



SBX201C

— Schottky Barrier Diode
S to X-Band Detector, Mixer Applications

Features

- Small interterminal capacitance (C=0.25pF typ).
- Less parasitic 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 Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|----------------------|------------------|------------|-------------|------|
| Reverse Voltage | V _R | | 2 | V |
| Forward Current | I _F | | 50 | mA |
| Junction Temperature | T _J | | 150 | °C |
| Storage Temperature | T _{stg} | | -55 to +150 | °C |

Electrical Characteristics at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---------------------------|----------------|----------------------------|---------|------|------|------|
| | | | min | typ | max | |
| Reverse Voltage | V _R | I _R =10μA | 2 | | | V |
| Forward Voltage | V _F | I _F =1mA | | | 320 | mV |
| Series Resistance | R _S | I _F =10mA | | 14 | 18 | Ω |
| Interterminal Capacitance | C | V _R =0V, f=1MHz | | 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.

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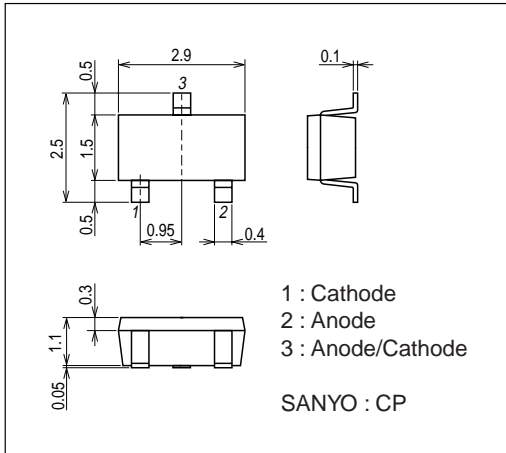
82907SB TI IM TC-00000839 No. A0628-1/3

SBX201C

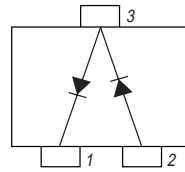
Package Dimensions

unit : mm (typ)

7013A-015



Electrical Connection



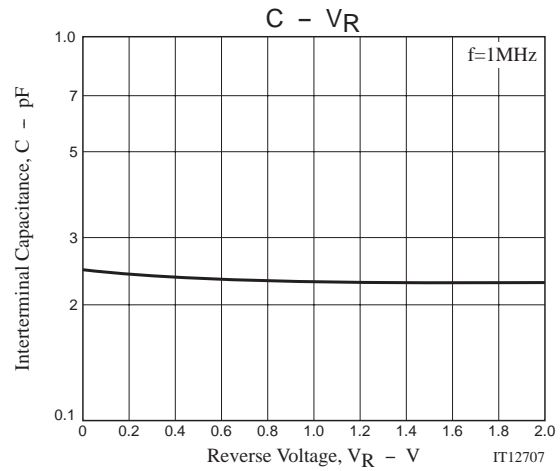
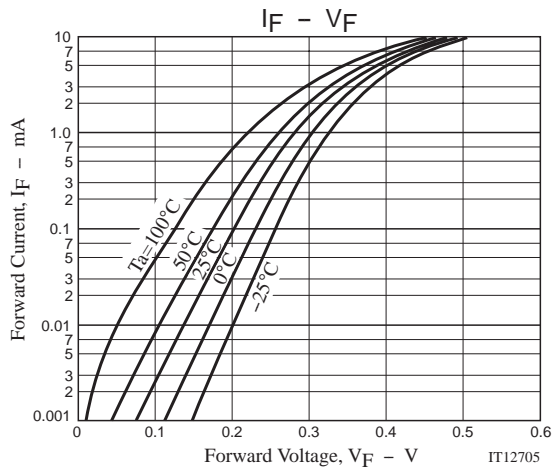
Reverse series pair

1 : Cathode

2 : Anode

3 : Anode / Cathode

Top view



SBX201C

S11 Parameters

| Freq(GHz) | V=0V/I=0mA | | V=0V/I=0.1mA | | V=0V/I=0.5mA | | V=0V/I=1.0mA | | V=0V/I=5mA | |
|-----------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|
| | S ₁₁ | ∠S ₁₁ | S ₁₁ | ∠S ₁₁ | S ₁₁ | ∠S ₁₁ | S ₁₁ | ∠S ₁₁ | S ₁₁ | ∠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 |

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