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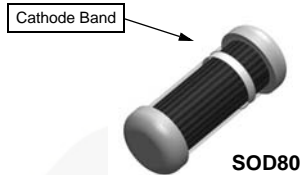
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# FDLL3595

## High Conductance, Low Leakage Diode



### Description

A general purpose diode that couples high forward conductance fast switching speed and high blocking voltages in a glass leadless LL-34 surface mount package. Placement of the expansion gap has no relationship to the location of the cathode terminal which is indicated by the first color band.

### 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	125	V
$I_O$	Average Rectified Current	200	mA
$I_F$	DC Forward Current	500	mA
$i_f$	Recurrent Peak Forward Current	600	mA
$I_{FSM}$	Non-repetitive Peak Forward Current	Pulse Width = 1.0 s	1.0
		Pulse Width = 1.0 $\mu\text{s}$	4.0
$T_{STG}$	Storage Temperature Range	-65 to +200	$^\circ\text{C}$
$T_J$	Operating Junction Temperature	-65 to +200	$^\circ\text{C}$

#### Note:

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

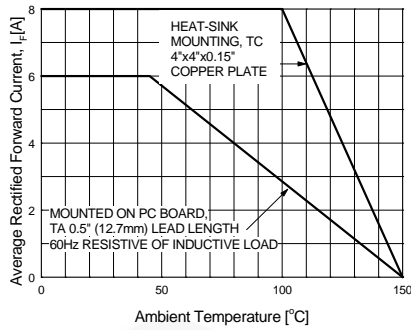
### Thermal Characteristics

Symbol	Parameter	Value	Units
$P_D$	Power Dissipation	500	mW
	Linear Derating Factor from $T_A = 25^\circ\text{C}$	3.33	mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	350	$^\circ\text{C}/\text{W}$

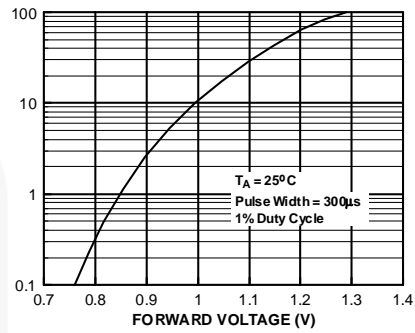
**Electrical Characteristics**Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Max.	Units
$V_R$	Breakdown Voltage	$I_R = 100 \mu\text{A}$	150		V
$V_F$	Forward Voltage	$I_F = 1.0 \text{ mA}$	520	680	mV
		$I_F = 5.0 \text{ mA}$	600	750	mV
		$I_F = 10 \text{ mA}$	650	800	mV
		$I_F = 50 \text{ mA}$	750	880	mV
		$I_F = 100 \text{ mA}$	790	920	mV
		$I_F = 200 \text{ mA}$	0.83	1.0	V
$I_R$	Reverse Leakage	$V_R = 125 \text{ V}$		1.0	nA
		$V_R = 30 \text{ V}, T_A = 125^\circ\text{C}$		300	nA
		$V_R = 125 \text{ V}, T_A = 125^\circ\text{C}$		500	nA
		$V_R = 180 \text{ V}, T_A = 150^\circ\text{C}$		3.0	$\mu\text{A}$
$C_T$	Total Capacitance	$V_R = 0, f = 1.0 \text{ MHz}$		8.0	pF
$t_{rr}$	Reverse Recovery Time	$I_F = 10 \text{ mA}, V_R = 3.5 \text{ V}$ $R_L = 1.0 \text{ K}\Omega$		3.0	$\mu\text{s}$

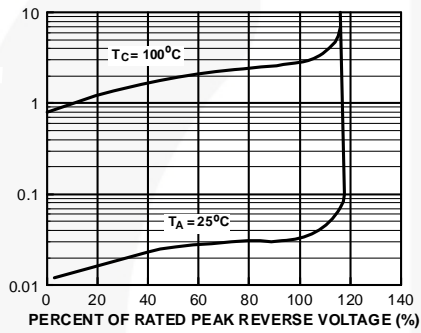
## Typical Performance Characteristics



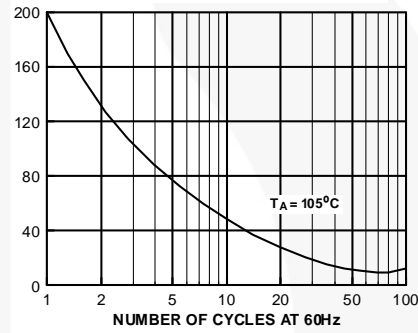
**Figure 1. Forward Current Derating Curve**



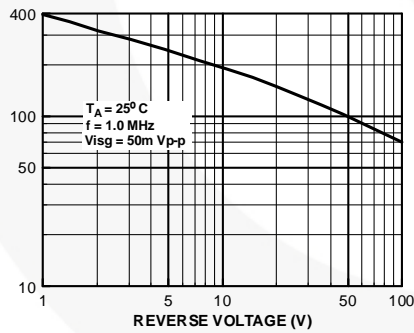
**Figure 2. Forward Characteristics**



**Figure 3. Reverse Characteristics**



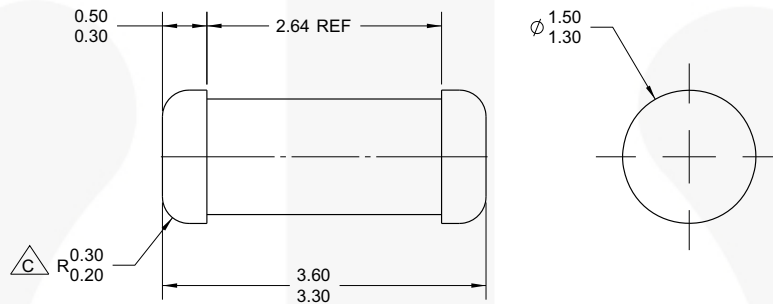
**Figure 4. Non-Repetitive Surge Current**



**Figure 5. Junction Capacitance**

## 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 6. 2-TERMINAL, SOD-80, JEDEC DO-213AC, MINI-MELF**

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No Identification Needed	Full Production	Datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve the design.
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