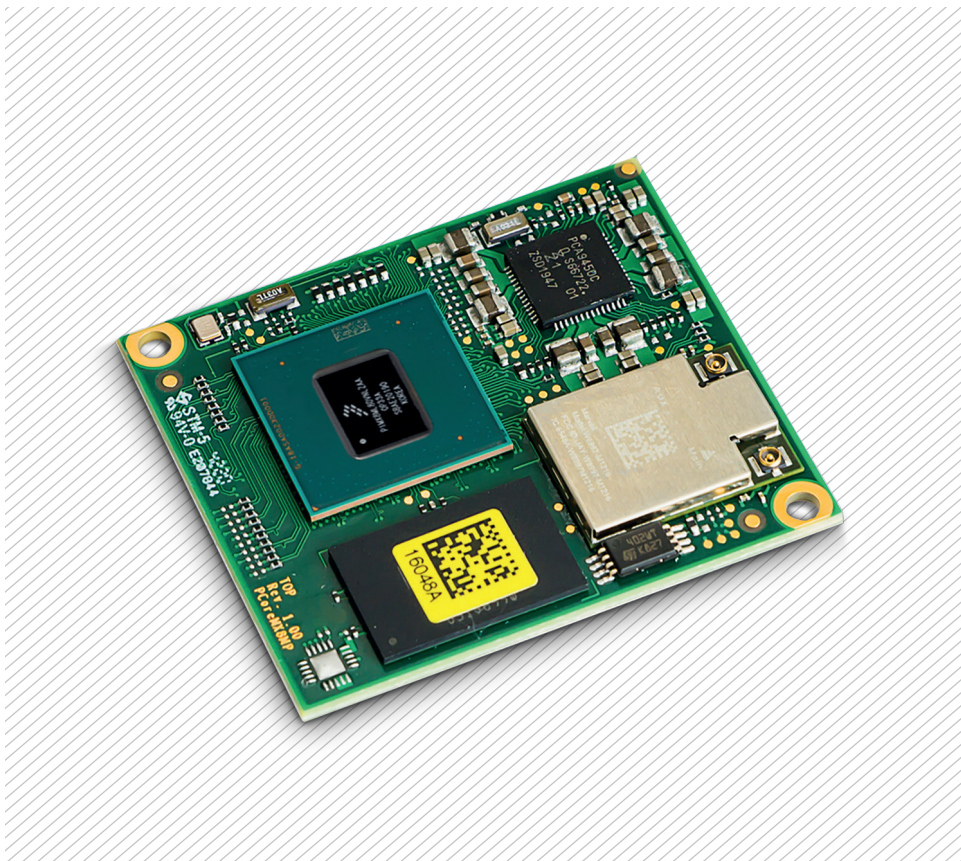


endrich news

www.endrich.com

OUR PRODUCT OF THE MONTH:

THE NEW POWERFUL PICOCORE™ WITH I.MX8M PLUS CPU



FEATURES

- NXP i.MX8M Plus ARM® Cortex®-A53 Quad@1800 MHz & ARM® Cortex®-M7@800 MHz
- Neural Processing Unit (NPU)
- WLAN/BT 5.0 LE
- 2D, 3D and Video Hardware Acceleration
- Display Interface MIPI-DSI, LVDS, HDMI
- Operating Temperature up to -40 °C to +85 °C
- Available until minimum 2035



Contact for information: Mr. Bauer · phone: +49 7452 6007-50 ·
e-mail: j.bauer@endrich.com

Elektronik – Readers' Choice
"Distributor of the Year 2021"
Evaluate our service. Vote now.
More on page 8

THE NEW POWERFUL PICOCORE™ WITH I.MX8M PLUS CPU

HAVE A
LOOK

Starting with the i.MX8M Nano CPU and continuing with the i.MX8M Mini CPU, the i.MX8M Plus CPU from NXP rounds off the i.MX8M CPU range. The processor consists of a quad ARM® Cortex®-A53 core with up to 1.8 GHz, plus a Cortex®-M7 core for real-time processing with 800 MHz. The processor also features a Neural Processing Unit (NPU) for machine learning.

The i.MX8M Plus features video encode (including h.265) and decode, 2D/3D graphics acceleration, and various audio and voice functionalities. Display interfaces include LVDS, MIPI-DSI, and HDMI, a high-performance graphics unit (2D/3D), USB 3.0, and CAN-FD just to name a few.

