

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

SWITCHING RECTIFIERS

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

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 specified)

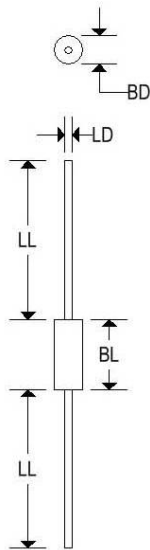
Parameter	Symbol	Test Conditions	Min	Max	Unit
Breakdown voltage	V_R	$I_R = 100\mu\text{A}$ $I_R = 5.0\mu\text{A}$	100 75		V
Forward voltage	V_F	1N914 1N916B 1N914, 1N916 1N914A, 1N916A 1N916B 1N914B	$I_F = 5.0\text{mA}$ $I_F = 5.0\text{mA}$ $I_F = 10\text{mA}$ $I_F = 20\text{mA}$ $I_F = 20\text{mA}$ $I_F = 100\text{mA}$	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 μA μA
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}	$I_F = 10\text{mA}, V_R = 6.0\text{V}(60\text{mA})$ $I_{rr} = 1.0\text{mA}, R_L = 100\Omega$		4.0	ns

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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

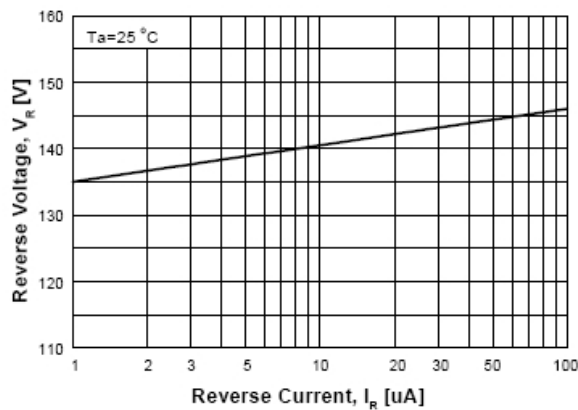


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100 uA

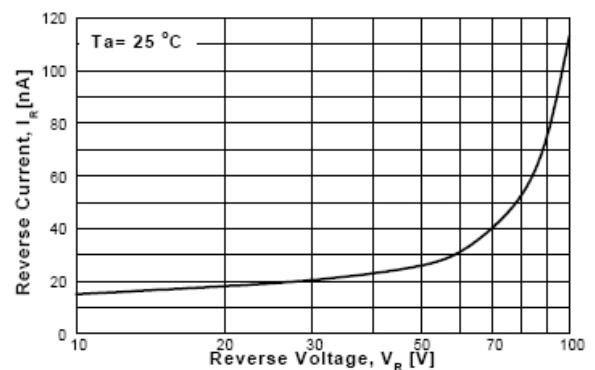
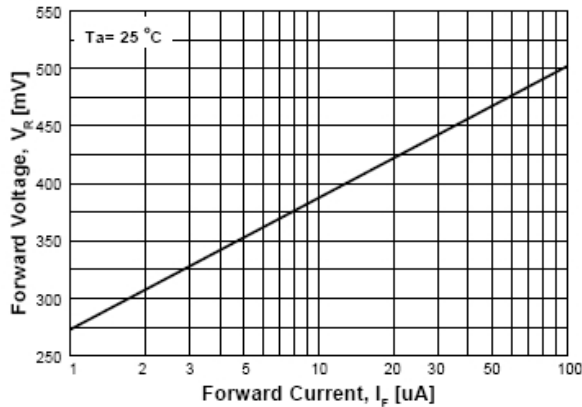


Figure 2. Reverse Current vs Reverse Voltage
IR - 10 to 100 V

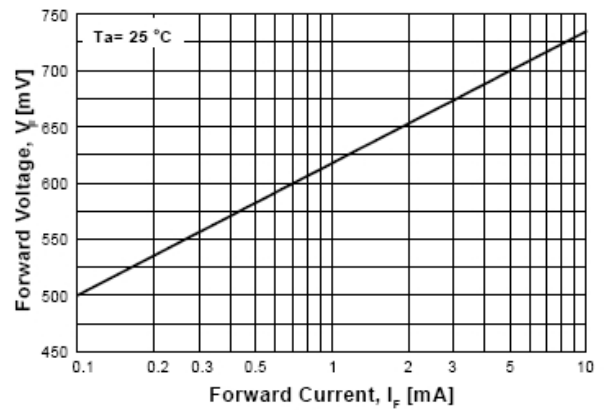
GENERAL RULE: The Reverse Current of a diode will approximately double for every ten (10) Degree C increase in Temperature

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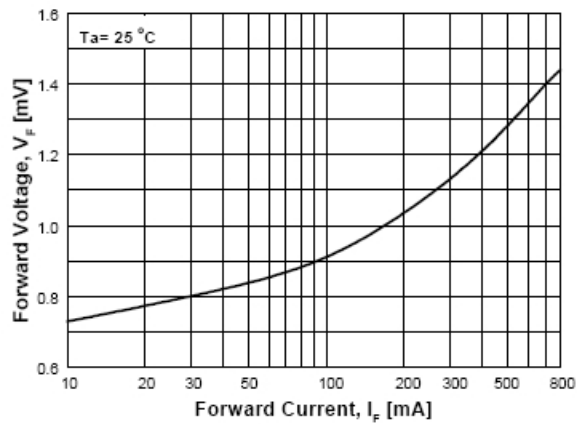
SWITCHING RECTIFIERS



