



1N/FDLL 914/A/B / 916/A/B / 4148 / 4448



DO-35



LL-34

THE PLACEMENT OF THE EXPANSION GAP HAS NO RELATIONSHIP TO THE LOCATION OF THE CATHODE TERMINAL

COLOR BAND MARKING

| DEVICE | 1ST BAND | 2ND BAND |
|----------|----------|----------|
| FDLL914 | BLACK | BROWN |
| FDLL914A | BLACK | GRAY |
| FDLL914B | BROWN | BLACK |
| FDLL916 | BLACK | RED |
| FDLL916A | BLACK | WHITE |
| FDLL916B | BROWN | BROWN |
| FDLL4148 | BLACK | BROWN |
| FDLL4448 | BROWN | BLACK |

Small Signal Diode

Absolute Maximum Ratings*

T_A = 25°C unless otherwise noted

| Symbol | Parameter | Value | Units |
|--------------------|---|-------------|-------|
| V _{RRM} | Maximum Repetitive Reverse Voltage | 100 | V |
| I _{F(AV)} | Average Rectified Forward Current | 200 | mA |
| I _{FSM} | Non-repetitive Peak Forward Surge Current | 1.0 | A |
| | Pulse Width = 1.0 second | 4.0 | A |
| T _{stg} | Storage Temperature Range | -65 to +200 | °C |
| T _J | Operating Junction Temperature | 175 | °C |

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

- 1) These ratings are based on a maximum junction temperature of 200 degrees C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

| Symbol | Characteristic | Max | Units |
|------------------|---|-------------------------------|-------|
| | | 1N/FDLL 914/A/B / 4148 / 4448 | |
| P _D | Power Dissipation | 500 | mW |
| R _{θJA} | Thermal Resistance, Junction to Ambient | 300 | °C/W |

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Small Signal Diode (continued)

Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Test Conditions | Min | Max | Units | |
|----------|-----------------------|---|---|--|--------------------------------------|----------|
| V_R | Breakdown Voltage | $I_R = 100 \mu\text{A}$ $I_R = 5.0 \mu\text{A}$ | 100 75 | | V V | |
| V_F | Forward Voltage | 1N914B/4448 1N916B 1N914/916/4148 1N914A/916A 1N916B 1N914B/4448 | $I_F = 5.0 \text{ mA}$ $I_F = 5.0 \text{ mA}$ $I_F = 10 \text{ mA}$ $I_F = 20 \text{ mA}$ $I_F = 20 \text{ mA}$ $I_F = 100 \text{ mA}$ | 620 630 720 730 1.0 1.0 1.0 1.0 | mV mV V V V V | |
| I_R | Reverse Current | $V_R = 20 \text{ V}$ $V_R = 20 \text{ V}, T_A = 150^\circ\text{C}$ $V_R = 75 \text{ V}$ | | 25 50 5.0 | nA μA μA | |
| C_T | Total Capacitance | 1N916A/B/4448 1N914A/B/4148 | $V_R = 0, f = 1.0 \text{ MHz}$ $V_R = 0, f = 1.0 \text{ MHz}$ | | 2.0 4.0 | pF pF |
| t_{rr} | Reverse Recovery Time | $I_F = 10 \text{ mA}, V_R = 6.0 \text{ V (60mA)}$ $I_{rr} = 1.0 \text{ mA}, R_L = 100\Omega$ | | 4.0 | ns | |

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Typical Characteristics

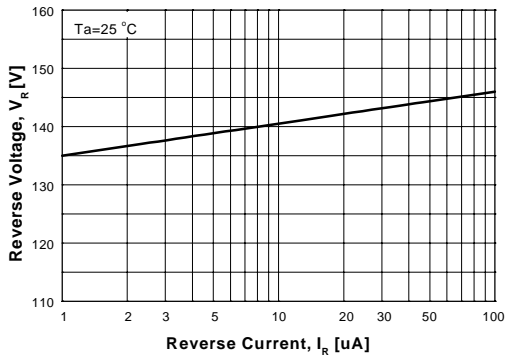


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100 μA

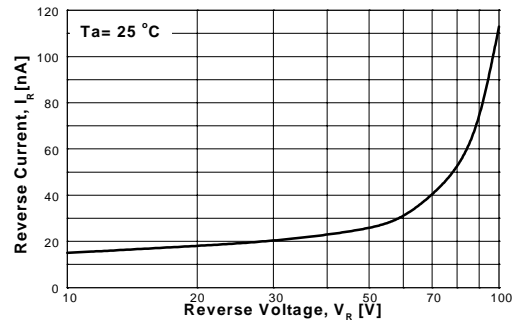


Figure 2. Reverse Current vs Reverse Voltage
IR - 10 to 100 V
GENERAL RULE: The Reverse Current of a diode will approximately double for every ten (10) Degree C increase in Temperature

