



SANYO Semiconductors

DATA SHEET

SBX201C — Schottky Barrier Diode

S to X-Band Detector, Mixer Applications

Features

- Small interterminal capacitance ($C=0.25\text{pF}$ typ).
- Less parastic components.
- Small forward voltage.
- Series connection of 2 elements in a small-sized package facilitates high density mounting this goods-applied equipment to be made smaller.

Specifications

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Reverse Voltage	V_R		2	V
Forward Current	I_F		50	mA
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Reverse Voltage	V_R	$I_R=10\mu\text{A}$	2			V
Forward Voltage	V_F	$I_F=1\text{mA}$			320	mV
Series Resistance	R_S	$I_F=10\text{mA}$		14	18	Ω
Interterminal Capacitance	C	$V_R=0\text{V}$, $f=1\text{MHz}$		0.25	0.28	pF

Marking : HH

Note 1) The specifications shown above for each individual diode.

Note 2) Pay attention to handling since it is liable to be affected by static electricity due to the high-frequency process adopted.

- Any and all SANYO Semiconductor Co.,Ltd. products described or contained herein are, with regard to "standard application", intended for the use as general electronics equipment (home appliances, AV equipment, communication device, office equipment, industrial equipment etc.). The products mentioned herein shall not be intended for use for any "special application" (medical equipment whose purpose is to sustain life, aerospace instrument, nuclear control device, burning appliances, transportation machine, traffic signal system, safety equipment etc.) that shall require extremely high level of reliability and can directly threaten human lives in case of failure or malfunction of the product or may cause harm to human bodies, nor shall they grant any guarantee thereof. If you should intend to use our products for applications outside the standard applications of our customer who is considering such use and/or outside the scope of our intended standard applications, please consult with us prior to the intended use. If there is no consultation or inquiry before the intended use, our customer shall be solely responsible for the use.
- Specifications of any and all SANYO Semiconductor Co.,Ltd. products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.

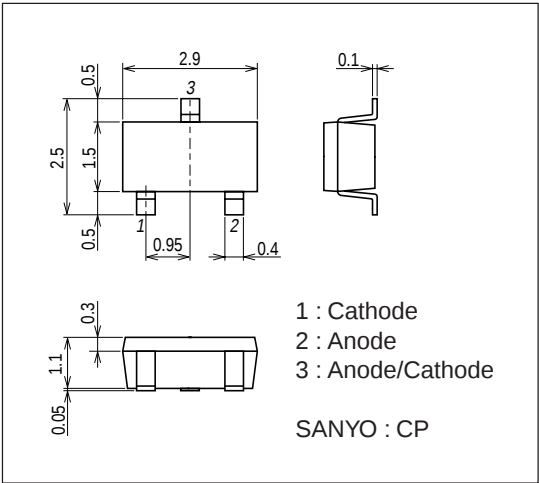
SANYO Semiconductor Co., Ltd.

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

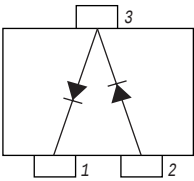
SBX201C

Package Dimensions

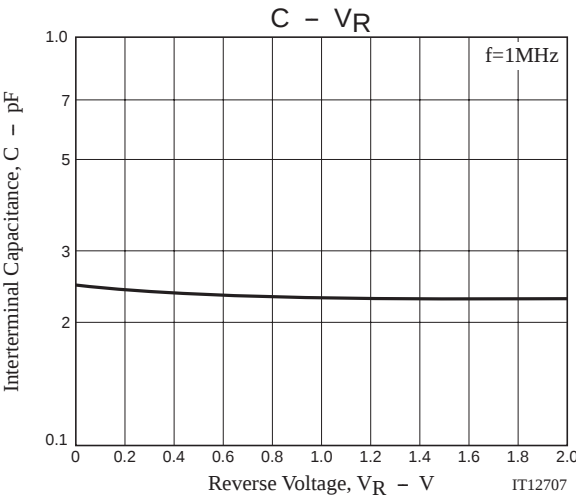
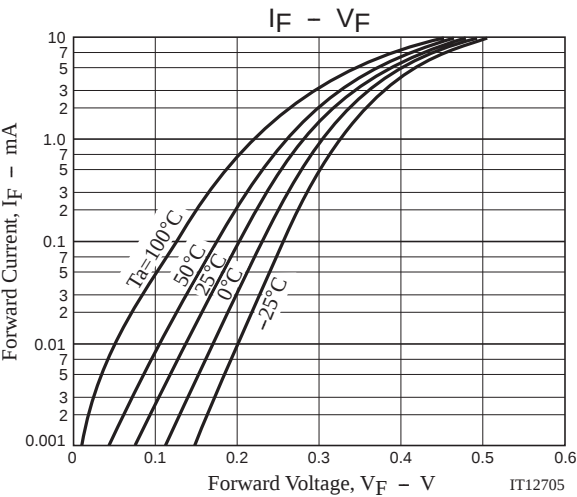
unit : mm (typ)
7013A-015