As another heterogeneous embedded multi-core application processor, the i.MX8M Plus CPU combines high-performance computing, energy efficiency, enhanced system security, and embedded security, which is needed to drive the growth of fast-growing edge node computing, streaming multimedia, and machine learning applications.

The PicoCore™MX8MP has sufficient memory (max. 8 GB RAM and max. 32 GB eMMC Flash). The module offers many interfaces on the 2x 100-pin plug connectors. The PicoCoreMX8MP has max. 2x Gigabit Ethernet (opt. RGMII), 802.11 ac/a/b/g/n WLAN, BT 5.0 LE, 1x USB Host 2.0/3.0, 1x USB Device OTG 2.0/3.0, max. 2x CAN, max. 4x UART, max. 4x I2C, max. 2x SPI and Audio Line In / Out / Mic / Headphone / I2S. The Dual Image Signal Processor enables max. 2x MIPI-CSI camera interfaces. Besides, RTC, max. 4x PWM, SPDIF, ESAI, SAI, and SSI are available.

For an easy start of development, we offer a ready-to-run PicoCore™MX8MP Starter Kit including board, baseboard, display, cables and access to documentation and software. The software provided includes the board support package and the toolchain for Bare Metal or FreeRTOS.



THE NEW POWERFUL PICOCORE™ WITH I.MX8M PLUS CPU

	PicoCore™ MX8MP-V2-LIN	PicoCore™ MX8MP-V3I-LIN	PicoCore™ MX8MP-V3XI-LIN	PicoCore™ MX8MP-V4I-LIN
Type	NXP i.MX8M Plus	NXP i.MX8M Plus	NXP i.MX8M Plus	NXP i.MX8M Plus
Core	ARM® Cortex®-A53 + Cortex-M7	ARM® Cortex®-A53 + Cortex-M7	ARM® Cortex®-A53 + Cortex-M7	ARM® Cortex®-A53 + Cortex-M7
Number of Cores	4 + M7	4 + M7	4 + M7	4 + M7
Frequency	1,8 GHz + 800 MHz	1,6 GHz + 800 MHz	1,6 GHz + 800 MHz	1,6 GHz + 800 MHz
L2-Cache	512 KB	512 KB	512 KB	512 KB
GPU	3D/2D graphic acceleration ES 3.1/3.0, CL™ 1.2 VG™ 1.1	3D/2D graphic acceleration ES 3.1/3.0, CL™ 1.2 VG™ 1.1	3D/2D graphic acceleration ES 3.1/3.0, CL™ 1.2 VG™ 1.1	3D/2D graphic acceleration ES 3.1/3.0, CL™ 1.2 VG™ 1.1
Video Decode	1080p60, h.265/4, VP9, VP8 Video Encode: 1080p60, h.265/4	1080p60, h.265/4, VP9, VP8 Video Encode: 1080p60, h.265/4	1080p60, h.265/4, VP9, VP8 Video Encode: 1080p60, h.265/4	1080p60, h.265/4, VP9, VP8 Video Encode: 1080p60, h.265/4
Flash	4 GB eMMC	8 GB eMMC 2 k EEPROM	8 GB eMMC 2 k EEPROM	8 GB eMMC 2 k EEPROM
RAM	1 GB LPDDR4	2 GB LPDDR4	2 GB LPDDR4	2 GB LPDDR4
Ethernet	1x 100 / 1000 Mb	2x 100 / 1000 MB	2x 100 / 1000 MB	2x 100 / 1000 MB
WLAN	—	802.11 ac/a/b/g/n	802.11 ac/a/b/g/n	802.11 ac/a/b/g/n
BT	—	5.0 LE	5.0 LE	5.0 LE
USB Host	1x 2.0	1x 3.0	1x 3.0	1x 3.0
USB Device	1x OTG 2.0	1x OTG 3.0	1x OTG 3.0	1x OTG 3.0
CAN	—	max. 2x	max. 2x	2x
UART	max. 4x	max. 4x	max. 4x	max. 4x
I2C	max. 4x	max. 4x	max. 4x	max. 4x
SPI	max. 2x	max. 2x	max. 2x	max. 2x
Camera analog/digital	1x MIPI CSI	2x MIPI CSI	2x MIPI CSI	2x MIPI CSI
PCIe	1x	1x	1x	1x
RTC	external IC	external IC	external IC	external IC
LVDS	1x 8 Lanes	—	—	1x 4 Lanes
HDMI	—	1x	1x	—
MIPI-DSI	—	1x 4 Lanes	1x 4 Lanes	1x 4 Lanes
Minimum availability	2035	2035	2035	2035

