

# DIGITRON SEMICONDUCTORS

1N914,A,B-1N916,A,B

SWITCHING RECTIFIERS

## MAXIMUM RATINGS

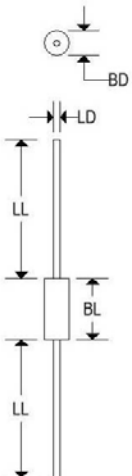
Parameter	Symbol	Value	Units
Maximum repetitive reverse voltage	$V_{RRM}$	100	V
Average rectified forward current	$I_{F(AV)}$	200	mA
Non-repetitive peak forward surge current Pulse width = 1.0 second Pulse width = 1.0 microsecond	$I_{FSM}$	1.0 4.0	A
Storage temperature range	$T_{stg}$	-65 to +200	°C
Operating junction temperature	$T_J$	-65 to +175	°C
Power dissipation	$P_D$	500	mW
Thermal resistance, junction to ambient	$R_{\theta JA}$	300	°C/W

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

Parameter	Symbol	Test Conditions	Min	Max	Unit
Breakdown voltage	$V_R$	$I_R = 100\mu\text{A}$ $I_R = 5.0\mu\text{A}$	100 75		V
Forward voltage	$V_F$	1N914 1N916B 1N914, 1N916 1N914A, 1N916A 1N916B 1N914B	$I_F = 5.0\text{mA}$ $I_F = 5.0\text{mA}$ $I_F = 10\text{mA}$ $I_F = 20\text{mA}$ $I_F = 20\text{mA}$ $I_F = 100\text{mA}$	620 720 630 730 1.0 1.0 1.0 1.0	mV mV V V V V
Reverse current	$I_R$	$V_R = 20\text{V}$ $V_R = 20\text{V}, T_A = 150^\circ\text{C}$ $V_R = 75\text{V}$		25 50 5.0	nA $\mu\text{A}$ $\mu\text{A}$
Total capacitance	$C_T$	1N916A,B 1N914A, B $V_R = 0, f = 1.0\text{ MHz}$ $V_R = 0, f = 1.0\text{ MHz}$		2.0 4.0	pF
Reverse recovery time	$t_{rr}$	1N914, 1N916 $I_F = 10\text{mA}, V_R = 6.0\text{V}(60\text{mA})$ $I_{rr} = 1.0\text{mA}, R_L = 100\Omega$		4.0	ns

## MECHANICAL CHARACTERISTICS

Case	DO-35
Marking	Body painted, alpha-numeric
Polarity	Cathode band



	DO-35			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	0.055	0.090	1.400	2.290
BL	0.120	0.200	3.050	5.080
LD	0.018	0.022	0.460	0.560
LL	1.000	1.500	25.400	38.100

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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.

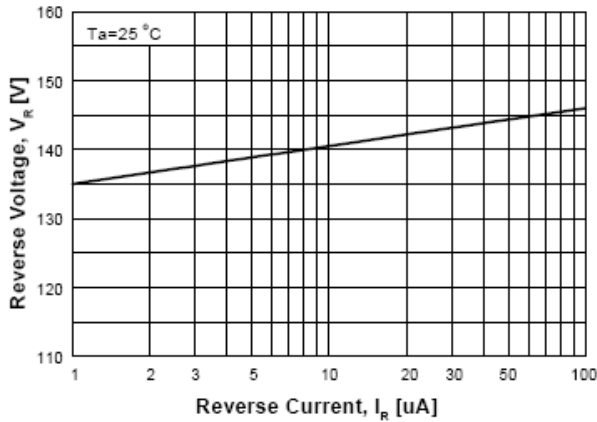
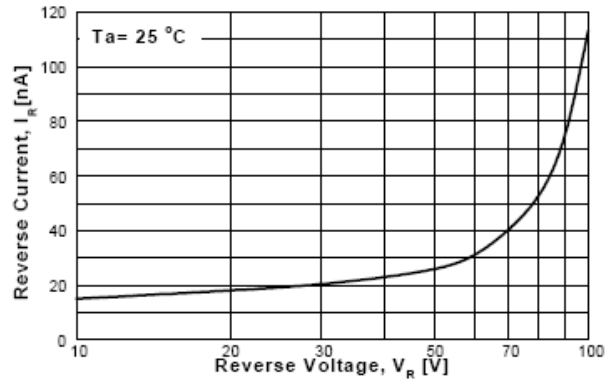


