



COSEL announces 3W high isolation DC/DC converters for medical and industrial applications

Press Release

2020-08-31

- High input/output isolation 3kVAC, 4.2kVDC
- Medical isolation 2MOOP - 250VAC working isolation voltage
- Low input/output capacitance – 20 pF maximum
- Ultra-wide input voltage 4:1 - 4.5V to 18V ; 9V to 36V ; 18V to 76V
- Ruggedized pins connector
- Made in Japan - 5 years warranty

COSEL Co, Ltd (6905: Tokyo) today announced the addition of a new series of high isolation 3W DC/DC converters for medical and industrial applications. Packaged in a Single In Line (SIP) type 8, the COSEL MH3 series has a reinforced isolation of 3kVAC, 4.2kVDC, complies with medical isolation standard (2MOOP (250VAC)) and ruggedized for industrial applications that might imply differential In/OUT voltage. Three input voltages (4.5V-18V ; 9V – 36V and 18V -76V) and a large variety of single (MHFS3) and dual output (MHFW3) cover a large range of applications. Designed for performances, the MH3 has only 20pF max insulation capacitance reducing noise transfer. The COSEL MH3 is a unique design from COSEL, manufactured in Japan and covers by a 5 years warranty.

Designed with high reliability in mind, the COSEL MH3 series has a reinforced insulation, sustains 3kVAC and 4.2kVAC isolation test in accordance to safety standards and its transformer designed to sustain differential voltage that might happen in industrial applications. With long expertise in designing power supplies for equipment using IGBT drivers, COSEL designers applied high-power high-isolation best practice to the low power 3W MH3 series to reduce isolation fatigue resulting from differential high voltage happening in motor control or IGBT driver. COSEL conducted tests and verifications and provides, in the Application Manual, life expectancy curves helping system's architects developing Gate Controllers for industrial equipment to apply proper design rules and cautions.

For medical applications, the MH3 series complies with the 2xMOOP (250VAC) (Means Of Operator Protection) isolation requirement, as specified in the IEC60601-1 3rd edition standard.



To reduce inventory but as well making their equipment easy to install and maintain, system's designers require DC/DC converter able to accept a large range of input voltages. The COSEL MH3 series is available in three wide-input range voltage: 4.5V to 18V covering 12V battery applications, 9V to 36V combining 12V and 24V battery systems and 18V to 76V addressing 24V and 48V systems. The MH3 series is available in five single output 3.3V, 5V, 9V, 12V, 15V (MHFS3) and two dual outputs +/-12V and +/-15V (MHFW3). Output can be used in series, delivering 24V or 30V. Single output voltage MHFS3 can be adjusted by using the Vout Trim pin on the secondary side.

The MH3 series has built-in overcurrent protection circuit, with automatic recovery. A remote control pin operating as negative logic (L:ON, H:OFF) is available on standard.

The MH3 series can be operated within a temperature range of -40 to +85C ambient, 20 - 95%RH (Non condensing). Depending on cooling, a power derating may apply to not exceed +105C at specified measuring point.

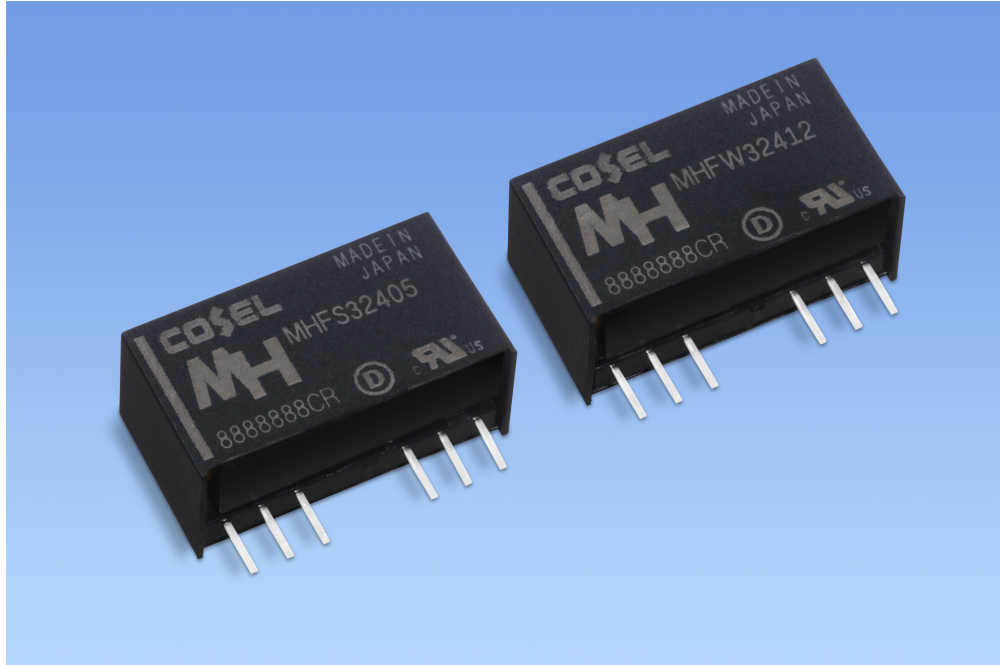
To reduce transfer noise, COSEL designers reduced the isolation capacity to lowest possible level, reaching a maximum of 20 pF, which is a great benefit when powering motor control systems.

Industrial and in some case medical equipment can be subject to vibrations engendering possible damages on the pins of SIP products. COSEL MH3 series pins are molded in an epoxy holder, strengthening the connections between the application PCB and the module, making the unit even more reliable when used in demanding applications. The MH3 series has been qualified on vibrations testing: 10 - 55Hz 98.0m/s² (10G), 3minute period, 60minutes each along X, Y and Z axis and shock: 490.3m/s² (50G) 11ms, once each along X, Y and Z axis.

Addressing both, medical and industrial applications, the MH3 series received the agency approvals: UL62368-1, EN62368-1, c-UL (equivalent to CAN/CSA-C22.2 No.62368-1), ANSI/AAMI ES60601-1, EN60601-1 3rd, c-UL (equivalent to CAN/CSA-C22.2 No.60601-1).

To reduce user's board space, the MH3 series is housed in a SIP8 packaging measuring 22.0X12.0X9.5mm [0.87X0.48X0.38 inches] (WXHXD) and with a weight of 7 grams maximum.

The power supply complies with the RoHS directive and is CE marked in accordance with the Low Voltage Directive.



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Related URL:

Single output MHFS series

<https://www.coseleurope.eu/Products/DC-DC/MHFS>

Dual output MHFW series

<https://www.coseleurope.eu/Products/DC-DC/MHFW>

**About COSEL:**

Established in Japan 1969, COSEL is one of the world's leading designers and manufacturers of high performance AC-DC Power Supplies, DC-DC Converters and EMI Filters. With quality, reliability & flexibility as our main focus, we pride ourselves on developing some of the highest quality and most reliable products seen anywhere in the world today. The Cosel Group is a \$253m global company employing some 810 staff with sales offices throughout Japan, Asia, Europe and North America. Our product range is aimed mostly at demanding applications within the Industrial, Factory Automation, Medical, Telecoms, Lighting, Audio/Broadcast & Renewable Energy sectors. A flexible approach with full in-house design means we deliver products using the very latest technology meeting the growing demands of our customers.

Note to the Editors:

The Cosel Group includes the European power specialist Powerbox International AB, which has been acquired June 25, 2018 by COSEL.

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