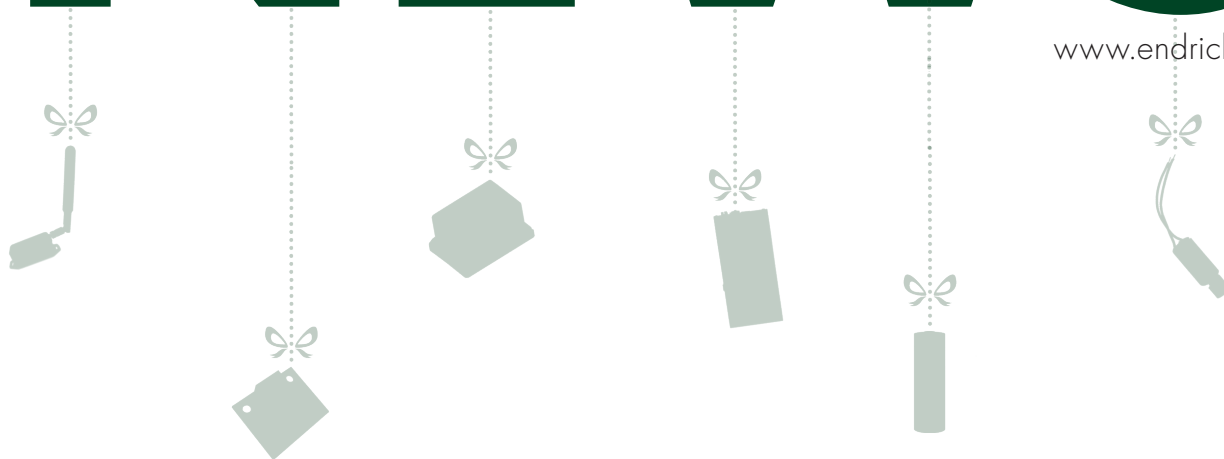


12/2023

endrich NEWS

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HAPPY NEW YEAR

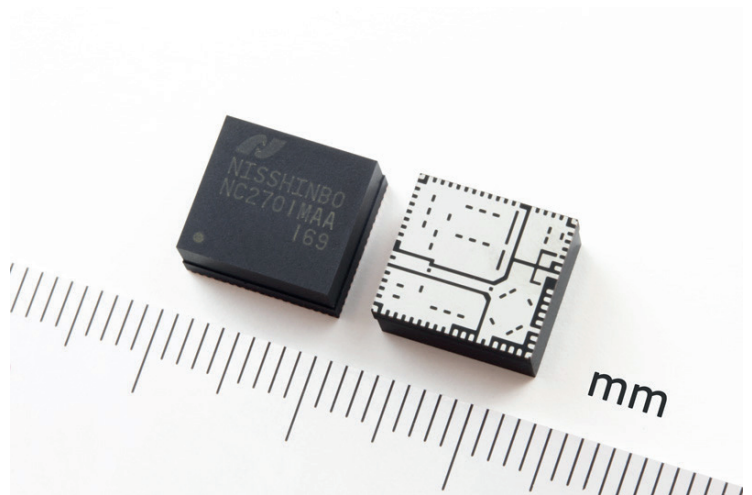
Thank you very much for your trust and we look forward to continue our good cooperation!

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NC2700/1/2MA 28V SYNCHRONOUS BUCK 20A/10A/6A SWITCHING REGULATOR WITH BUILT-IN INDUCTOR

The NC2700/1/2MA is a 20A/10A/6A synchronous step-down switching regulator module with a maximum input of 28V that incorporates CMOS-based DC / DC controller IC, MOSFETs, and inductor.

The space-saving power supply design is easy with the NC270xMA. Also, the switching frequency can be adjusted in the range from 250 kHz to 1 MHz by an external resistor. This product is a high-reliability device for industrial application, that has passed both the inspection at high temperature and the reliability test for considering industrial equipment.



FEATURES

- Input Voltage (Maximum Rating): 4.0 V to 28 V (29 V)
- Operating Temperature Range: -40 °C to 85 °C
- Start-Up Voltage: 4.5 V
- Output Voltage: 0.7 V to 5.3 V
- Feedback Voltage Tolerance: 0.64 V \pm 1 %
- Oscillation Frequency: 250 kHz to 1 MHz
- Minimum On-Time: Typ. 100 ns
- Minimum OFF-Time: Typ. 120 ns (at regulation mode)
- Duty-Over: Min. 1/4
- Soft-Start
- Power-Good
- Thermal Shutdown
- Under Voltage Lockout (UVLO) Function: VCC = 3.3 V (Typ.)
- Overvoltage Detection (OVD),
- Undervoltage Detection (UVD)