Figure 1. Reverse Voltage vs Reverse Current  
BV - 1.0 to 100 uA



GENERAL RULE: The Reverse Current of a diode will approximately double for every ten (10) Degree C increase in Temperature

Figure 2. Reverse Current vs Reverse Voltage  
IR - 10 to 100 V

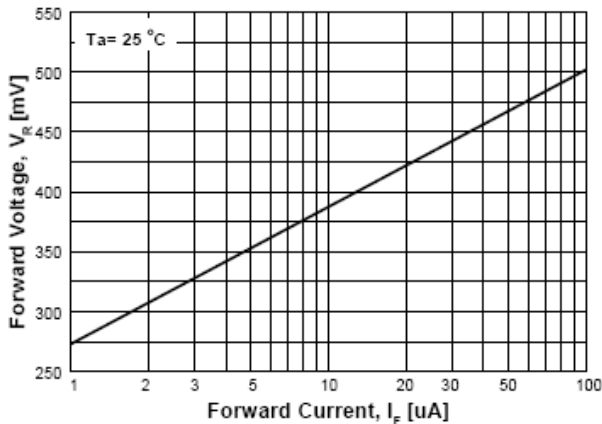


Figure 3. Forward Voltage vs Forward Current  
VF - 1 to 100 uA

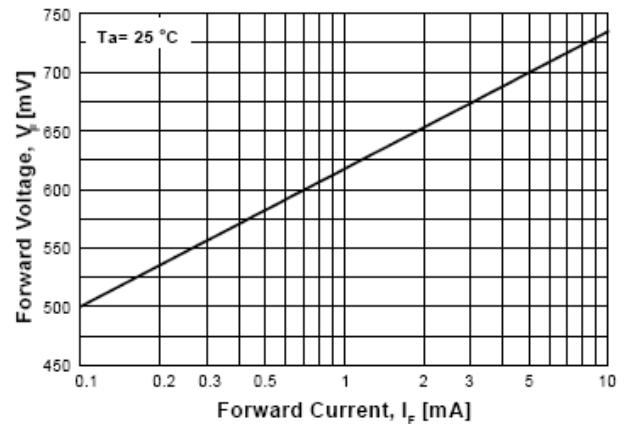


Figure 4. Forward Voltage vs Forward Current  
VF - 0.1 to 10 mA

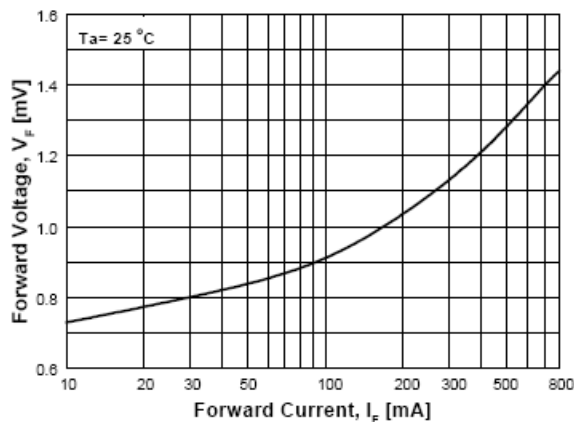


Figure 5. Forward Voltage vs Forward Current  
VF - 10 to 800 mA

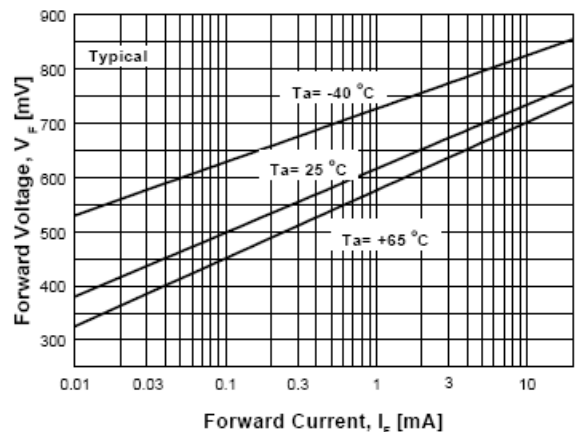
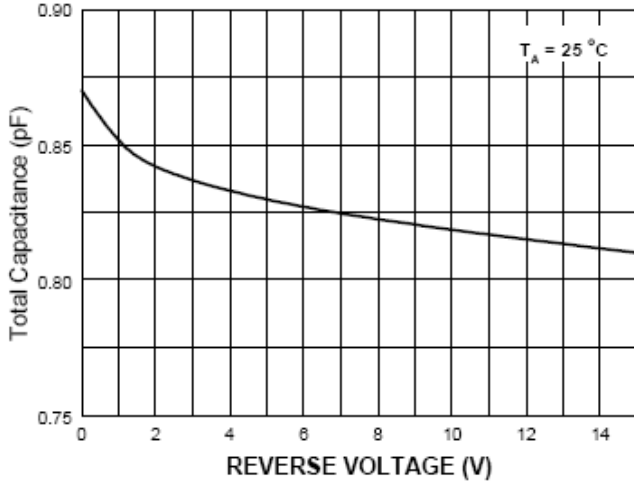


