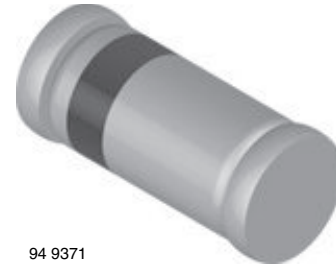
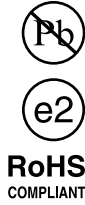


Small Signal Schottky Diodes

Features

- For general purpose applications
- The LL101 series is a metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring.
- The low forward voltage drop and fast switching make it ideal for protection of MOS devices, steering, biasing and coupling diodes for fast switching and low logic level applications.
- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- This diode is also available in the DO-35 case with type designation SD101A, B, C and in the SOD-123 case with type designation SD101AW-V, SD101BW-V, SD101CW-V
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



94 9371

Mechanical Data

Case: MiniMELF SOD-80

Weight: approx. 31 mg

Cathode band color: black

Packaging codes/options:

GS18 / 10 k per 13" reel (8 mm tape), 10 k/box

GS08 / 2.5 k per 7" reel (8 mm tape), 12.5 k/box

Applications

- HF-Detector
- Protection circuit
- Diode for low currents with a low supply voltage
- Small battery charger
- Power supplies
- DC/DC converter for notebooks

Parts Table

Part	Type differentiation	Ordering code	Remarks
LL101A	$V_R = 60\text{ V}$, V_F at I_F 1 mA max. 410 mV	LL101A-GS18 or LL101A-GS08	Tape and Reel
LL101B	$V_R = 50\text{ V}$, V_F at I_F 1 mA max. 400 mV	LL101B-GS18 or LL101B-GS08	Tape and Reel
LL101C	$V_R = 40\text{ V}$, V_F at I_F 1 mA max. 390 mV	LL101C-GS18 or LL101C-GS08	Tape and Reel

Absolute Maximum Ratings

$T_{amb} = 25\text{ }^\circ\text{C}$, unless otherwise specified

Parameter	Test condition	Part	Symbol	Value	Unit
Peak inverse voltage		LL101A	V_{RRM}	60	V
		LL101B	V_{RRM}	50	V
		LL101C	V_{RRM}	40	V
Power dissipation (infinite heatsink)			P_{tot}	400 ¹⁾	mW
Forward continuous current			I_F	30	mA
Maximum single cycle surge 10 μs square wave			I_{FSM}	2	A

¹⁾ Valid provided that electrodes are kept at ambient temperature

Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Junction temperature		T_j	125	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	- 65 to + 150	$^{\circ}\text{C}$
Thermal resistance junction to ambient air	on PC board 50 mm x 50 mm x 1.6 mm	R_{thJA}	320	K/W

Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Reverse Breakdown Voltage	$I_R = 10\text{ }\mu\text{A}$	LL101A	$V_{(BR)}$	60			V
		LL101B	$V_{(BR)}$	50			V
		LL101C	$V_{(BR)}$	40			V
Leakage current	$V_R = 50\text{ V}$	LL101A	I_R			200	nA
	$V_R = 40\text{ V}$	LL101B	I_R			200	nA
	$V_R = 30\text{ V}$	LL101C	I_R			200	nA
Forward voltage drop	$I_F = 1\text{ mA}$	LL101A	V_F			410	mV
	$I_F = 1\text{ mA}$	LL101B	V_F			400	mV
	$I_F = 1\text{ mA}$	LL101C	V_F			390	mV
	$I_F = 15\text{ mA}$	LL101A	V_F			1000	mV
		LL101B	V_F			950	mV
		LL101C	V_F			900	mV
Diode capacitance	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$	LL101A	C_D			2.0	pF
	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$	LL101B	C_D			2.1	pF
	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$	LL101C	C_D			2.2	pF
Reverse recovery time	$I_F = I_R = 5\text{ mA}$, recover to $0.1 I_R$		t_{rr}			1	ns

