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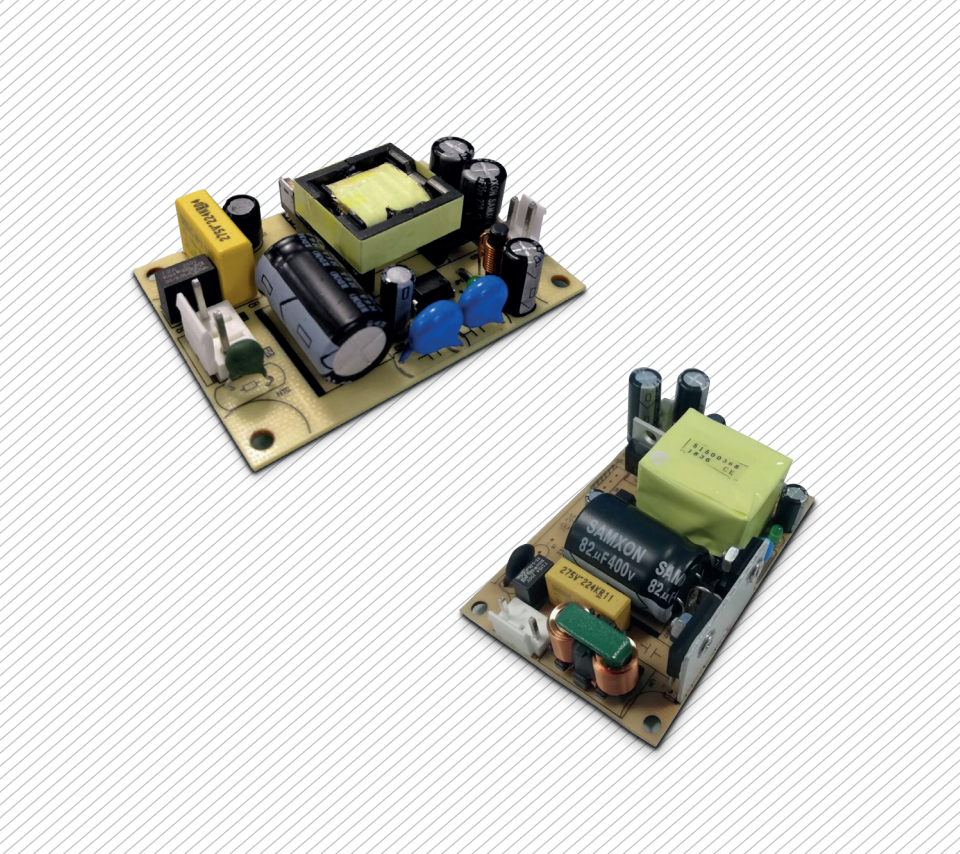
OUR PRODUCT OF THE MONTH: 3-65 W COST EFFECTIVE AD/DC OPEN-FRAME CONVERTER LO SERIES



FEATURES

- Universal input: 85 – 264 VAC / 100 – 370 VDC (LO05: 165 – 264 VAC / 230 – 370 VDC)
- Operating temperature range: -25 °C to +70 °C
- High I/O isolation: 3000 VAC
- Regulated output, low ripple & noise
- Output short circuit, over current and over voltage protections
- LO15 / 30 / 45 / 65 series meet IEC / EN / UL62368 safety standards
- LO15 / 30 W series meets white goods requirements
- LO15 / 30 / 45 / 65 series have indicator lights

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MORNSUN®

3-65 W COST EFFECTIVE AD/DC OPEN-FRAME CONVERTER LO SERIES

MORNSUN launched high power density cost effective AC/DC open-frame power supplies LO series, which provides powers of 3W, 5W, 15W, 30W, 45W and 65W, and has multiple output voltages as option. What's more, its output voltage is up to 48VDC. LO03/05 series adopts SIP package pin-out and is easy to use. LO15/30/45/65 series are open frame power supply in PCB mount and are easy to use and maintain.

PRODUCT ADVANTAGES

✓ Cost effective

Better lead time and price.

