

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 |

High Conductance Fast Diode

Sourced from Process D3.

Absolute Maximum Ratings*

TA = 25°C unless otherwise noted

| Symbol | Parameter | Value | Units |
|---------------|---|-------------|--------|
| W_{IV} | Working Inverse Voltage | 75 | V |
| I_O | Average Rectified Current | 200 | mA |
| I_F | DC Forward Current | 300 | mA |
| i_f | Recurrent Peak Forward Current | 400 | mA |
| $i_{(surge)}$ | Peak Forward Surge Current Pulse width = 1.0 second Pulse width = 1.0 microsecond | 1.0 4.0 | A 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

TA = 25°C unless otherwise noted

| Symbol | Characteristic | Max | Units |
|-----------------|---|-------------------------------|-------|
| | | 1N/FDLL 914/A/B / 4148 / 4448 | |
| P_D | Total Device Dissipation Derate above 25°C | 500 | mW |
| | | 3.33 | mW/°C |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 300 | °C/W |

High Conductance Fast Diode

(continued)

1N/FD/L 914/A/B / 916/A/B / 4148 / 4448

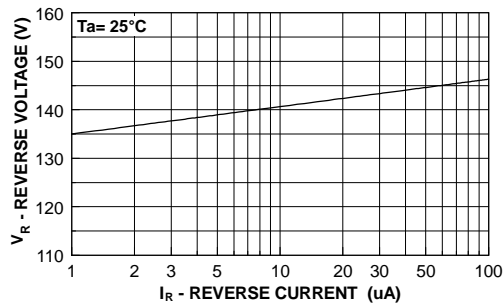
Electrical Characteristics

TA = 25°C unless otherwise noted

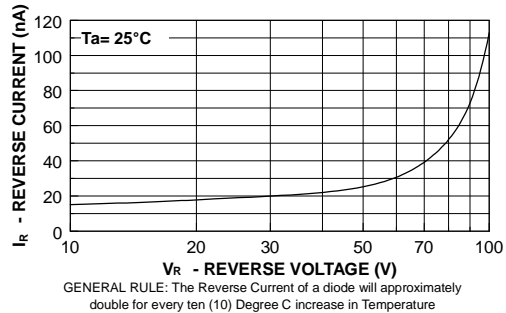
| Symbol | Parameter | Test Conditions | Min | Max | Units | |
|-----------------|-----------------------|---|---|---|------------------------------|----------|
| B _V | Breakdown Voltage | I _R = 100 μA I _R = 5.0 μA | 100 75 | | V V | |
| I _R | Reverse Current | V _R = 20 V V _R = 20 V, T _A = 150°C V _R = 75 V | | 25 50 5.0 | nA μA μA | |
| V _F | Forward Voltage | 1N914B / 4448 1N916B 1N914 / 916 / 4148 1N914A / 916A 1N916B 1N914B / 4448 | I _F = 5.0 mA I _F = 5.0 mA I _F = 10 mA I _F = 20 mA I _F = 30 mA I _F = 100 mA | 620 630 720 730 1.0 1.0 1.0 | mV mV V V V V | |
| C _O | Diode Capacitance | 1N916/A/B / 4448 1N914/A/B / 4148 | V _R = 0, f = 1.0 MHz V _R = 0, f = 1.0 MHz | | 2.0 4.0 | pF pF |
| T _{RR} | Reverse Recovery Time | I _F = 10 mA, V _R = 6.0 V (60 mA), I _{tr} = 1.0 mA, R _L = 100 Ω | | 4.0 | nS | |

Typical Characteristics

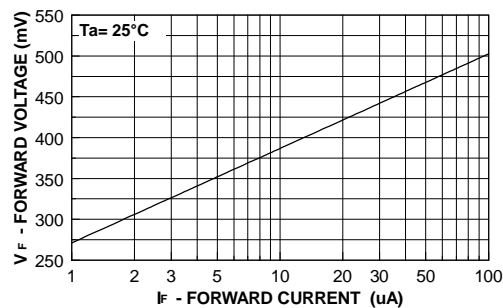
REVERSE VOLTAGE vs REVERSE CURRENT
BV - 1.0 to 100 μA



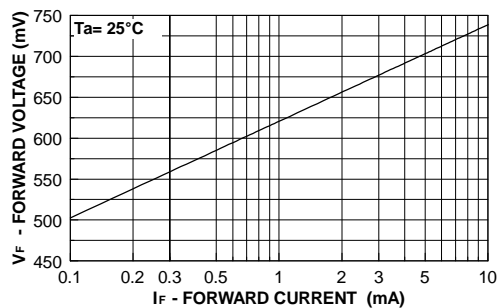
REVERSE CURRENT vs REVERSE VOLTAGE
IR - 10 to 100 V