APPLICATIONS

- POL converter of FPGA
- Communication Base Stations, Network Servers
- Industrial Embedded Control Equipment, Medical Embedded Control Equipment

NEWS

NL6012 LOW POWER, ZERO-DRIFT, HIGH EMC PERFORMANCE RAIL-TO-RAIL I/O OPERATIONAL AMPLIFIER

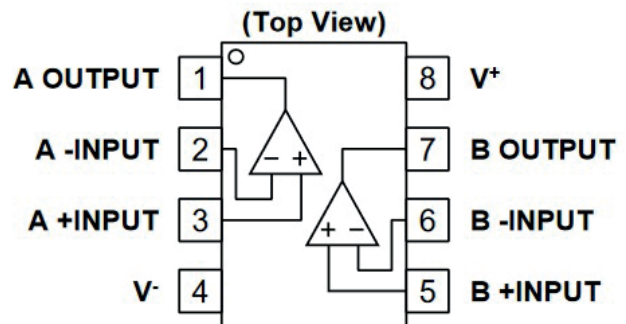
The NL6012 is a dual rail-to-rail input and output single supply OpAmp featuring very low offset voltage (10 μ V max.) and zero-drift over temperature (0.05 μ V/ $^{\circ}$ C max.). Also features, low supply current, high-impedance rail-to-rail input, and rail-to-rail output that swings within 50mV of the rails. NL601x series offers excellent CMRR without the crossover associated with traditional complementary input stages. This design results in superior performance for driving analog-to-digital converters without degradation of differential linearity.

NL601x series includes integrated EMI filter to reduce malfunctions caused by RF noises from mobile phones and other wireless devices.

NL601x series operates from supply range of 2.1V to 5.5V and can operate from -40 $^{\circ}$ C to 125 $^{\circ}$ C temperature range.

APPLICATIONS

- Battery-Powered Equipment
- Sensor Interface
- Temperature Sensors
- Current Sensing Amplifier



FEATURES

- Low Input Offset Voltage 10 μ V max.
- Zero-Drift 0.05 μ V/ $^{\circ}$ C max.
- Low Supply Current NL6012 15 μ A/ch
- Rail-to-Rail Input and Output
- Supply Voltage 2.1V to 5.5V
- Input Bias Current 30pA
- Gain Bandwidth Product 260kHz
- Slew Rate 0.11V/ μ s
- Equivalent Input Noise Voltage 60nV/ \sqrt Hz
- Integrated EMI Filter
- CMOS Architecture
- Package: VSP-8-AF

TOOTHBRUSH VIBRATION MOTORS

The use of electric toothbrushes is increasing since the last years. Because of that there is more need of vibration motors for toothbrushes. A gear unit ensures that the rotation of the motor shaft is converted into an oscillating motion. The vibration motor must be consistent to support the best result possible for the user.

The main use of the double bearing magnetic suspension motors from Baolong is for high-end electric toothbrushes. The advantages of this type of motor are, that it can improve the feeling of the toothbrush. In addition, the motors can effectively provide a greater vibration amplitude, as well as they can guarantee a better load resistance.

The spring type magnetic suspension motor is preferably used for high performance ratio electric toothbrushes. The advantages of this motor are that it has a low power consumption, a very high reliability, and a lower price.

Both types can be supported by our acoustic group.



In case of a specific requirement, the acoustic team can help to adapt the vibration motor for the customer directly and there will also be a protection for the specific product.

Please refer to the following recommenden models as example:

MODEL	RATED VOLTAGE	RATED CURRENT	RATED OPERATING FREQUENCY / DUTY RATIO	MOTOR TORQUE	SWING	RESISTANCE	MOTOR EXTERIOR SIZE		
	V (AC)	A	Hz	Kgf		Ohm	H	W	L
BLTB16-H87-X17-Y	3.6	< 500 MA	260/40%	150	5.5	3.4+/-40%Ω	16	11.95	87.6
BLTB15-X20-Y2	3.6	1.2	260/40%	160	5.5	4.2+/-20%Ω	15	11.3	76.25

APPLICATIONS

- Shaver
- Mascara
- Prosthetic use

FEATURES

- Different motor sizes available with driving voltage of 3.6-4.2V
- Low power consumption
- Possibility to customize f.e. the length of the power lines or the extended shaft

NEWS

PANASONIC FILM CAPACITORS FOR AUTOMOTIVE APPLICATIONS

Panasonic film capacitors offer low ESR, high reliability and long life solutions for industrial, automotive, infrastructure and home appliance applications. In addition to Panasonic's polymer capacitors, we are pleased to announce that their film capacitors will complete Endrich's capacitor portfolio from now on.

