

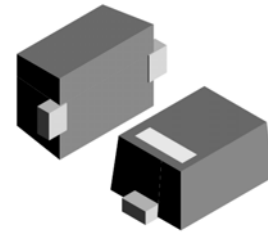
## Feature

- SOD-923 Package
- Very low forward voltage
- Forward current: 0.5A
- Reverse Voltage 20V
- MLS: Lever 1 – unlimited

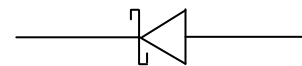
## Application

- Ultra high-speed switching
- Voltage clamping
- Protection circuits
- Low voltage rectification
- High efficiency DC-to-DC conversion
- Low power consumption applications

## S2005ELD



SOD-923



Schematic Diagram

## Description

Planar Maximum Efficiency General Application (MEGA) schottky barrier diode with an integrated guard ring for stress protection encapsulated in a SOD-923 small package.

## Absolute Maximum Ratings

( $T_A=25^{\circ}\text{C}$ , Unless otherwise specified.)

Parameter	Symbol	Condition	Min	Max	Unit
Continuous reverse voltage	$V_{RRM}$			20	V
Repetitive peak forward current	$I_{FRM}$	$t_p \leq 1\text{ms}$ , $\delta \leq 0.25$		2.5	A
Continuous forward current	$I_F$			0.5	A
Non-repetitive peak forward current	$I_{FSM}$	$t=8\text{ms}$ , square wave		3.0	A
Junction temperature	$T_j$			150	$^{\circ}\text{C}$
Operating ambient temperature	$T_{amb}^{(1)}$		-65	+150	$^{\circ}\text{C}$
Storage temperature	$T_{stg}^{(1)}$		-65	+150	$^{\circ}\text{C}$

Notes:

1. For Schottky barrier diodes thermal run-away has to be considered, as in some applications the reverse power losses PR are a significant part of the total power losses. Nomograms for determining the reverse power losses PR and  $I_F(AV)$  rating will be available on request.

## Electrical Characteristics

( $T_A=25^\circ\text{C}$ , Unless otherwise specified.)

Parameter	Symbol	Condition	Typ	Max	Unit
Continuous forward voltage	$V_F$	$I_F=0.1\text{mA}$	125	190	mV
		$I_F=1\text{mA}$	185	240	mV
		$I_F=10\text{mA}$	250	310	mV
		$I_F=100\text{mA}$	325	420	mV
		$I_F=500\text{mA}$	450	650	mV
Continuous reverse current	$I_R$	$V_R=10\text{V}$	4	30	$\mu\text{A}$
		$V_R=20\text{V}$	10	100	$\mu\text{A}$
Diode capacitance	$C_d$	$V_R=1\text{V}; f=1\text{MHz}$	24		pF

Pulse test:  $t_p \leq 300\mu\text{s}$ ;  $\delta \leq 0.02$

## Typical Characteristic Curves

Fig.1 Forward current as a function of forward voltage (typical values)

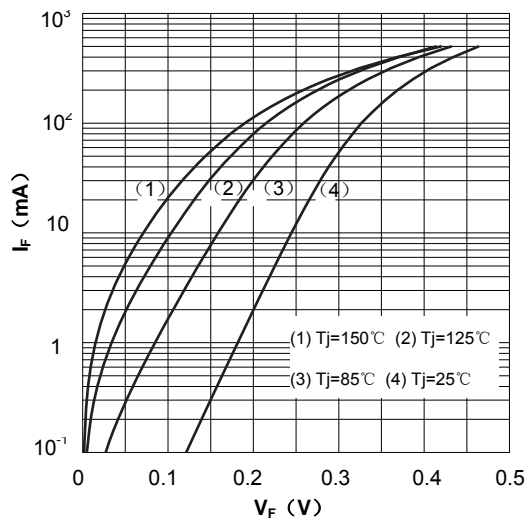


Fig.2 Reverse current as a function of reverse voltage (typical values)

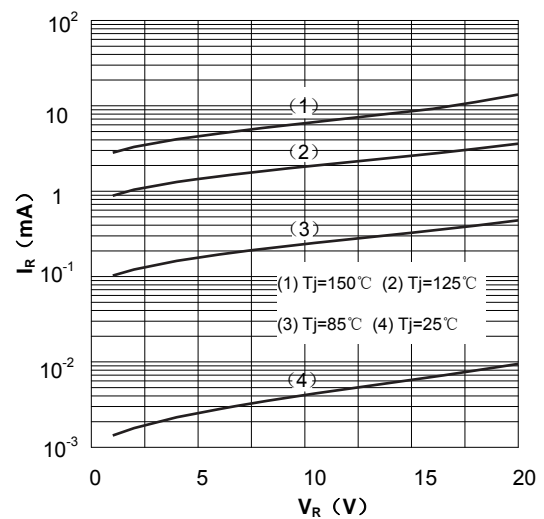
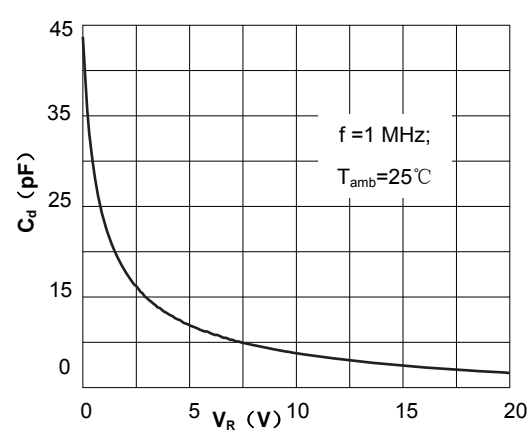
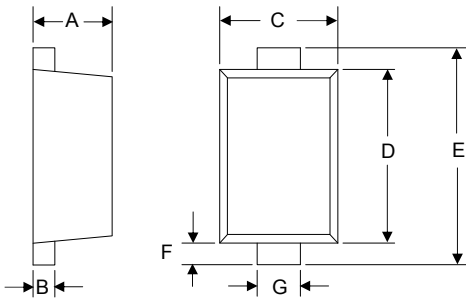