Figure 6. Forward Voltage  
vs Ambient Temperature  
VF - 0.01 - 20 mA (-40 to +65 Deg C)

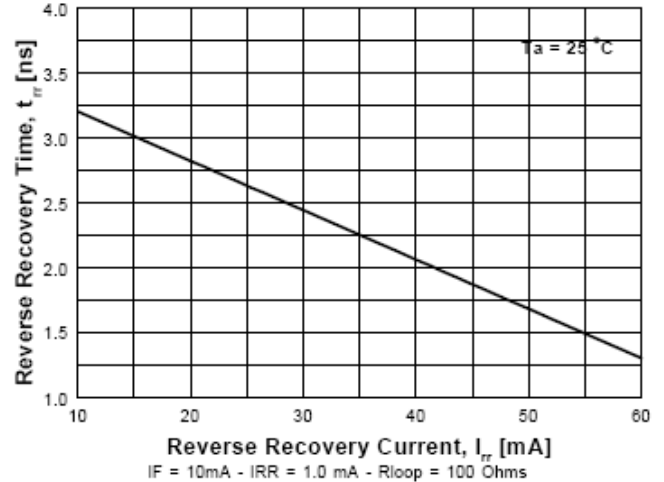
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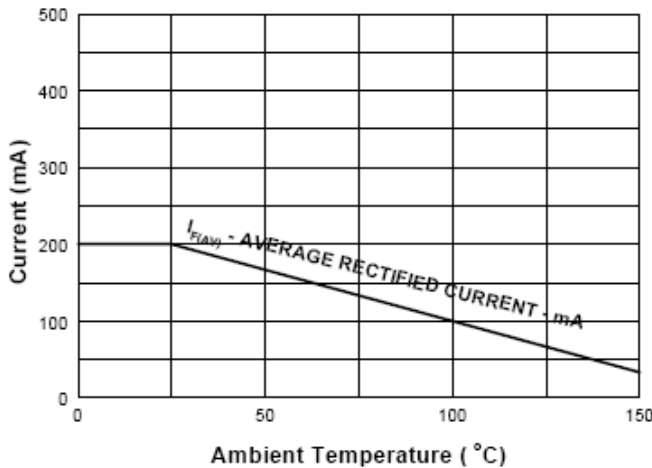
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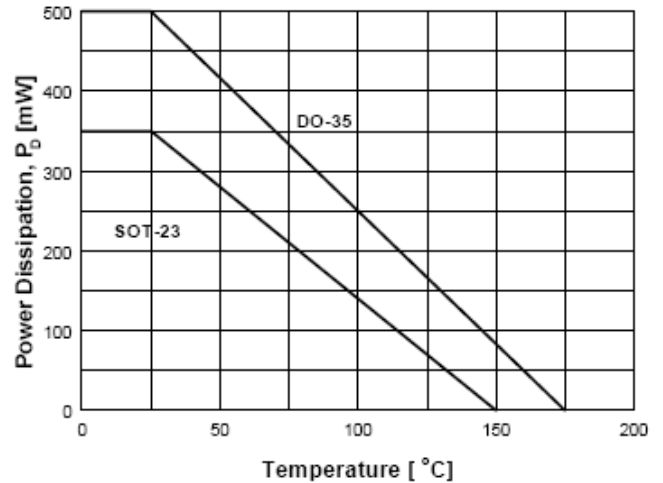
**Figure 7. Total Capacitance**



**Figure 8. Reverse Recovery Time vs Reverse Recovery Current**



**Figure 9. Average Rectified Current ( $I_{F(AV)}$ ) versus Ambient Temperature ( $T_A$ )**



**Figure 10. Power Derating Curve**