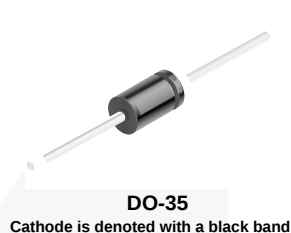


# FDH 400 / FDLL 400

## High Voltage General Purpose Diode



### LL-34 COLOR BAND MARKING

| DEVICE  | 1ST BAND |
|---------|----------|
| FDLL400 | BLACK    |

-1st band denotes cathode terminal and has wider width

### Absolute Maximum Ratings<sup>(1)</sup>

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

| Symbol    | Parameter                                 | Value                           | Units            |
|-----------|-------------------------------------------|---------------------------------|------------------|
| $W_{IV}$  | Working Inverse Voltage                   | 150                             | V                |
| $I_O$     | Average Rectified Forward Current         | 200                             | mA               |
| $I_F$     | DC Forward Current                        | 500                             | mA               |
| $i_f$     | Recurrent Peak Forward Current            | 600                             | mA               |
| $I_{FSM}$ | Non-repetitive Peak Forward Surge Current | Pulse Width = 1.0 s             | 1.0 A            |
|           |                                           | Pulse Width = 1.0 $\mu\text{s}$ | 4.0 A            |
| $T_{STG}$ | Storage Temperature Range                 | -65 to +200                     | $^\circ\text{C}$ |
| $T_J$     | Operating Junction Temperature            | 175                             | $^\circ\text{C}$ |

#### Note:

- These ratings are limiting values above which the serviceability of the diode may be impaired. These ratings are based on a maximum junction temperature of  $200^\circ\text{C}$ . These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### Thermal Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

| Symbol          | Parameter                               | Max.           | Units                     |
|-----------------|-----------------------------------------|----------------|---------------------------|
|                 |                                         | FDH / FDLL 400 |                           |
| $P_D$           | Power Dissipation                       | 500            | mW                        |
|                 | Derate above $25^\circ\text{C}$         | 3.33           | mW/ $^\circ\text{C}$      |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 300            | $^\circ\text{C}/\text{W}$ |

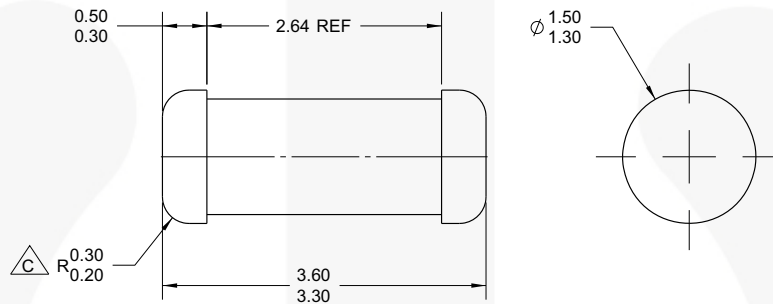
## Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

| Symbol   | Parameter             |                | Test Conditions                                                         | Min. | Max. | Units         |
|----------|-----------------------|----------------|-------------------------------------------------------------------------|------|------|---------------|
| $V_R$    | Breakdown Voltage     | FDH / FDLL 400 | $I_R = 100\ \mu\text{A}$                                                | 200  |      | V             |
| $V_F$    | Forward Voltage       | FDH / FDLL 400 | $I_F = 200\ \text{mA}$                                                  |      | 1.0  | V             |
|          |                       |                | $I_F = 300\ \text{mA}$                                                  |      | 1.1  | V             |
| $I_R$    | Reverse Leakage       | FDH / FDLL 400 | $V_R = 150\ \text{V}$                                                   |      | 100  | nA            |
|          |                       |                | $V_R = 150\ \text{V}, T_A = 150^\circ\text{C}$                          |      | 100  | $\mu\text{A}$ |
| $C_O$    | Diode Capacitance     | FDH / FDLL 400 | $V_R = 0, f = 1.0\ \text{MHz}$                                          |      | 2.0  | pF            |
| $t_{rr}$ | Reverse Recovery Time | FDH / FDLL 400 | $I_F = I_R = 30\ \text{mA}, I_{rr} = 3.0\ \text{mA}, R_L = 100\ \Omega$ |      | 50   | ns            |

## Physical Dimensions

### SOD-80



NOTES: UNLESS OTHERWISE SPECIFIED

A) PACKAGE STANDARD REFERENCE:  
JEDEC DO-213, VARIATION AC.

B) ALL DIMENSIONS ARE IN MILLIMETERS.

$\triangle C$  CORNER RADIUS IS OPTIONAL.