HIGH POWER DENSITY MEDICAL-GRADE AC/DC CONVERTER

With an insulation voltage of 4000VDC and leakage currents below 75µA, the power supplies of the Open Frame series LO4565-20BxxMU(-C) and LO65-20BxxMU(-C) meet the requirements of protection level 2x MOPP and application area BF of the medical standard EN 60601. Furthermore, they are compliant with the safety standard EN 62368 and EN 61558 for industrial equipment and EN 60335 for household appliances. The new AC/DC converters include a total of 28 versions with output powers of 45 or 65 W and output voltages of 3.3, 5, 9, 12, 15, 24

or 48 V. Optionally they are offered with or without metal cage housing. All devices have wide input voltage ranges of 85-261 VAC or 100-370 VDC and can be connected directly to many DC or AC voltage systems. Efficiencies of up to 91 % and no-load power consumption of less than 0.3 W speak in favour for their high efficiency. The highly compact inverters with dimensions of only 76.2 x 50.8 x 26.5 mm are designed for screw mounting. Their electrical connection on the input and output side is made via two plug connectors with three or four contacts.

APPLICATIONS

- Medical industry
- Smart home
- Telecommunication
- Security
- Electric power
- Street lighting control
- LED
- Industrial control

FEATURES

- Universal voltage: 85-264 VAC / 100-370 VDC
- High power density, compact size: 3" x 2" x 1.03"
- Operating temperature range: -40 °C to +70 °C
- 4000 VAC high isolation voltage
- Meets 5000 m altitude application
- Extremely low leakage current < 75 µA
- No-load power consumption < 0.3 W
- Multiple protections of output short-circuit, over-current and over-voltage
- Efficiency up to 91 %
- Meets 2x MOPP safety certification
- Suitable for BF applications



HAVE A LOOK LO45-20BxxMU

HAVE A LOOK LO65-20BxxMU

OPEN FRAME AC/DC CONVERTER LO45-20BXXMU(-C) AND LO65-20BXXMU(-C)

INPUT VOLTAGE	ARTICLE NUMBER	OUTPUT		ISOLATION	METAL CAGE HOUSING
		VOLTAGE	POWER		
85-264 VAC or 100-370 VDC	LO45/65-20B03MU(-C)	3.3 V	45 W or 65 W	4.000 VAC	Item number with suffix "C"
	LO45/65-20B05MU(-C)	5 V			
	LO45/65-20B12MU(-C)	12 V			
	LO45/65-20B15MU(-C)	15 V			
	LO45/65-20B24MU(-C)	24 V			
	LO45/65-20B36MU(-C)	36 V			
	LO45/65-20B48MU(-C)	48 V			

OLMATIC SUCCESSFUL COLLABORATIVE PROJECT: NETZLABOR E-MOBILITY-CARRÉ



© Netze BW

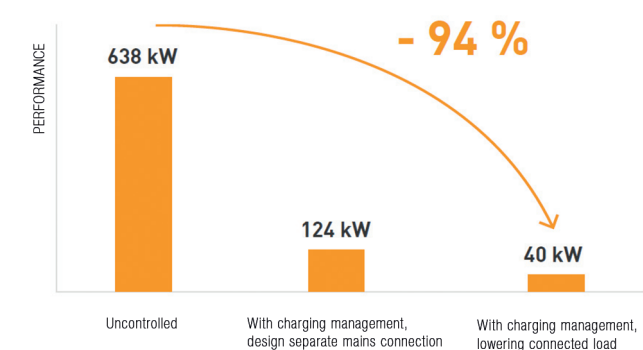
Since December 2019, the focus has been on a residential location with apartment buildings in the existing complex and a shared underground car park in Tamm as part of a NETZ laboratory of Netze BW. In this practical test, the company wants to highlight how the integration of electromobility into an existing grid infrastructure can be best achieved. The ChargeHere is used as an innovation of the EnBW charging solution with dynamic load management and since the beginning of this year, also the hardware and software solution around energy automation from the manufacturer Olmatic. The overarching goal of the participating companies is to avoid peak loads by using charging management and battery storage. The simultaneous charging processes are observed in order to optimally react to possible network bottlenecks.

the energy at charging stations of the manufacturer ChargeHere. In addition, load peaks are avoided with the help of reserve capacity slots and, when necessary, battery storage is dynamically switched on in order to avoid network bottlenecks.