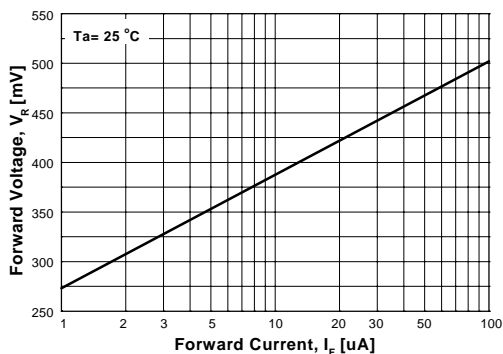


Figure 3. Forward Voltage vs Forward Current
VF - 1 to 100 μA

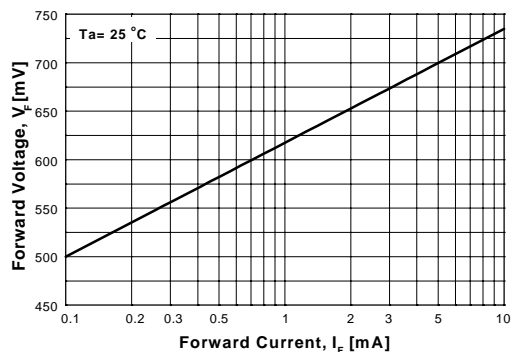


Figure 4. Forward Voltage vs Forward Current
VF - 0.1 to 10 mA

Typical Characteristics (continued)



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

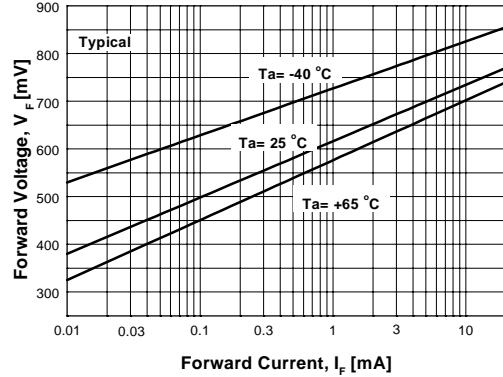


Figure 6. Forward Voltage
vs Ambient Temperature
VF - 0.01 - 20 mA (-40 to +65 Deg C)



Figure 7. Total Capacitance

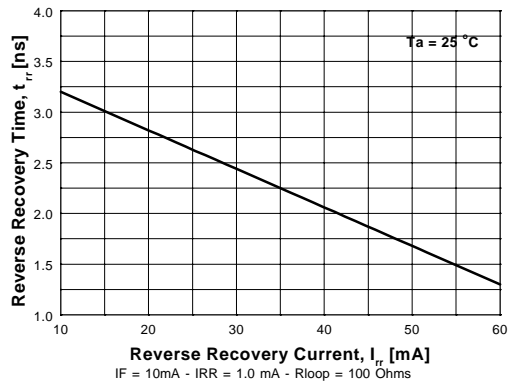


Figure 8. Reverse Recovery Time vs
Reverse Recovery Current

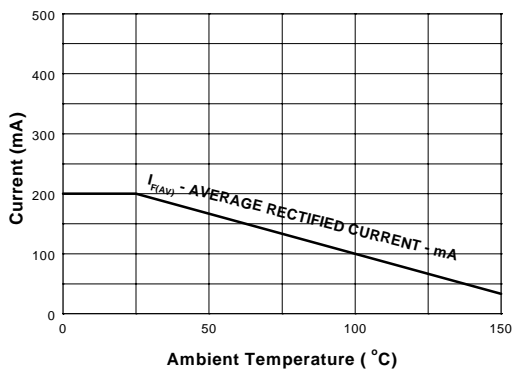


Figure 9. Average Rectified Current ($I_{F(AV)}$)
versus Ambient Temperature (T_A)

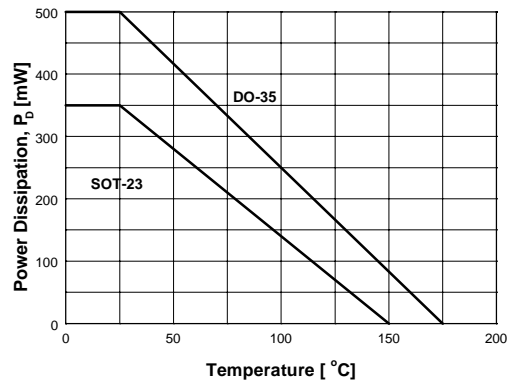


Figure 10. Power Derating Curve

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