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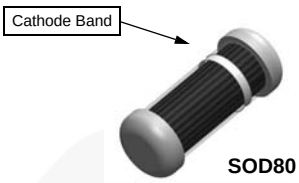
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FAIRCHILD SEMICONDUCTOR®

April 2013

FDLL3595
High Conductance, Low Leakage Diode



SOD80

Description

A general purpose diode that couples high forward conductance fast swiching 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(1)

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°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	A
		Pulse Width = 1.0 µs	4.0	A
T_{STG}	Storage Temperature Range		-65 to +200	°C
T_J	Operating Junction Temperature		-65 to +200	°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°C	3.33	mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	350	°C/W

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Electrical Characteristics

Values are at T_A = 25°C unless otherwise noted.

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

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Typical Performance Characteristics

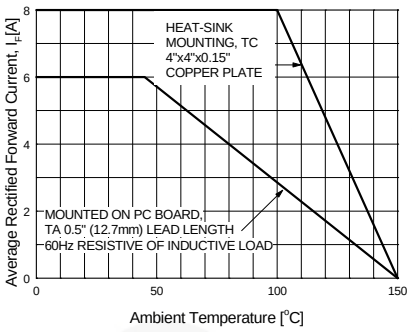


Figure 1. Forward Current Derating Curve

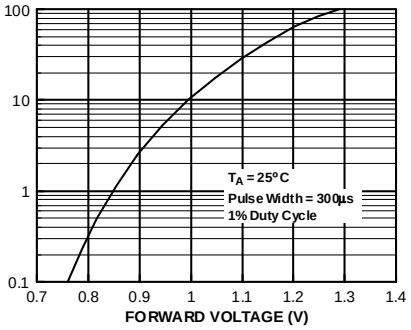


Figure 2. Forward Characteristics

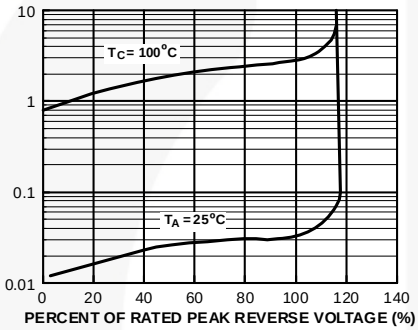


Figure 3. Reverse Characteristics

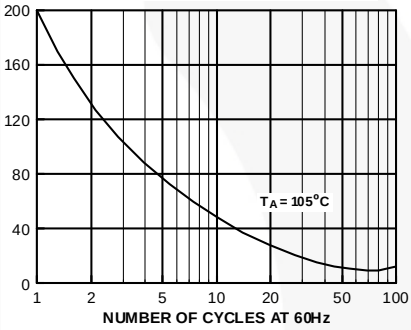


Figure 4. Non-Repetitive Surge Current

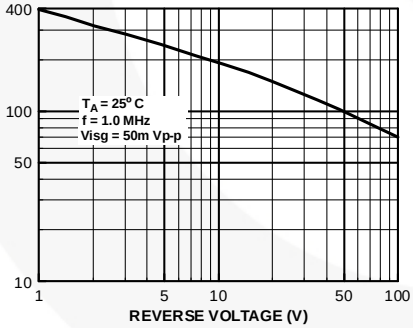
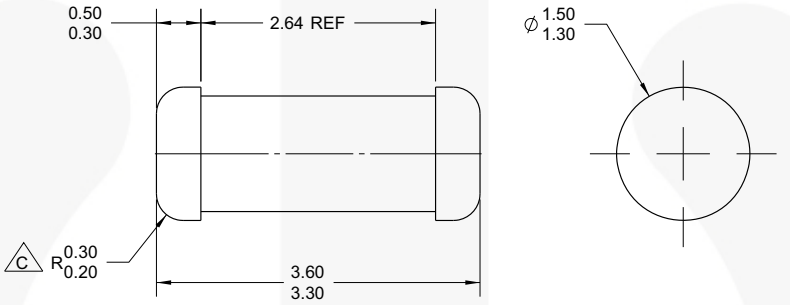


Figure 5. Junction Capacitance

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Physical Dimensions

SOD-80



NOTES: UNLESS OTHERWISE SPECIFIED

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

B) ALL DIMENSIONS ARE IN MILLIMETERS.

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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