

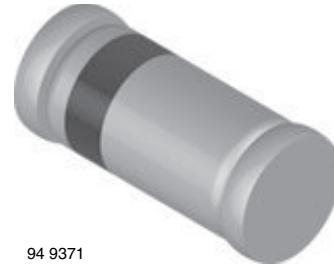
Small Signal Schottky Diodes

Features

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



RoHS
COMPLIANT



94 9371

Applications

- HF-Detector
- Protection circuit
- Small battery charger
- AC-DC/DC-DC converters

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

Parts Table

Part	Type differentiation	Ordering code	Type Marking	Remarks
LL103A	$V_R = 40\text{ V}$	LL103A-GS08 or LL103A-GS18	-	Tape and Reel
LL103B	$V_R = 30\text{ V}$	LL103B-GS08 or LL103B-GS18	-	Tape and Reel
LL103C	$V_R = 20\text{ V}$	LL103C-GS08 or LL103C-GS18	-	Tape and Reel

Absolute Maximum Ratings

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

Parameter	Test condition	Part	Symbol	Value	Unit
Reverse voltage		LL103A	V_R	40	V
		LL103B	V_R	30	V
		LL103C	V_R	20	V
Forward continuous current			I_{FAV}	200	mA
Peak forward surge current	$t_p = 300\text{ }\mu\text{s}$, square pulse		I_{FSM}	15	A
Power dissipation			P_{tot}	400	mW

Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air	On PC board 50 mm x 50 mm x 1.6 mm	R_{thJA}	250	K/W
Junction temperature		T_j	125	$^\circ\text{C}$
Storage temperature range		T_{stg}	- 65 to + 150	$^\circ\text{C}$

Electrical Characteristics

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

Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Reverse breakdown voltage	$I_R = 50\text{ }\mu\text{A}$	LL103A	$V_{(BR)}$	40			V
		LL103B	$V_{(BR)}$	30			V
		LL103C	$V_{(BR)}$	20			V
Leakage current	$V_R = 30\text{ V}$	LL103A	I_R			5	μA
	$V_R = 20\text{ V}$	LL103B	I_R			5	μA
	$V_R = 10\text{ V}$	LL103C	I_R			5	μA
Forward voltage drop	$I_F = 20\text{ mA}$		V_F			370	mV
	$I_F = 200\text{ mA}$		V_F			600	mV
Diode capacitance	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$		C_D		50		pF
Reverse recovery time	$I_F = I_R = 50\text{ to }200\text{ mA}$, recover to $0.1 I_R$		t_{rr}		10		ns