FORWARD VOLTAGE vs FORWARD CURRENT
VF - 1 to 100 μA



FORWARD VOLTAGE vs FORWARD CURRENT
VF - 0.1 to 100 mA



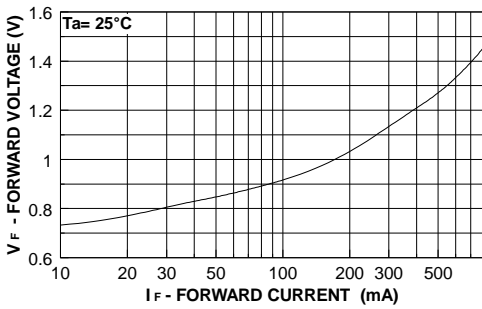
High Conductance Fast Diode

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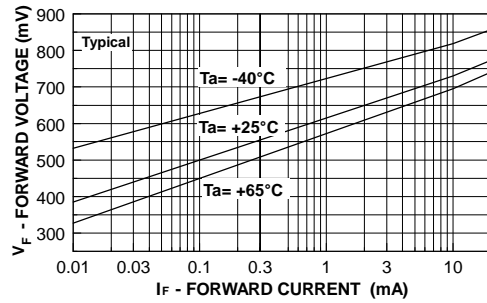
1N/FD/LL 914/A/B / 916/A/B / 4148 / 4448

Typical Characteristics (continued)

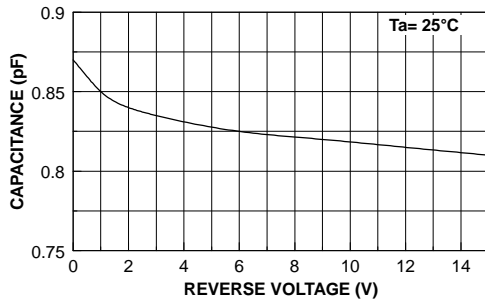
FORWARD VOLTAGE vs FORWARD CURRENT
VF - 10 to 800 mA



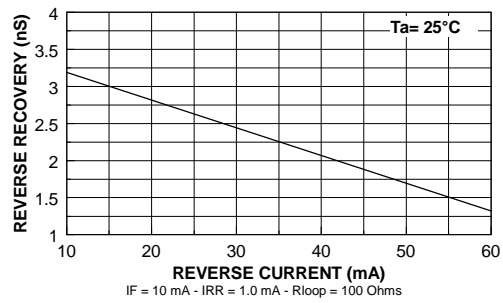
VF - 0.01 - 20 mA (-40 to +65 Deg C)
FORWARD VOLTAGE vs
AMBIENT TEMPERATURE



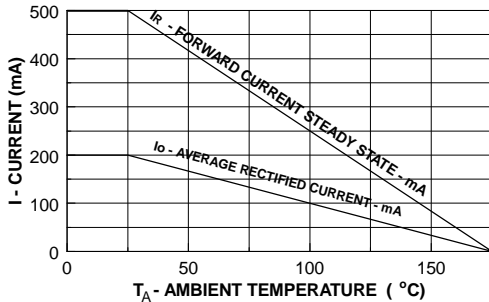
CAPACITANCE vs REVERSE VOLTAGE
VR = 0.0 to 15 V



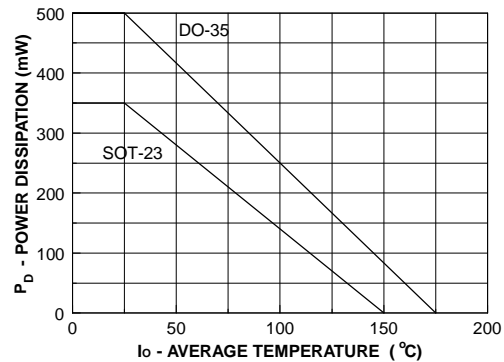
REVERSE RECOVERY TIME vs
REVERSE CURRENT



Average Rectified Current (I_o) &
Forward Current (I_F) versus
Ambient Temperature (T_A)



POWER DERATING CURVE



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| FACT Quiet Series™ | Quiet Series™ |
| FAST® | SuperSOT™-3 |
| FASTr™ | SuperSOT™-6 |
| GTO™ | SuperSOT™-8 |
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|--------------------------|------------------------|---|
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