Practical usage

Charging takes about 2.5 hours with max. 13 cars were charged at the same time, with a simple rule: charging management never exceeds the defined power limit.

Long story made short: -94 % power capacity optimized



© Netze BW

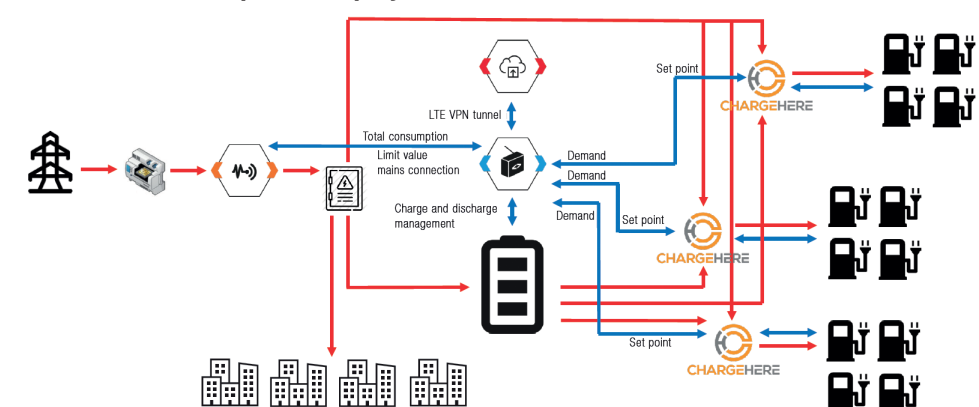
The BW network project for the grid integration of electromobility comprises 58 charging points with 11 kW each (68 % electrification of the underground car park), 45 electric cars and two battery storage systems with 19 kWh and thus represents an interesting starting position. Olmatic deals in detail with the visualization and storage of all relevant parameters and the adapted distribution of

The patented optimisation concept has been awarded as the **top innovation 2021 among 35 projects by the Automotive Industry Association (VDA)**.

Your benefits:

- + Platform independent (API)
- + Cableless sensing
- + Real time measuring
- + Scalable
- + Plug & Play

The Olmatic concept for the project:



© Netze BW

SMALLEST MULTI-SYSTEM RTK-MODULE FOR CM PRECISION

ULTRA SMALL 650 V / 10 A SILICON CARBIDE SCHOTTKY BARRIER DIODE

HAVE A LOOK

HAVE A LOOK

LOCOSYS Technology Inc. is a leading manufacturer of software and hardware for position and timing modules. The LOCOSYS product range includes standard GPS & GNSS modules, timing GNSS modules, RTK solutions, dead-reckoning modules and sub-meter solutions.

LOCOSYS is certified according to IATF 16949:2016/ISO 9001:2015 and the complete production line is designed accordingly. The various system platform solutions and modules are accompanied with professional experience from design-in to design-win.

The accuracy deviation of the previous general GPS positioning can be several meters. If the performance of GPS module is not good enough, the position deviation can even be hundreds of meters. The technology of real-time kinematics (RTK) enables centimeter-level accuracy. With the

Locosys' RTK-1010 also cost-effective. The latest RTK module shows Locosys is already well ahead of its competitors in specifications and performance.

The RTK-1010 module supports all satellite positioning systems simultaneously, it has 135 satellite receive channels and can be used as both a base station and a rover station.

Until now, many customers could not launch their products due to the limitation of expensive RTK devices, large size, high power consumption and high technical threshold. Locosys now offers a suitable solution with the RTK-1010.