Fig.3 Diode capacitance as a function of reverse Voltage; typical values

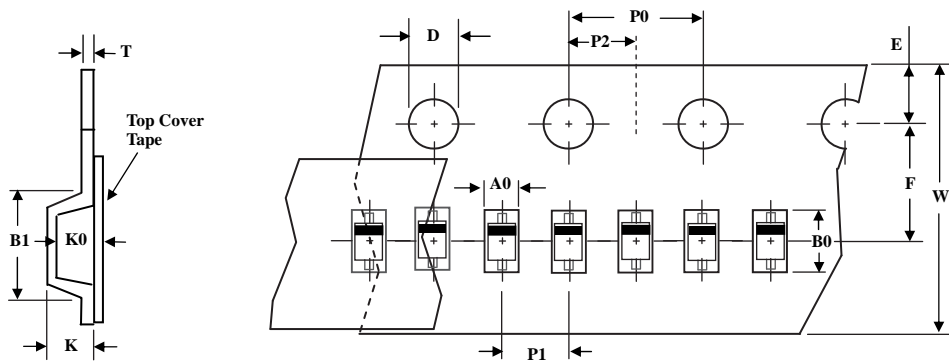


### Product Dimension



Dim	millimeters	
	min	max
A	0.36	0.43
B	0.07	0.17
C	0.55	0.65
D	0.75	0.85
E	0.95	1.05
F	0.05	0.15
G	0.15	0.25

### Package Information

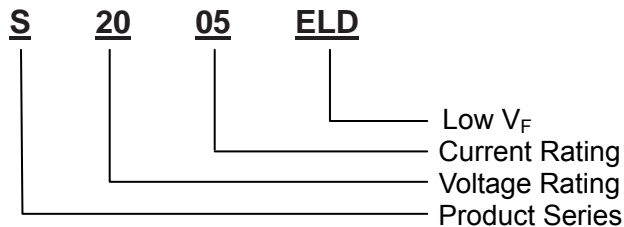


TapeSize(W)	B1 max	D	E	F	K max	P0	P1	P2	T max	W max
8	4.55	1.55±0.05	1.75±0.1	3.5±0.05	2.4	4.0±0.1	2.0±0.05	2.0±0.05	0.6	8.3

Note:1.Unit : mm

2. A0, B0, and K0 are determined by component size. The clearance between the components and the cavity must be within 0.05mm min to 0.50 mm max. The component cannot rotate more than 10° within the determined cavity.

### Part Number System



### Marking



## Order Information

Device	Package	Net Weight	Carrier	Quantity	HSF Status
S2005ELD	SOD-923	0.0006g	Tape & Reel	8000pcs	RoHS compliant

## Revision history

Date	Revision	Description of changes
13-September-2011	A0	First issue
25-October-2016	A1	Update qty per reel

### CAUTION / WARNING

- Information in this document is believed to be accurate and reliable. However, SEMITEL does not give any representations or warranties, expressed or implied, as to the accuracy or completeness of such information and shall have no liability for the consequences of use of such information.
- Users should independently evaluate the suitability of and test each product selected for their own applications, and SEMITEL assumes no liability whatsoever relating to the choice, selection or use of the SEMITEL products and services described herein.
- SEMITEL reserves the right to change or update, without notice, any information contained in this publication; to change, without notice, the design, construction, processing, or specification of any product; and to discontinue or limit production or distribution of any product.
- Information in this document supersedes and replaces all information previously supplied.
- Products are not designed, authorized or warranted to be suitable for use in medical, military, aircraft, space or life support equipment, nor in applications where failure or malfunction of an SEMITEL product can reasonably be expected to result in personal injury, death or severe property or environmental damage. SEMITEL accepts no liability for inclusion and/or use of SEMITEL products in such equipment or applications and therefore such inclusion and/or use is at the customer's own risk.
- This document as well as the item(s) described herein may be subject to export control regulations. Export might require a prior authorization from national authorities.
- Resale of SEMITEL products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by SEMITEL for the SEMITEL product or service described herein and shall not create or extend in any manner whatsoever, any liability of SEMITEL.
- SEMITEL expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. SEMITEL only obligations are those in the SEMITEL Standard Terms and Conditions of Sale and in no case will SEMITEL be liable for any incidental, indirect, or consequential damages arising from the sale, resale, use, or misuse of its products.

Specifications are subject to change without notice

© Copyright 2005, Semitel Electronics



.® is a registered trademark of Semitel Electronics

All rights reserved