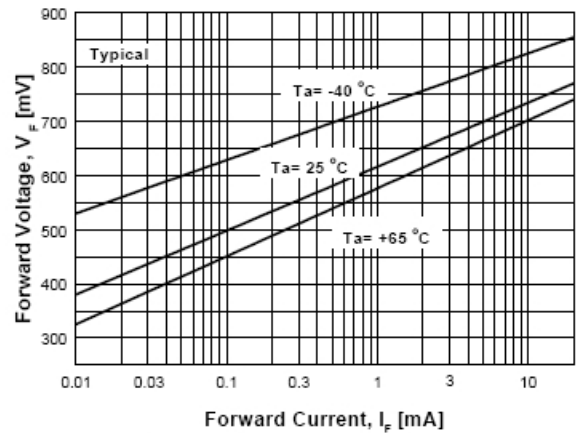
**Figure 3. Forward Voltage vs Forward Current
VF - 1 to 100 uA**



**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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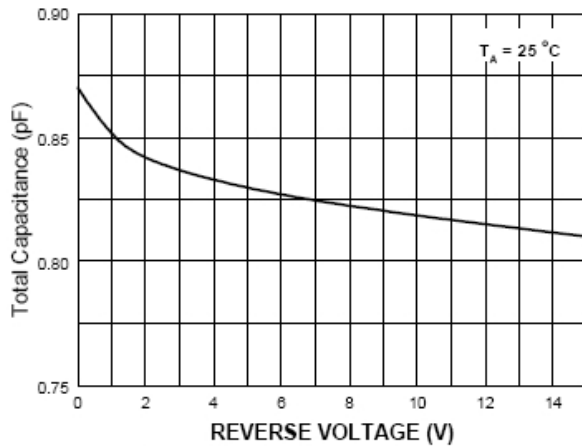


Figure 7. Total Capacitance

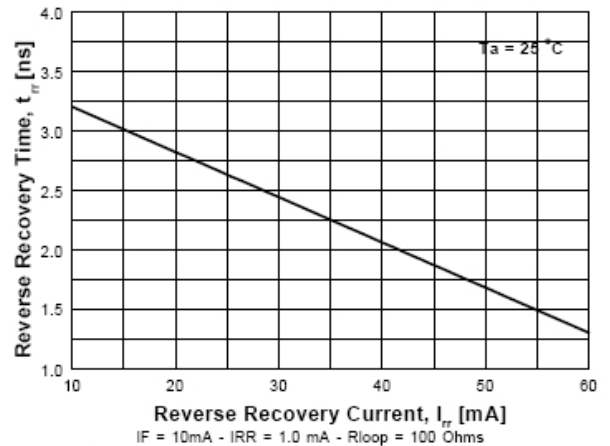


Figure 8. Reverse Recovery Time vs
Reverse Recovery Current

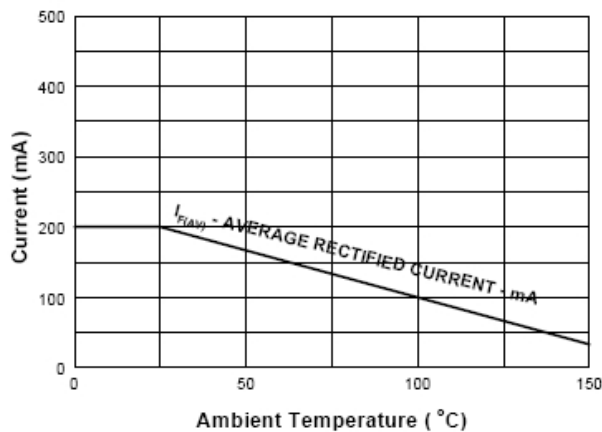


Figure 9. Average Rectified Current ($I_{F(AV)}$)
versus Ambient Temperature (T_A)

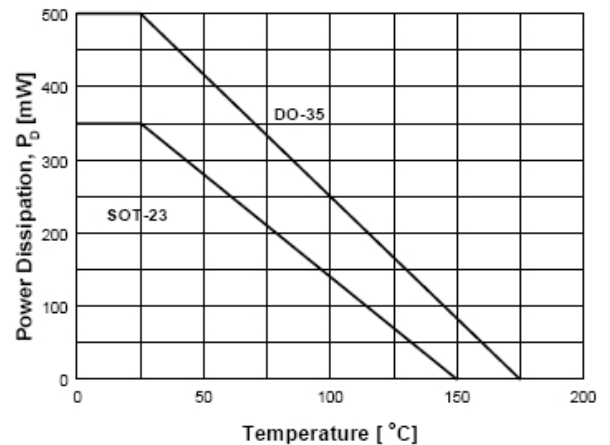


Figure 10. Power Derating Curve