✓ High isolation voltage

Its isolation voltage is up to 3000 VAC, which can significantly improve the product reliability and protect the system safety.

✓ High reliability and complete protection

This LO series has a MTBF over 300,000 h and provide protections of output short circuit (OSC), output over-current (OCP), output over-voltage (OVP), which not only significantly reduce the failure rate of the converter itself but also enhance the safety performance of back-end power modules and the load in abnormal working conditions.

✓ Meets safety standards and white goods standards

LO15/30/45/65 series are designed to meets IEC/EN/UL62368 standards. Besides, LO15/30 series meet white goods requirements.

FEATURES

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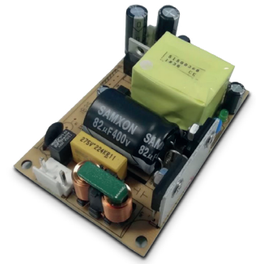
- Operating temperature range: -25 °C to +70 °C
- High I/O isolation: 3000 VAC
- Regulated output, low ripple & noise
- Output short circuit, over current and over voltage protection
- LO15 / 30 / 45 / 65 series meet IEC / EN / UL62368 safety standards
- LO15 / 30 W series meets white goods requirements
- LO15 / 30 / 45 / 65 series have indicator lights
- EMC performance meets CISPR32 / EN55032 class B (LO03 / 05 series meets class A)
- Multiple output voltages(up to 48 VDC) are available now

APPLICATIONS

- Widely used in instrumentation
- Street lamp control
- Industrial control
- Communication and civil applications



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SMI

327SMO-RTC: RTC MODULE FOR HIGH ACCURACY TIME REFERENCE

HAVE A LOOK

327SMO-RTC is a high stability real time clock module with I2C-BUS interface system which built in 32.768 kHz DTCXO. In addition to the clock and the calendar function, this module has an alarm interruption function, the constant cycle timer interruption function, the time update interruption function, the clock output function, and the power supply voltage detection function delivered in a tiny 3.2 x 2.5 mm SMD package.

The RTC Oscillator is suitable for applications in the field of metering and communication (IoT / wearables and wireless sensors or smart meters). Widely used as well in ATM & POS systems or health monitoring systems. Industrial and consumer electronics and home & factory automation are further fields of applications.

FEATURES

- High precision frequency temperature stability: Max. ± 7.0 × 10^{-6} (-40 °C to +105 °C)
- Temperature compensated voltage range: +2.0 V to +5.5 V
- Low current consumption
- Frequency selection function: 32.768 kHz, 1024 Hz, 32 Hz, 1 Hz
- I2C-BUS serial interface type: 400 kHz high speed mode
- Various function including full calendar, alarm and timer

PIN	CONNECTION		I/O	FUNCTION
1	"L"	"H"	I	Enable / disable
2	/INT		O	Time signals, alarm signals, constant cycle time signals & time update signals (N-ch open drain terminal)
3	NC		-	(no connection)
4	GND		-	(ground)
5	Z	OUTPUT	O	32.768 kHz signal output (Pin#1 = "H") CMOS output
6	SCL		I	Serial clock input (I2C-Bus Serial Interface Clock)
7	SDA		I/O	Serial data input / output (I2C-Bus Serial Interface Data)
8	V_{DD}		-	(supply voltage)

SPECIFICATION 327SMO-RTC (ROHS COMPLIANT PB-FREE)		
Nominal Frequency		32768 kHz
Package Size (L × W × H)		3.2 × 2.5 × 1.0 mm
Temperature Compensation Supply Voltage		+2.0 V to +5.5 V
Interface Supply Voltage		+1.5 V to +5.5 V
Operating Temperature Range		-40 °C to +105 °C
Frequency / Temperature Characteristics	-40 °C to +105 °C	Max. 7.0 ppm
	-40 °C to +85 °C	Max. 5.0 ppm
	-10 °C to +60 °C	Max. 3.8 ppm
Current Consumption	SCL = SDA = /INT = V_{CC}, E/D = V_{CC}	Max. 4.5 µA
	Output 32.768 kHz, V_{CC} = +3 V	
	Output at No-load	
	SCL = SDA = /INT = V_{CC}, E/D = GND	Max. 4.0 µA
	Non operating output V_{CC} = +3 V	
Output Load Condition	CMOS Output	15 pF
Start-up Time	-40 °C to +105 °C	Max. 3.0 sec.

