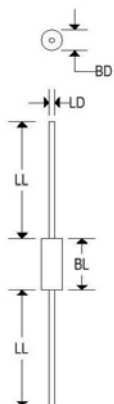
## THERMAL CHARACTERISTICS

Parameter	Symbol	UF 4001	UF 4002	UF 4003	UF 4004	UF 4005	UF 4006	UF 4007	Unit
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$	60							$^\circ C/W$
	$R_{\theta JL}$	15							

1. Thermal resistance from junction to ambient at 0.375" lead length

## MECHANICAL CHARACTERISTICS

Case	DO-41
Marking	Body painted, alpha numeric
Polarity	Cathode band



	DO-41			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	-	0.107	-	2.720
BL	-	0.205	-	5.207
LD	0.028	0.034	0.711	0.864
LL	1.000	-	25.400	-

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## UF4001-UF4007 ULTRAFAST PLASTIC RECTIFIER

Available Non-RoHS (standard) or RoHS compliant (add PBF suffix).  
 Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.

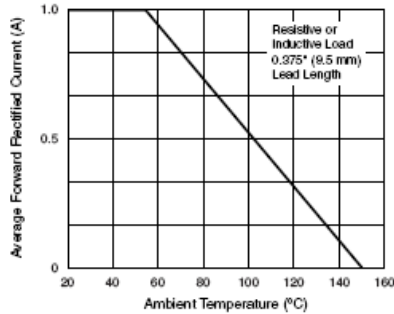


Figure 1. Maximum Forward Current Derating Curve

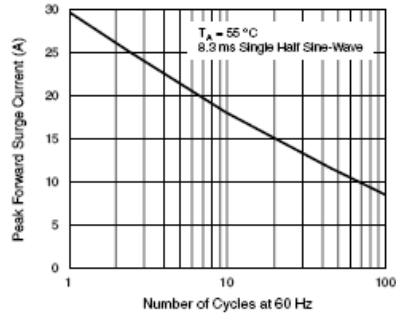


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

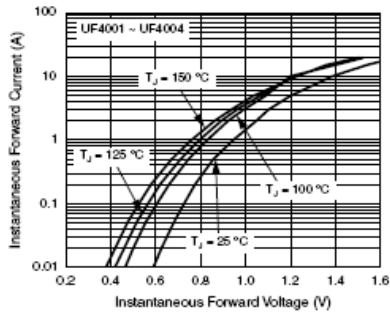


Figure 3. Typical Instantaneous Forward Characteristics

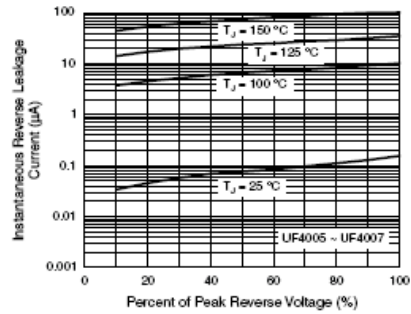


Figure 6. Typical Reverse Leakage Characteristics

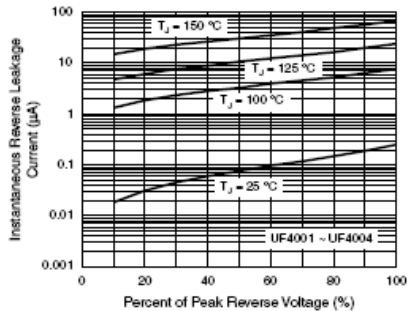


Figure 4. Typical Reverse Leakage Characteristics

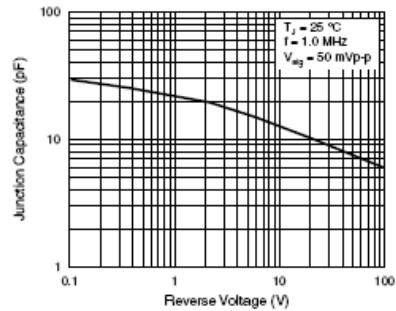


Figure 7. Typical Junction Capacitance

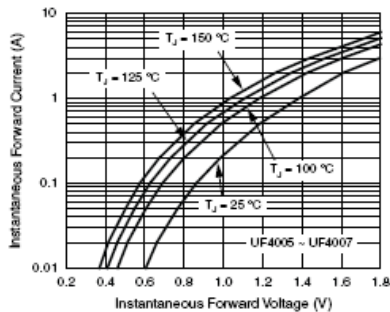


Figure 5. Typical Instantaneous Forward Characteristics