Electrical Connection



Reverse series pair
1 : Cathode
2 : Anode
3 : Anode / Cathode



SBX201C

S11 Parameters

	V=0V/I=0mA		V=0V/I=0.1mA		V=0V/I=0.5mA		V=0V/I=1.0mA		V=0V/I=5mA	
Freq(GHz)	$ S_{11} $	$\angle S_{11}$	$ S_{11} $	$\angle S_{11}$	$ S_{11} $	$\angle S_{11}$	$ S_{11} $	$\angle S_{11}$	$ S_{11} $	$\angle S_{11}$
1.00	0.996	-8.9	0.844	-8.9	0.381	-2.6	0.092	64.4	0.459	148.1
2.00	0.992	-18.4	0.811	-18.6	0.314	-3.7	0.177	82.0	0.517	122.2
3.00	0.987	-30.0	0.800	-30.6	0.289	-8.8	0.251	76.7	0.582	102.8
4.00	0.975	-44.8	0.766	-46.7	0.208	-12.0	0.326	73.6	0.642	87.7
5.00	0.958	-63.9	0.696	-67.8	0.127	12.0	0.403	68.5	0.691	75.0
6.00	0.944	-89.0	0.634	264.7	0.170	54.5	0.477	62.3	0.730	64.3
7.00	0.928	237.1	0.566	227.1	0.274	62.6	0.537	55.9	0.758	55.3
8.00	0.909	195.8	0.538	180.8	0.372	60.7	0.586	49.5	0.780	47.2
9.00	0.910	153.3	0.570	135.1	0.465	54.2	0.630	42.8	0.798	39.4
10.00	0.927	116.3	0.646	100.6	0.541	47.4	0.666	36.5	0.809	32.3
11.00	0.925	88.9	0.734	75.9	0.608	42.1	0.694	31.7	0.818	26.8
12.00	0.922	70.5	0.771	62.0	0.651	37.3	0.717	27.6	0.828	22.5
13.00	0.929	56.1	0.814	49.6	0.694	31.8	0.735	22.9	0.833	17.3
14.00	0.919	42.7	0.828	38.0	0.717	24.7	0.740	17.0	0.821	11.2
15.00	0.897	30.9	0.831	27.2	0.731	17.8	0.736	11.1	0.800	5.1
16.00	0.879	20.8	0.843	17.8	0.753	11.9	0.739	6.2	0.787	-0.1
17.00	0.872	13.1	0.834	10.7	0.760	5.1	0.750	0.1	0.792	-5.9
18.00	0.855	5.1	0.826	3.1	0.764	-1.2	0.750	-5.4	0.780	-11.5

- SANYO Semiconductor Co.,Ltd. assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO Semiconductor Co.,Ltd. products described or contained herein.
- SANYO Semiconductor Co.,Ltd. strives to supply high-quality high-reliability products, however, any and all semiconductor products fail or malfunction with some probability. It is possible that these probabilistic failures or malfunction could give rise to accidents or events that could endanger human lives, trouble that could give rise to smoke or fire, or accidents that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.
- In the event that any or all SANYO Semiconductor Co.,Ltd. products described or contained herein are controlled under any of applicable local export control laws and regulations, such products may require the export license from the authorities concerned in accordance with the above law.
- No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written consent of SANYO Semiconductor Co.,Ltd.
- Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the SANYO Semiconductor Co.,Ltd. product that you intend to use.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production.
- Upon using the technical information or products described herein, neither warranty nor license shall be granted with regard to intellectual property rights or any other rights of SANYO Semiconductor Co.,Ltd. or any third party. SANYO Semiconductor Co.,Ltd. shall not be liable for any claim or suits with regard to a third party's intellectual property rights which has resulted from the use of the technical information and products mentioned above.

This catalog provides information as of July, 2008. Specifications and information herein are subject to change without notice.