D) DRAWING FILE NAME: SOD80A REV01

**Figure 1. 2-TERMINAL, SOD-80, JEDEC DO-213AC, MINI-MELF**

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Always visit Fairchild Semiconductor's online packaging area for the most recent package drawings:

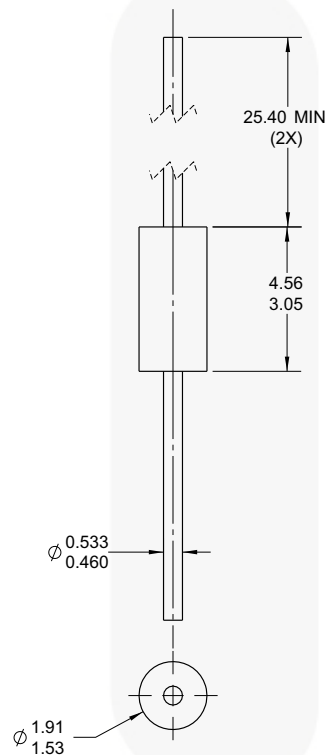
<http://www.fairchildsemi.com/packaging/>.

For current tape and reel specifications, visit Fairchild Semiconductor's online packaging area:

[http://www.fairchildsemi.com/packaging/tr/SOD80A\\_tnr.pdf](http://www.fairchildsemi.com/packaging/tr/SOD80A_tnr.pdf).

## Physical Dimensions (Continued)

## DO-35



NOTES: UNLESS OTHERWISE SPECIFIED

- A) PACKAGE STANDARD REFERENCE:  
JEDEC DO-204, VARIATION AH.
- B) HERMETICALLY SEALED GLASS PACKAGE.
- C) PACKAGE WEIGHT IS 0.137 GRAM.
- D) ALL DIMENSIONS ARE IN MILLIMETERS.
- E) DRAWING FILE NAME: DO35AREV02

**Figure 2. AXIAL LEADED, GLASS, JEDEC DO204, VARIATION AH (ACTIVE)**

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| AccuPower™                                                                        | F-PFS™                                         | PowerTrench®                                                                      | SYSTEM GENERAL®                                                                     |
| AX-CAP®*                                                                          | FRFET®                                         | PowerXS™                                                                          | TinyBoost™                                                                          |
| BitSiC™                                                                           | Global Power Resource™                         | Programmable Active Droop™                                                        | TinyBuck™                                                                           |
| Build it Now™                                                                     | GreenBridge™                                   | QFET®                                                                             | TinyCalc™                                                                           |
| CorePLUS™                                                                         | Green FPS™                                     | QS™                                                                               | TinyLogic®                                                                          |
| CorePOWER™                                                                        | Green FPS™ e-Series™                           | Quiet Series™                                                                     | TINYOPTO™                                                                           |
| CROSSVOLT™                                                                        | Gmax™                                          | RapidConfigure™                                                                   | TinyPower™                                                                          |
| CTL™                                                                              | GTO™                                           |  | TinyPWM™                                                                            |
| Current Transfer Logic™                                                           | IntelliMAX™                                    | Saving our world, 1mW/W/kW at a time™                                             | TinyWire™                                                                           |
| DEUXPEED®                                                                         | ISOPPLANAR™                                    | SignalWise™                                                                       | TranSiC™                                                                            |
| Dual Cool™                                                                        | Making Small Speakers Sound Louder and Better™ | SmartMax™                                                                         | TriFault Detect™                                                                    |
| EcoSPARK®                                                                         | MegaBuck™                                      | SMART START™                                                                      | TRUECURRENT®*                                                                       |
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| ESBC™                                                                             | MicroFET™                                      | SPM®                                                                              |  |
|  | MicroPak™                                      | STEALTH™                                                                          | UHC®                                                                                |
| Fairchild®                                                                        | MicroPak2™                                     | SuperFET™                                                                         | Ultra FRFET™                                                                        |
| Fairchild Semiconductor®                                                          | MillerDrive™                                   | SuperSOT™-3                                                                       | UniFET™                                                                             |
| FACT Quiet Series™                                                                | MotionMax™                                     | SuperSOT™-6                                                                       | VCX™                                                                                |
| FACT®                                                                             | mWSaver™                                       | SuperSOT™-8                                                                       | VisualMax™                                                                          |
| FAST®                                                                             | OptoHiT™                                       | SupreMOS®                                                                         | VoltagePlus™                                                                        |
| FastvCore™                                                                        | OPTOLOGIC®                                     | SyncFET™                                                                          | XS™                                                                                 |
| FETBench™                                                                         | OPTOPLANAR®                                    |                                                                                   |                                                                                     |

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Rev. I64

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