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PR-No. 18 – 12. December 2022

Start Production: NT1189, a Low-distortion and High-gain LNA for 5G (Sub 6) Base Stations

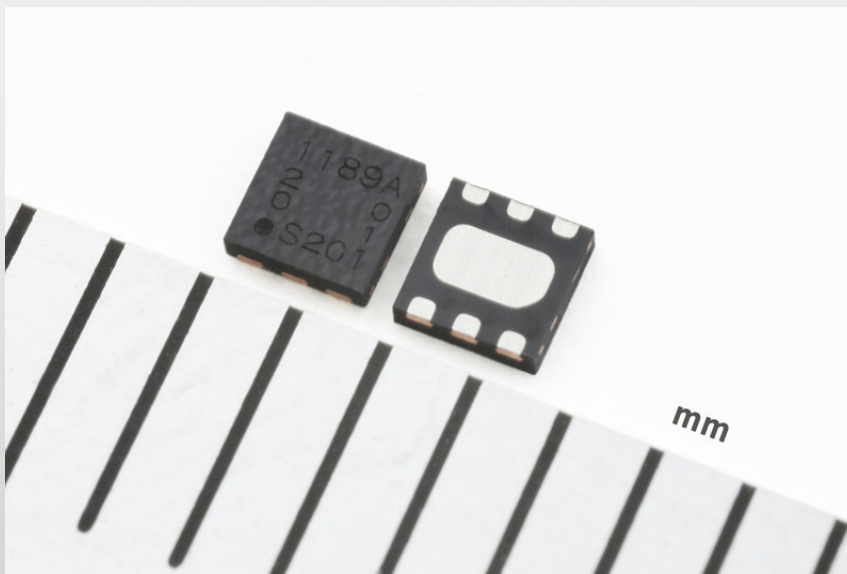
- Contributes to Improving and Increasing Receiver Sensitivity -

November 1st, 2022

Nisshinbo Micro Devices Inc. will start production of the NT1189, a low noise amplifier (LNA), for 5G (Sub 6) base stations from November 2022.

The NT1189 is a LNA for 5G (Sub 6) base stations. It contributes to improving and increasing receiver sensitivity thanks to both low-distortion and high-gain characteristics as well as low NF (noise figure) characteristics. By modifying an external circuit, a wide bandwidth from 3.3 GHz to 5.0 GHz can be supported. In addition, adoption of a small and thin package enables reducing mounting area in base stations with many components installed.

The construction of high-speed and large-capacity networks using 5G communication networks has become an essential for the spread of DX (Digital Transformation),



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Figure 1: NT1189 (DFN1616-6-GD package)

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which supports an information-oriented society.

Nisshinbo Micro Devices Inc. will release high-performance LNA products for 5G base stations to enhance the stability of 5G communication networks.

Applications and Examples of Use

1. Applications

5G base stations (macro cells and small cells), CPE (Customer Premises Equipment), Local 5G, DAS (Distributed Antenna System)

2. Examples of Applications

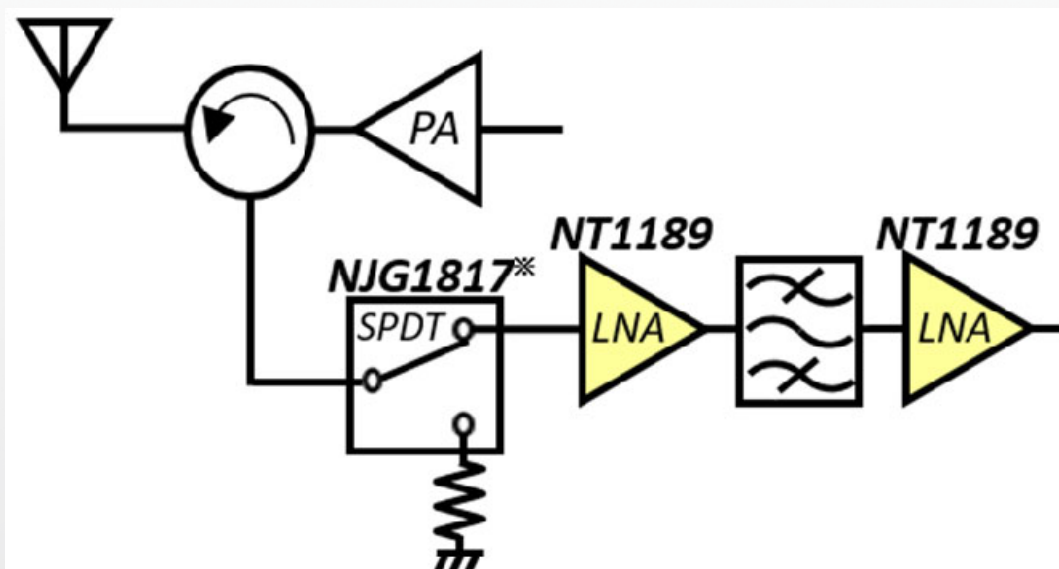


Figure 2: * The NJG1817 is an optimal SPDT switch for equipment that requires high power specifications, such as 5G (Sub-6) base stations.