Panasonic's EZPV and ECWFG series of DC film capacitors (Metallized Polypropylene Film Capacitors) benefit from the original in-house patterned metallization process with fuse function. This unique technology provides a stable capacitance level over the life of the product to ensure greater application reliability. Both are suitable for automotive applications.

The EZPV series has an operating temperature range of -40°C to 110°C , a rated voltage range of 600VDC to 1100VDC and a rated capacitance range of $3\mu\text{F}$ to $110\mu\text{F}$. A flame-retardant plastic housing and non-flammable resin are used, leading to UL registration. ECWFG series offers an operating temperature range of -40°C to 125°C , rated capacitance range of $1\mu\text{F}$ - $12\mu\text{F}$ and voltage range of 600VDC to 1100VDC.

Functioning as DC filter capacitors, both series are ideal for a wide range of applications including industrial power supplies, inverter circuits in appliances, renewable energy infrastructure such as solar inverters and wind power generation; as well as automotive applications such as on-board chargers, AC/DC, DC/DC converters for xEV.



APPLICATIONS

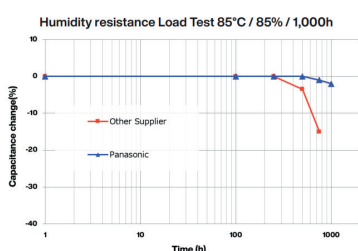
- DC/DC converters for on board chargers
- AC/DC converters for wallbox

FEATURES

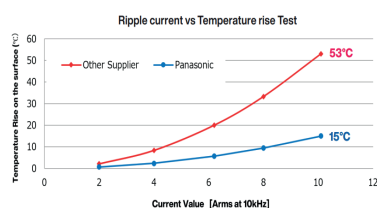
- Low ESR
- High reliability and long life
- High humidity resistance
- High temperature resistance
- Fuse function

PANASONIC CORE FEATURES OF FILM CAPACITORS:

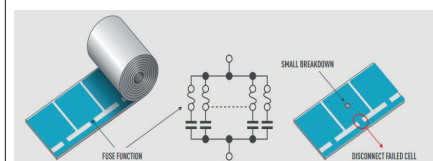
High Humidity Resistance



High Temperature Resistance



Fuse Function



ALLIANCE 1.8V AND 3V SPI NAND FLASH MEMORY: AS5F SERIES

To meet the growing demand for serial peripheral interface (SPI) NAND Flash memory products in the automotive, industrial, communications, and consumer electronics markets, Alliance Memory announced the new AS5F series of 1.8V to 3V devices with densities from 1Gb to 8Gb and high-speed clock frequencies up to 120MHz.



KEY SPECIFICATIONS & BENEFITS

- Densities from 1Gb to 8Gb
- High-speed clock frequencies up to 120MHz
- Reliable, long-term performance
 - 60,000 program/erase cycles
 - 10-year data retention
- Industrial temperature range of -40°C to +85°C
- 25mA read/program currents and 30mA erase currents
- Support standard, dual, and quad SPI operation
- Lead (Pb)- and halogen-free LGA 8-pin package

TARGET APPLICATIONS

- Multimedia data storage applications
- Artificial intelligence (AI) implementation
- Wi-Fi routers, mobile devices, xDSL/xPON technologies, data cards, IP cameras, set-top boxes, digital TVs, and smart home devices

Device Specification Table:

PART NUMBER	DENSITY	VCC	SPEED
AS5F31G04SND-08LIN	1Gb	3V	120MHz
AS5F12G04SND-10LIN	2GB	1.8V	100MHz
AS5F32G04SND-08LIN	2GB	3V	120MHz
AS5F14G04SND-10LIN	4GB	1.8V	100MHz
AS5F34G04SND-08LIN	4GB	3V	120MHz
AS5F18G04SND-10LIN	8GB	1.8V	100MHz
AS5F38G04SND-08LIN	8GB	3V	120MHz

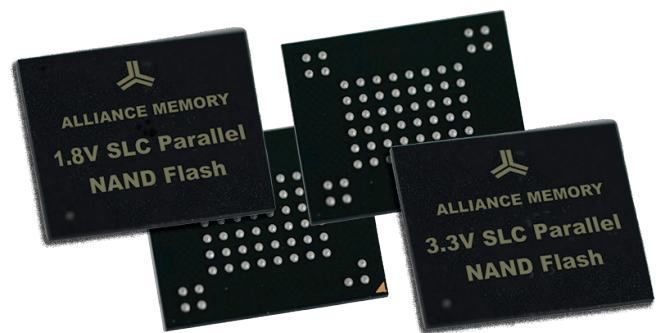
NEWS

ALLIANCE 1.8V AND 3.3V SLC PARALLEL NAND FLASH

Alliance Memory introduces the new AS9F series of NAND flash memory products for the automotive, industrial, communications and consumer electronics markets, The new AS9F series is available as 1.8V and 3.3V devices with densities from 1Gb to 8Gb and fast block erase times down to 3ms typical.