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CUSTOMIZED TEMPERATURE SENSORS

HAVE A LOOK

TEWA temperature sensors offer a wide range of standard and customized temperature sensors designed according to individual customer's requirements covering applications in a temperature range between -80 °C and +800 °C. The TT-4 series group contains temperature sensors using NTC / PTC thermistors, PTRTDs and other sensing elements mounted into a wide range of metal / plastic housings.

FEATURES

- Proven stability and reliability
- Low cost
- Variety of metal and plastic housings and tubings designed for specific applications
- Potted with different kinds of resin for reliable sensor protection
- Provides good protection against environmental conditions
- Proven high voltage and dynamic strength
- Available with special cables (2-core cables or stranded with PVC, teflon or kynar insulation, cables with screen & other), connectors and other attachments
- Wide range of resistance and temperature characteristics
- Designed for temperature measurement, temperature control and temperature compensation

APPLICATIONS

- Automotive applications
- Consumer products
- Instrumentation industrial ovens
- Electric showers
- HVAC and refrigeration
- Fire detectors
- Battery management systems
- E-mobility

SPECIFICATIONS OF TT-4:

Part No.	TT4
Measurement element	NTC, PTC, PtRTD, KTY, DS1820
Resistance tolerance	±0.2 ... ±5 %
B-value (25 / 85)	2700 ... 5100 K
Wires / cables	PVC, silicone, FEP, fiberglass insulation, etc.
Diameter	>1.25 mm
Temperature range	-80 ... 800 °C

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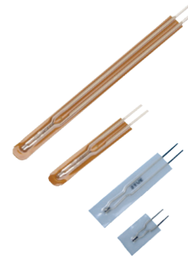
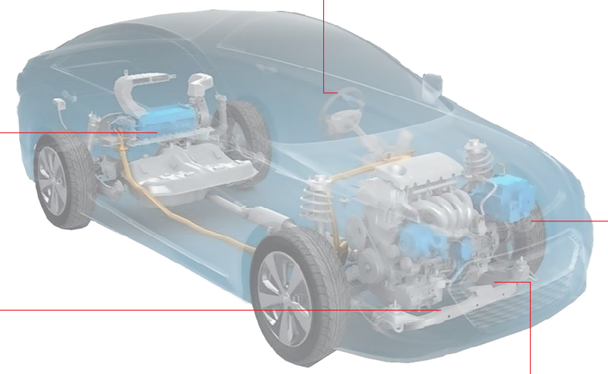
E-MOBILITY TEMPERATURE SENSORS

BATTERY MODULE
Cell pack

STEERING- & SEAT HEATER
Foil NTC



INVERTER / CONVERTER
Attached to PCB by crew



AIR CONDITIONING MODULE
Epoxy dipping type | High precision type

MOTOR MODULE
ATF oil submersion | High temp. range type | Screw fix type

FEATURES

- Extensive use in all global automotive brands
- Dozens of customized assemblies for battery and EV motor applications
- Already high market share for Japanese hybrid car batteries
- Competitive pricing especially for integrated design assemblies (sensor part + resin mold)

APPLICATIONS

- EV batteries
- Electric motors
- Air conditioners
- Capacitors

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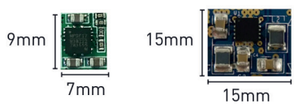
POWER MODULE FAMILY

HAVE A LOOK

MPS' power modules have a wide range of VIN and IOUT with a variety of packages. Our extensive portfolio of DC/DC modules integrate inductors, FETs, compensation and other passive components into a single package to simplify the design process. Choose what module works best for your design based on our beneficial features.