Features

1. Achieving Low-distortion, High-gain, and Low NF (Noise Figure)

This product achieves reduction in strong input interference waves when receiving thanks to its low-distortion characteristics (OIP3 = +37 dBm Typ.). In the n77/78 and n79 bands of 5G (Sub6), it contributes to improving and increasing receiver sensitivity

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of base stations such as small cells by achieving high-gain characteristics of 21 dB to 26 dB, and low NF of 0.48 dB to 0.63 dB in the bandwidth.

2. Assembled in Small and Thin Package

It is assembled in a small and thin $1.6 \times 1.6 \times 0.397$ mm leadless package, which is ideal for base stations with many components installed. It contributes to reduction of mounting area.

Main Specifications

Items	NT1189
Package	1.6 × 1.6 × 0.397 mm
Supply Voltage	3.3 V to 5.5 V
Operating Current (current consumption)	50 mA Typ.
Frequency Range	3.3 GHz to 5.0 GHz
Small Signal Gain (Gain)	26 dB Typ. @ n77/78 21 dB Typ. @ n79
Noise Figure (NF)	0.48 dB Typ. @ n77/78 0.63 dB Typ. @ n79
Low Distortion (OIP3)	+37 dBm Typ.
Sample Price (reference price when purchasing 1000 units)	JPY 165 (Tax Included)
Monthly Production	2 million

Availability and Pricing

For more information availability and pricing please visit email: sales.europe@macnica.com.

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About Nisshinbo Micro Devices Inc.

Nisshinbo Micro Devices Inc. is the result of the integration of former New Japan Radio Co., Ltd. and former RICOH Electronic Devices Co., Ltd. Both companies, having contributed to expanding the Nisshinbo Group's microdevices business so far, will further grow as an "Analog Solution Provider" for growing markets by strengthening our structure and achieving synergies through business integration.

Nisshinbo Micro Devices will provide analog solutions through electronic devices and microwave products based on the strength of analog technology in accordance with the Nisshinbo Group's corporate philosophy of "Change and Challenge! For the creation of the future of Earth and People". We will contribute to developing connected society, and aim to be a company with value and presence that is expected by customers around the world.

For more information, go to <https://www.nisshinbo-microdevices.co.jp/en/>.

About Macnica ATD Europe GmbH, (former Macnica GmbH)

Macnica's ATD Europe GmbH, (former Macnica GmbH), was originally established in the UK in 2006, and moved to Germany in July 2008, to increase efficacy of its service for European customers.

By its acquisition of the Munich based company Scantec Mikroelektronik in 2014 Macnica Europe formed a powerful semiconductor distribution with headquarter in Ingolstadt and offices in Munich, Regensburg, Milton Keynes (UK) and Warsaw offering an attractive and competitive portfolio of highly sophisticated devices.

Macnica provides end to end support from design-in to production through its global service network to its customers, regardless of the final destination of the product shipment to customers' manufacturing locations.

About Macnica ATD Europe S.A.S.

Founded in 1990 as ATD Electronique, Macnica ATD Europe headquarter offers innovative components dedicated to imaging applications for the European market. Its product portfolio includes: image sensors (CCD, CMOS, InGaAs, Thermal etc.), optics, interface circuits, FPGA & IPs, imaging processors, cables and OLED microdisplays.

It also covers development tools and design services enabling fast and efficient realization of new high-performance camera systems for markets such as machine vision, medical, life sciences, surveillance, automotive and others. After the acquisition of the

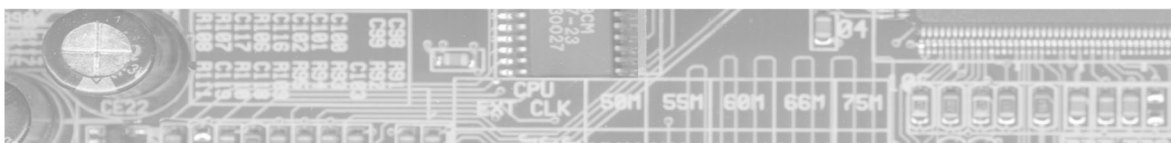
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company by Macnica Inc. as of October 1, 2020 the company operates under the name Macnica ATD Europe.

About Macnica, Inc.

Macnica was established in 1972 as a semiconductor distribution company headquartered in Yokohama, Japan, and has over 85 sales offices worldwide in eastern Asia, Europe and the USA. Total number of employees is over 3,900 and its consolidated revenue for fiscal 2021 was approximately US\$ 7.6 B.

Macnica is famous for having an excellent engineering team of more than 900 application support engineers, IC designers and software developers with strong focus on providing technical support for its customers including custom design services. Macnica is continuing to extend its presence globally by having successful partners in strategic areas in the electronics market.

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