Press RELEASES

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42 V/200 mA LDO Regulator for High-Performance Applications

Tokyo, Japan, August 22nd, 2024 — Nisshinbo Micro Devices Inc., a leading innovator in electronic components, distributed by Macnica ATD Europe, is proud to announce the launch of the NR1700 series, a state-of-the-art Low Dropout (LDO) Regulator designed to meet the demanding needs of modern electronics. The new LDO series is engineered to provide an exceptional combination of performance, reliability, and flexibility for a wide range of consumer, industrial and automotive applications.

The NR1700 series stands out with its capability to handle input voltages up to 42V and has an absolute maximum rating of the input peak voltage of 60 V, ensuring robust performance even in challenging environments. One of the key advantages of the LDO is its adjustable output voltage from 1.2 to 24 V with high accuracy, significantly reducing design complexity and lead times. By enabling a simple output voltage adjustment with external resistors, the NR1700 eliminates the need to use multiple fixed-type regulators, streamlining the design process and inventory management. This flexibility is particularly beneficial during the early stages of development when output voltage requirements are still being determined.

Designed for a broad range of uses, it is an excellent choice for powering car audio systems, navigation systems, and body control modules in automotive applications. It is equally well-suited for industrial equipment, smart meters, and outdoor devices operating in high-temperature environments, ranging from -40 °C to 125 °C. The regulator's low quiescent current of typ. 11.5 μA and advanced protection features, including thermal shutdown and overcurrent protection, ensure reliable and energy-efficient operation.

The NR1700 series is available in various compact package options, including SOT-23-5, SOT-89-5, and DFN(PL)2018-6. This allows the designer to select the optimum

solution based on the available circuit board space and required heat dissipation specifications. In addition, we provide consumer, industrial, and automotive product versions. The latter is AEC-Q100 Grade 1 certified, making it ideal for automotive applications where high reliability and performance are critical.

Availability and Pricing

It is available for purchase now. More Information about availability, samples and pricing, please visit email: sales.europe@macnica.com.

NR1700 Specifications: (consumer version)

- Input Voltage Range (Maximum rating): 3.5 V to 42.0 V (50.0 V)
- Quiescent Current: Typ. 11.5 µA
- Shutdown Current: Typ. 0.1 µA
- Dropout Voltage: Typ. 0.6 V (I_{OUT} = 200 mA, V_{SET} = 5.0 V)
- Adjustable Output Voltage Range: 1.2 V to 24.0 V
- Feedback Voltage: 1.2 V
- Feedback Voltage Accuracy: -0.5% to +0.7% (T_a = 25 °C)
- Output Current: 200 mA
- Operating Junction Temperature: -40 °C to 125 °C
- Protection Functions:
  Thermal Shutdown, Foldback Overcurrent Protection, Short Circuit Current Limit
- Package NR1700DC: SOT-23-5-DC
- Package NR1700DM: SOT-89-5-DM
- Package NR1700GZ: DFN(PL)2018-6-GZ
- Datasheet: Consumer, Industrial, Automotive version

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About Nisshinbo Micro Devices Inc.:
Established in January 2022, Nisshinbo Micro Devices Inc. is a merger of the former companies Ricoh Electronic Devices Co, Ltd., and New Japan Radio Co, Ltd, both members of the Nisshinbo Group.

The history of the two companies goes back to 1959, resulting in more than 60 years of experience in the electronics industry. Today, it is one of the leading global suppliers of advanced analogue products. Its portfolio offers a comprehensive range of ICs for Power Management, Supervisory, Operational Amplifiers, Battery Management, RF, Audio & Video, Optoelectronic devices, Motor drivers to name a few. These products enable electronics engineers to design advanced applications for consumer, industrial and automotive markets.

The company is headquartered in Tokyo, Japan, and has development, sales, and manufacturing facilities across the country. In addition, it has regional sales and support offices in North America, Europe, and Asia. For more information, please visit our website https://www.nisshinbo-microdevices.co.jp/en/.

About Macnica ATD Europe 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 it's 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

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.

More information about Macnica: https://www.macnica.com/global/en/home.html.

