

DIGITRON SEMICONDUCTORS

UF5400-UF5408

ULTRAFAST PLASTIC RECTIFIER

MAXIMUM RATINGS AND THERMAL CHARACTERISTICS (@ 25°C ambient temperature unless noted otherwise)

Parameter	Symbol	UF 5400	UF 5401	UF 5402	UF 5403	UF 5404	UF 5405	UF 5406	UF 5407	UF 5408	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	300	400	500	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	210	280	350	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	300	400	500	600	800	1000	V
Maximum average forward rectified current .375" lead length @ $T_A = 55^\circ\text{C}$	$I_{F(AV)}$	3.0									A
Peak forward surge current 8.3 ms single half sine wave superimposed on rated load @ $T_A = 55^\circ\text{C}$	I_{FSM}	150									A
Typical thermal resistance (1)	$R_{\theta JA}$	20									°C/W
	$R_{\theta JL}$	8.5									
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150									°C

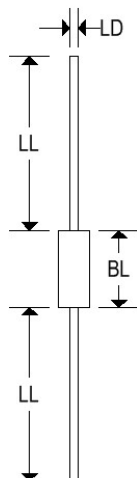
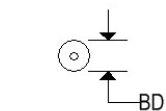
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ ambient temperature unless otherwise noted)

Parameter	Test Conditions	Symbol	UF 5400	UF 5401	UF 5402	UF 5403	UF 5404	UF 5405	UF 5406	UF 5407	UF 5408	Unit
Maximum instantaneous forward voltage ⁽²⁾	3.0A	V_F	1.0				1.7				V	
Maximum DC reverse current at rated DC blocking voltage	$T_A = 25^\circ\text{C}$	I_R	10									µA
	$T_A = 100^\circ\text{C}$		75				200					
Maximum reverse recovery time @ $I_F = 0.5\text{A}, I_R = 1.0\text{A}, I_{rr} = 0.25\text{A}$	$T_J = 25^\circ\text{C}$	t_{rr}	50				75				ns	
Typical junction capacitance	4.0V, 1 MHz	C_j	45				36				pF	

1. Thermal resistance from junction to lead and from junction to ambient with 0.375" lead length, both leads attached to heatsink
2. Pulse test: 300µs pulse width, 1% duty cycle

MECHANICAL CHARACTERISTICS

Case	DO-201A
Marking	Body painted, alpha numeric
Polarity	Cathode band



	DO-201A			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	0.190	0.260	4.826	6.604
BL	0.285	0.375	7.240	9.530
LD	0.048	0.052	1.219	1.321
LL	1.000	-	25.400	-

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Fig. 1 – Maximum Forward Current Derating Curve

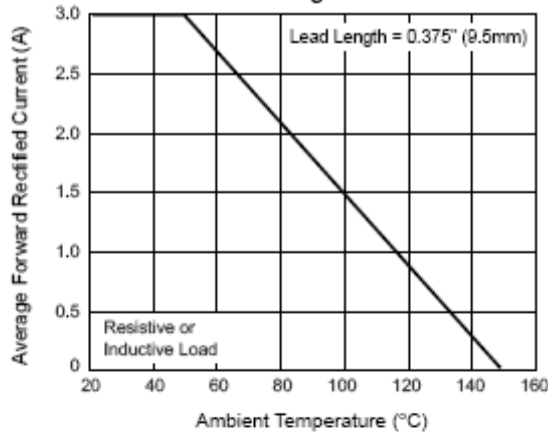


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

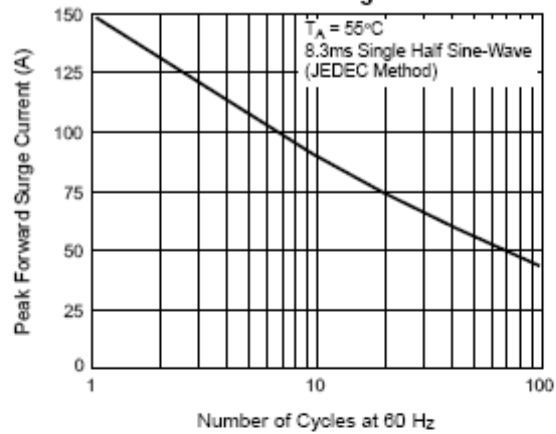


Fig. 3 – Typical Instantaneous Forward Characteristics

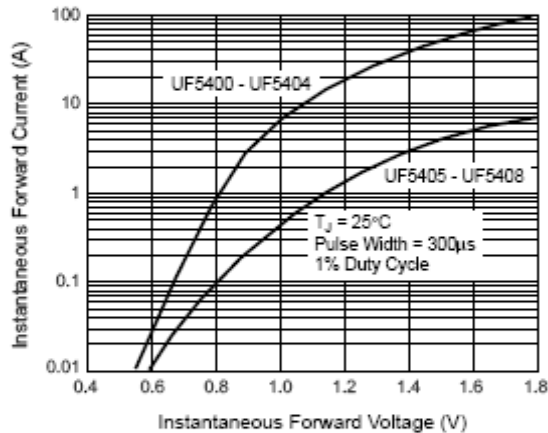


Fig. 4 – Typical Reverse Leakage Characteristics

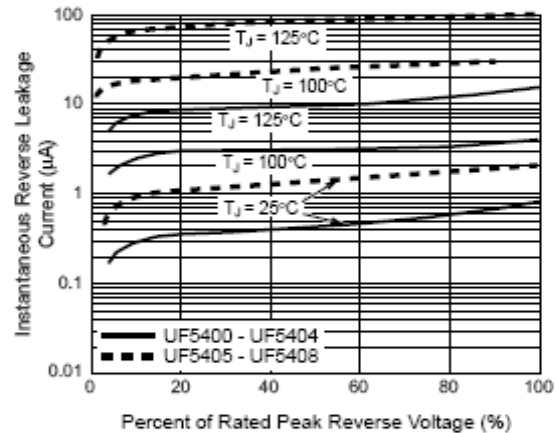
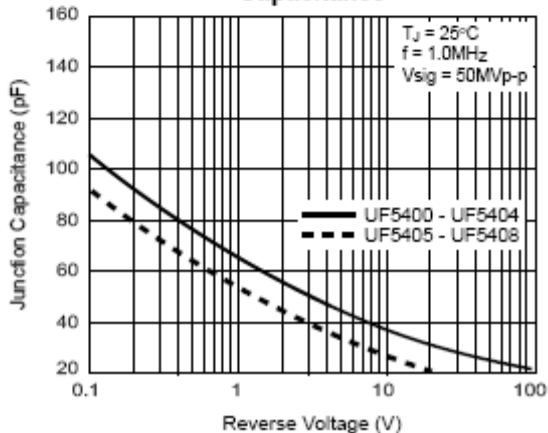


Fig. 5 – Typical Junction Capacitance



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.