FEATURES

- Highly accurate tracking of equipment down to 1 cm accuracy
- Easy integration
- Low power consumption of only 65 mA
- Small form factor (10.1 x 9.7 x 2.2 mm)
- Hardware and software support

APPLICATIONS

- Autonomous vehicles
- Building surveillance / smart city
- Movement / tracking management
- High precision agriculture
- Handhelds / wearables
- Drones
- V2V / V2X



RTK-1010 – GNS's RTK module from Locosys

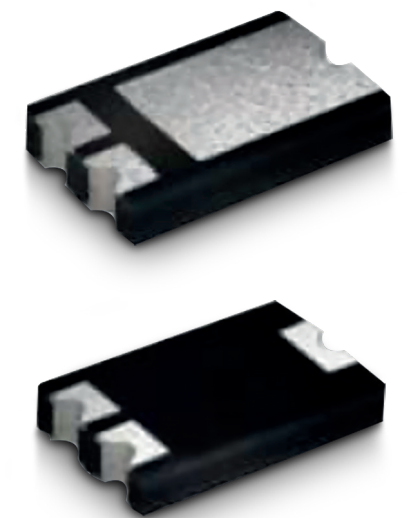
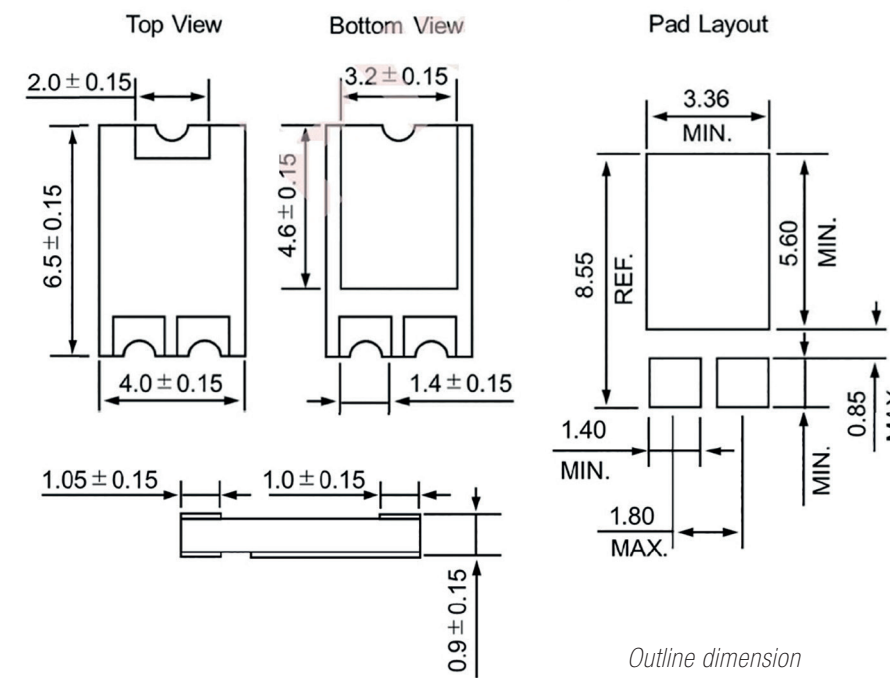
The NJDCD010A065A is an ultra-high performance silicon carbide schottky barrier diode (SiC-SBD). High-speed characteristics of SiC-SBD reduce the switching losses.

FEATURES

- Extremely small size and low profile
- Reverse voltage VR: 650 V
- Forward current IF: 10 A
- Switching time 10 ns typ. (VR = 400 V, Ta = 25 °C)

APPLICATIONS

- Switching Mode Power Supply Inverter Control
- Power Factor Correction
- Motor Drive
- Air Conditioner
- Solar Inverter



NJDCD010A065AA3PS

DISTRIBUTOR OF THE YEAR 2021**Vote
now!**

For the 15th time, the trade magazine "Elektronik" is calling for the large readers' vote "Distributor of the Year 2021". The voting is made in the four newly defined categories "volume distributors", "special distributor for semiconductors, embedded, displays and assemblies", "special distributor for interconnect technology, passive components, electronic mechanics and power supplies" and "online distributors".

As Endrich, we are standing for election in the category "special distributor for semiconductors, embedded, displays and assemblies" and Novitronic GmbH is standing for election in the category "specialty distributors of interconnect technology, passive components, electromechanics and power supplies". The voting period is from May 18th to June 28th.

Take part! Your opinion is important to us!

Evaluate our service at
www.elektronik.de/distributorwahl

We say thank you for participating
and for your support.



Scan QR code and
rate our service

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