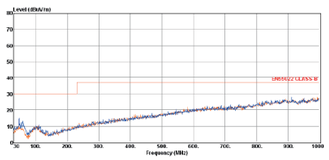
Small Size & Ease of Use

PM38222 Discrete Solution



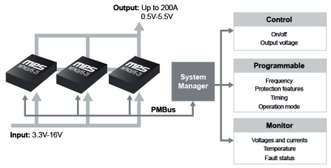
Minimal external components
Easy layout
Fast design cycle

Low EMI



Meet EN55022
Class B EMI standard

Scalability & Programmability



I2C & MTP
Graphic user interface available

QFN 3 x 5 x 1.6 mm

MPM3515
- 4 V to 36 V V_{IN}
- 0.8 V to 30.6 V V_{OUT}
- Continous 1.5 A output
- Ext clock synchronization

NEW

LGA 10 x 10 x 4.2 mm

MPM3570E
- 4.5 V to 75 V V_{IN}
- 1 V to 12 V V_{OUT}
- Max 0.3 A
- Enhanced light-load efficiency
- Ultra-low EMI noise

NEW

QFN 7 x 7 x 4 mm

MPM3683-7
- 2.7 V to 16 V V_{IN}
- 0.6 V to 5.5 V V_{OUT}
- Max 8 A continuous output
- Fast transient response
- Non-latch OCP, OVP, UVP

NEW

LGA 10 x 12 x 4 mm

MPM3695-25
- 3 V to 16 V V_{IN}
- 0.5 V to 5.5 V V_{OUT}
- Max 25 A, parallel up to 200 A
- I^2C interface & MTP
- GUI available

QFN 4 x 4 x 1.6 mm

MPM38222
- 2.7 V to 6 V V_{IN}
- Dual output, max 2 A
- Enhanced light-load efficiency
- Individual EN pins
- Pin-to-pin with dual 1A MPM38111

NEW

QFN 2 x 2 x 1.6 mm

MPM3811
- 2.3 V to 5.5 V V_{IN}
- 0.6 V to Dmax* 5.5 V
- Max 1 A
- Smallest 1 A module
- EN, PG pins

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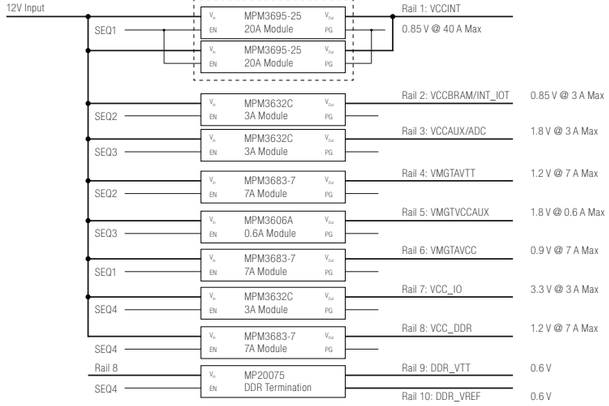
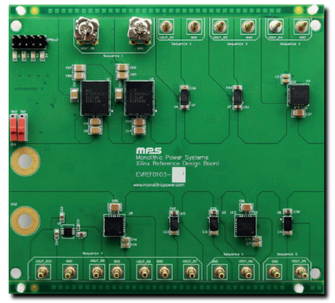
POWER MODULE FAMILY