Typical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

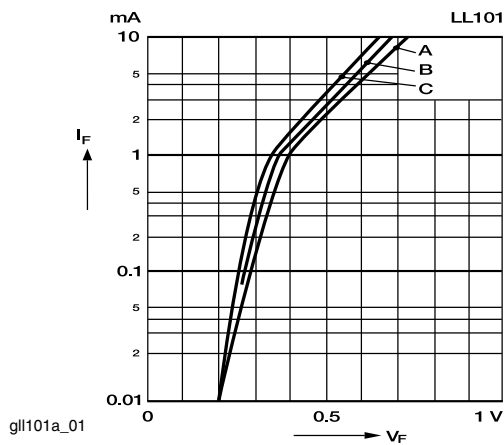


Figure 1. Typ. I_F vs. V_F for primary conduction through the Schottky barrier

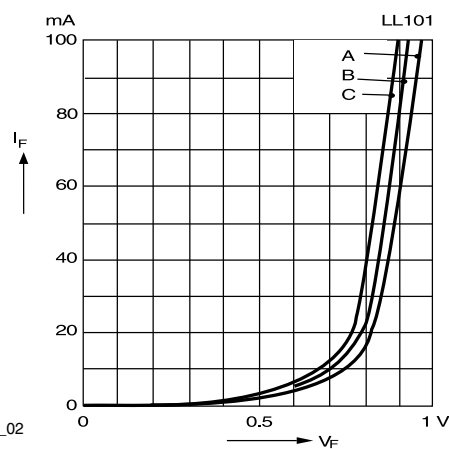


Figure 2. Typ. I_F of combination Schottky barrier and PN junction guard ring

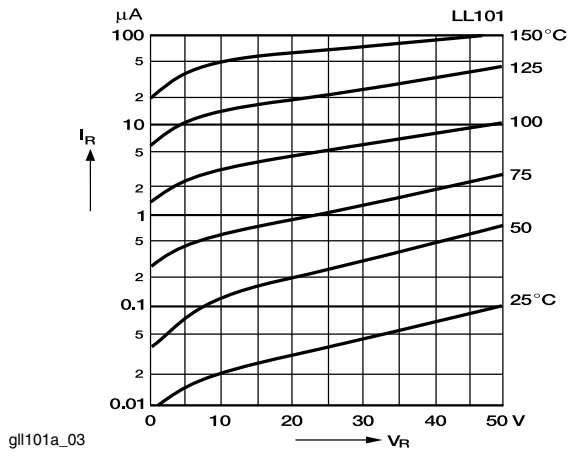


Figure 3. Typical Variation of Reverse Current at Various Temperatures

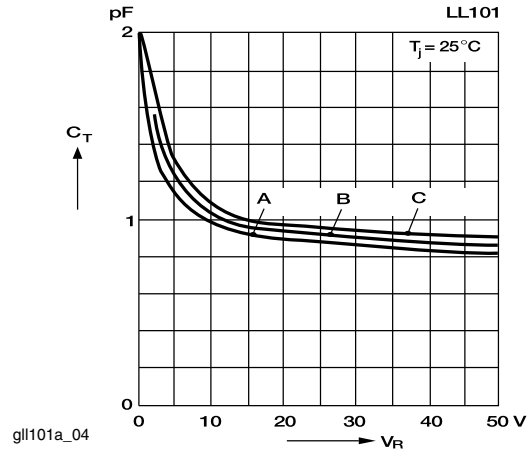
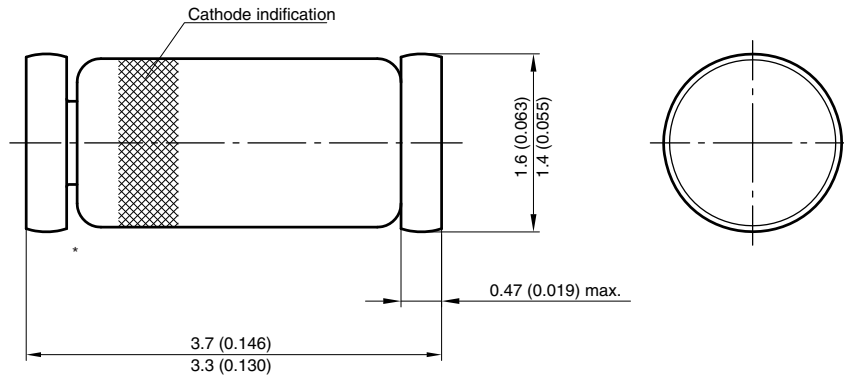


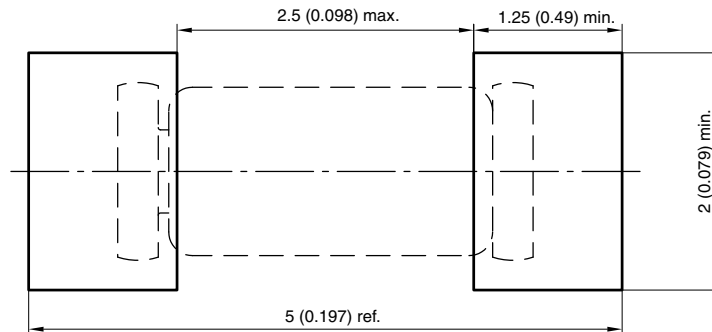
Figure 4. Typical Capacitance Curve as a Function of Reverse Voltage

Package Dimensions in millimeters (inches): MiniMELF SOD-80



* The gap between plug and glass can be either on cathode or anode side

Foot print recommendation:



Document no.:6.560-5005.01-4
 Rev. 8 - Date: 07.June.2006
 96 12070



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk and agree to fully indemnify and hold Vishay and its distributors harmless from and against any and all claims, liabilities, expenses and damages arising or resulting in connection with such use or sale, including attorneys fees, even if such claim alleges that Vishay or its distributor was negligent regarding the design or manufacture of the part. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.