Typical Characteristics

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

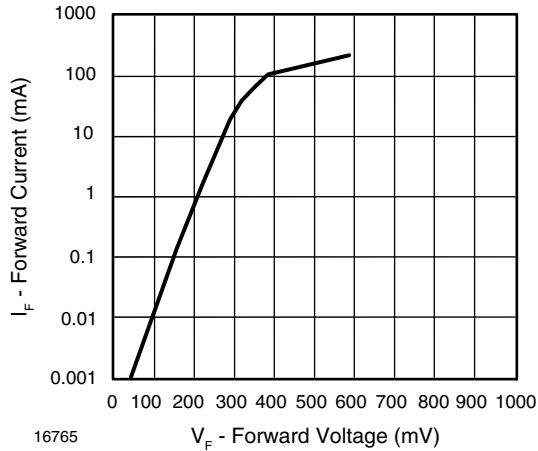


Figure 1. Forward Current vs. Forward Voltage

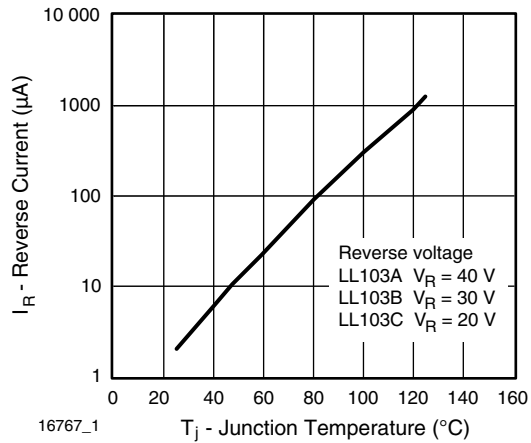


Figure 3. Reverse Current vs. Junction Temperature

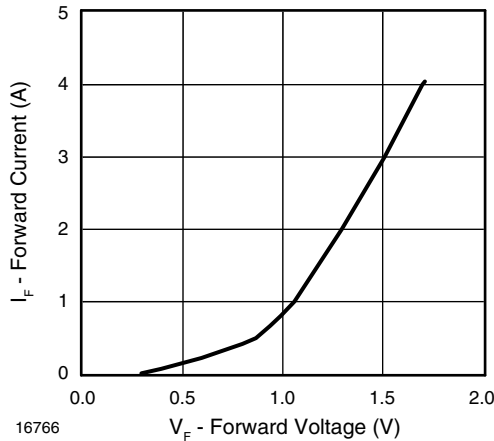


Figure 2. Forward Current vs. Forward Voltage

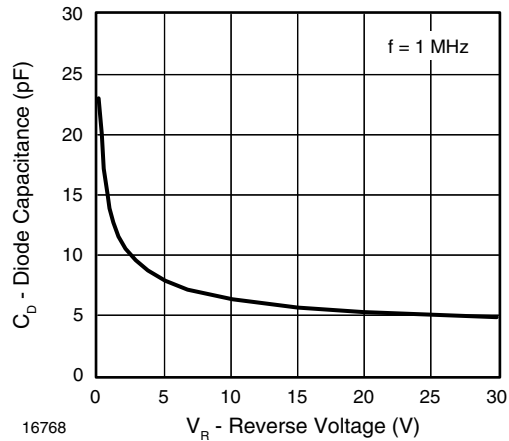


Figure 4. Diode Capacitance vs. Reverse Voltage

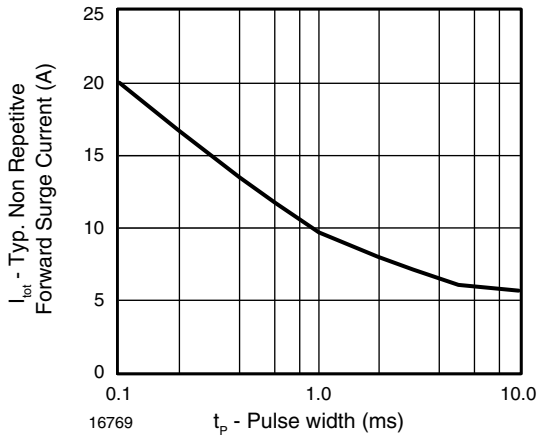
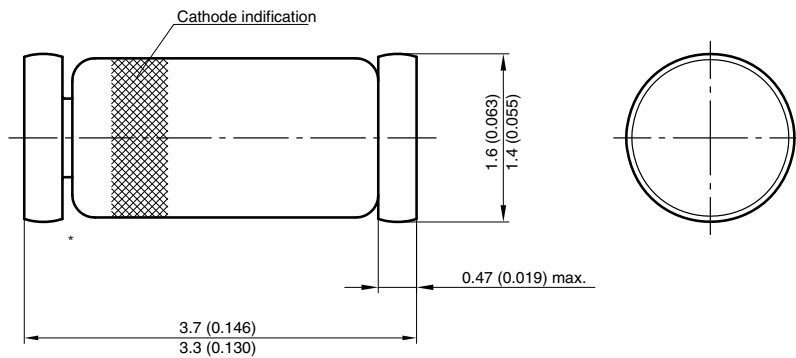


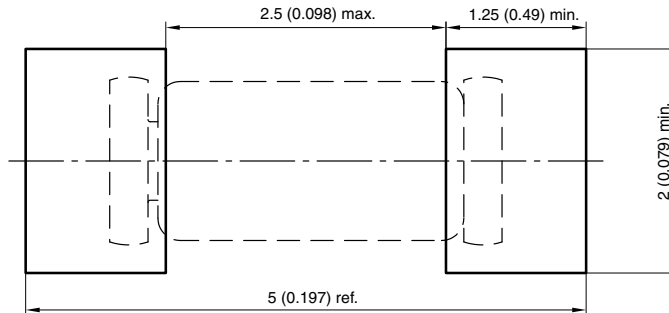
Figure 5. Typ. Non Repetitive Forward Surge Current vs. Pulse width

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



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

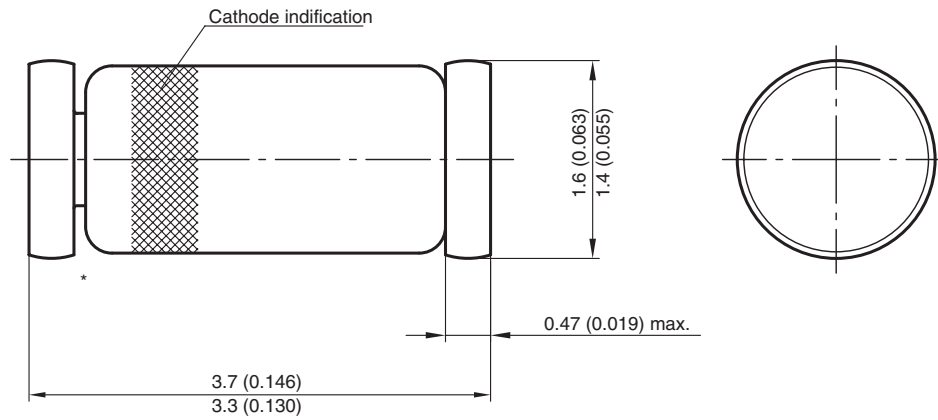
Foot print recommendation:



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

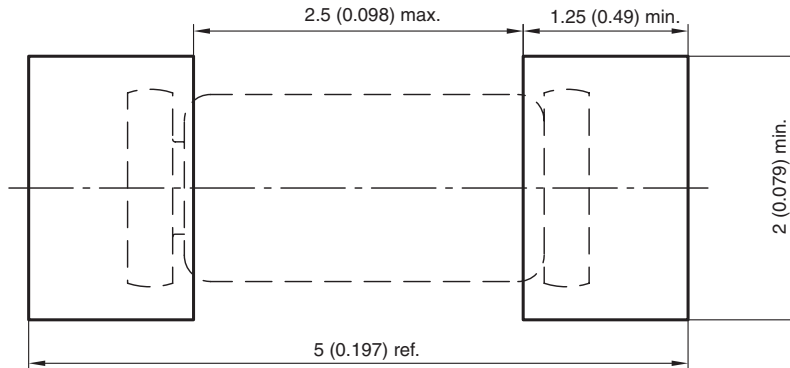


PACKAGE DIMENSIONS in millimeters (inches)



* 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.