Max V_{IN} / I_{OUT}	0.6 A	1.2 A	2 A	3 A	4-5 A	6-8 A	10 A	15 A	20 A	60 A / 100 A
Wide V_{IN} 75 V	**MPM3570E** 10 x 10 x 4 mm			**MPM3530** 10 x 12 x 4 mm						
High Voltage (< 45 V)	**MPM3506A** 3 x 5 x 1.6 mm	**MPM3510A** **MPM3515** 3 x 5 x 1.6 mm	**MPM3520E** 10 x 10 x 4 mm	**mEZD94003A** 11 x 15 x 4 mm **mEZD74003L** 6 x 8 x 1.6 mm	**MPM3550E** 10 x 10 x 4 mm					
Medium Voltage (< 24 V)	**MPM3606** **MPM3606A** 3 x 5 x 1.6 mm	**MPM3606** **MPM3610A** 3 x 5 x 1.6 mm	**MPM3620** **MPM3620A** 3 x 5 x 1.6 mm	**MPM3630** 3 x 5 x 1.6 mm **MPM3632C** 3 x 5 x 1.6 mm **MPM3632S** 3 x 3 x 1.5 mm	**MPM3650** 4 x 6 x 1.6 mm	**MPM3680** 12 x 12 x 4 mm **MPM3695-10** 8 x 8 x 1.6 mm **MPM3683-7** 7 x 7 x 4 mm	**MPM3682** 12 x 12 x 4 mm **MPM3695A-10** 8 x 8 x 1.6 mm	**MPM3684** 12 x 15 x 4 mm	**MPM3686** 12 x 15 x 4 mm **MPM3695-25** 12 x 10 x 4 mm	**mEZD81260A** 25 x 15.5 x 7.5 mm **MPM3695-80** 15 x 30 x 5 mm
Low Input (< 6 V)	**MPM3805** 3 x 2.5 x 0.9 mm **MPM3804** 2 x 2 x 0.9 mm	**MPM3810** 3 x 2.5 x 0.9 mm **MPM3811** 2 x 2 x 1.6 mm **MPM38111** (Dual) 2 x 2 x 1.6 mm	**MPM3820** 3 x 5 x 1.6 mm **MPM3822C** 2.5 x 3.5 x 1.6 mm **MPM38222** (Dual) 2.5 x 3.5 x 1.6 mm	**MPM3830** 3 x 5 x 1.6 mm **MPM3833C** 2.5 x 3.5 x 1.6 mm	**MPM3840** 3 x 5 x 1.6 mm	**MPM3860** 4 x 6 x 1.6 mm				

EVREF0103A for Kintex/Zynq Ultrascale+





FPGA SERIES	FPGA PART NUMBERS	EVB#
VIRTEXULTRASCALE /+	VU11P, VU13P	EVREF0104-A
	VU5P, VU7P, VU9P, VU35P, VU37P	EVREF0104-B
	VU3P, VU31P, VU33P	EVREF0104-C
KINTEXULTRASCALE/+	KU13P, KU15P	EVREF0103-A
	KU3P, KU5P, KU9P, KU11P	EVREF0103-B
ZYNQ ULTRASCALE+ MPSOC	ZU9CG, ZU9EG, ZU11EG-ZU19EG	EVREF0101-A
	ZU3CG TO ZU7EV	EVREF0101-B
ZYNQ 7000	XC7Z007S TO XC7Z020, XC7Z030	EVREF0100-A
ZYNQ ULTRASCALE+ RFSOC	ZU21DR TO ZU29DR	EVREF0102-A

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MPS POWER INDUCTOR FAMILY

HAVE A LOOK

The new surface-mounted power inductors from Monolithic Power Systems are designed for applications ranging from power supply to power converters. The molded and semi-shielded series inductors comprise inductance ranges from 0.33 µH to 22 µH and saturation current ranges from 0.8 A to 64 A.

Semi-Shielded Series (MPL-SE)
The MPL-SE semi-shielded power inductors are shielded by an external magnetic epoxy resin for better magnetic characteristics. Their design offers a lower DCR and higher current capabilities.

Molded Series (MPL-AT / AY / AL)
This series includes molded magnetic-shielded power inductors that offer soft saturation due to their molded design, delivering a stable high-temperature behavior.

Their molded construction decreases the audible noise generated from alternating currents and pulse wave frequencies.

The **MPL-AT Series** offers a very low profile where height is a design restriction. This series also offers Low DCR/ACR and the ability to handle high current.

The **MPL-AY Series** offers Low DCR/ACR and the ability to handle high current.

The **MPL-AL Series** offers Low DCR/ACR and a flat-wire construction, which provides even higher current ratings than round-wire molded inductors.

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