KEY SPECIFICATIONS & BENEFITS

- 1.8V and 3.3V VCC
- Densities from 1Gb to 8Gb
- Fast block erase times down to 3 ms typical
- Compliant with the ONFI 1.0 specification
- x8 I/O interface
- Divisible into independently erasable blocks
 - Allows valid data to be preserved, while old data is erased
- Reliable, long-term performance
 - 100,000 program/erase cycles with 4-bit ECC per 528 bytes
 - 10-year data retention
- Offered in the 9.0 mm by 11.0 mm by 1.0 mm 63-ball FBGA package
- Available in industrial (-40°C to +85°C) and automotive (-40°C to +105°C) temperature ranges
- RoHS-compliant



TARGET APPLICATIONS

- Wi-Fi routers, DSL and cable modems, set-top boxes, digital TVs, artificial intelligence (AI) speakers, Internet of Things (IoT) devices and more

Device Specification Table:

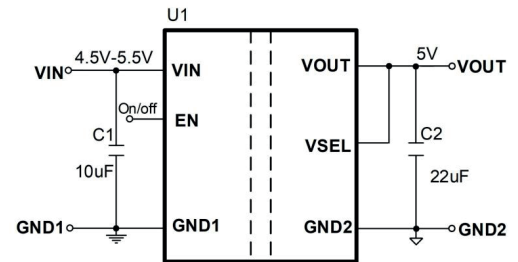
PART NUMBER	DENSITY	BUS WIDTH	VCC	PACKAGE	TEMPERATURE
AS9F31G08SA-25BIN	1Gb	x8	3.3V	63-ball FBGA	-40°C to +85°C
AS9F32G08SA-25BIN	2GB	x8	3.3V	63-ball FBGA	-40°C to +85°C
AS9F34G08SA-25BIN	4GB	x8	3.3V	63-ball FBGA	-40°C to +85°C
AS9F14G08SA-45BIN	4GB	x8	1.8V	63-ball FBGA	-40°C to +85°C
AS9F18G08SA-45BIN	8GB (DDP)	x8	3.3V	63-ball FBGA	-40°C to +85°C
AS9F18G08SA-45BIN	8GB (DDP)	x8	1.8V	63-ball FBGA	-40°C to +85°C
AS9F14G08SA-45BAN	4GB	x8	1.8V	63-ball FBGA	-40°C to +105°C
AS9F18G08SA-45BAN	8GB (DDP)	x8	1.8V	63-ball FBGA	-40°C to +105°C

COMPACT ISOLATED, REGULATED DCDC POWER MODULE MIE1W0505BGLVH

The global leading power circuit solution provider Monolithic Power Systems, Inc. (MPS) introduces the isolated, regulated DC/DC power module MIE1W0505BGLVH. It offer an isolation voltage of 2,5kV and can support up to 3V to 5.5V input voltage applications, up to 1W of output power, and features excellent load and line regulation.

The MIE1W0505BGLVH uses capacitive isolation technology for feedback blocking, which can regulate the output voltage without the need for a traditional optocoupler and shunt regulator. This module offers higher reliability operation in a small form factor compared to traditional isolation power modules. The MIE1W0505BGLVH features continuous short-circuit protection and over-temperature protection.

It is available in a small LGA-12 (4mmx5mm) package. Like all MPS parts, the new power module is lead-free, halogen-free, and adhere to the RoHS directive



FEATURES & BENEFITS

- 3V to 5.5V Input Voltage Operation Range
- 2.5kVRMS Isolation Voltage
- Max 1W Output Power
- Supports Infinite Capacitive Load
- 0.4% Load Regulation
- 0.5% Line Regulation
- Continuous Short-Circuit Protection
- Over-Temperature Protection
- CB Certification According to IEC62368-1 (Planning)
- Meets EN55032 Class B Emissions
- -40°C to 125°C Operating Temperature Range
- Available in an LGA-12 (4mmx5mm) Package

APPLICATIONS

- Industrial Automation Systems
- Isolated Bias Power for Digital Isolators
- Isolated Power for Isolated RS-485/RS422/CAN interface
- Isolated Sensor Power Supply
- Telecom and Network Device (5G RRU, Industrial CPE, Network Gateway, etc.)



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