ISOLATED PRODUCTS CROSS-REFERENCE GUIDE

Designed for Applications in:

- CHARGING STATIONS
- ENERGY STORAGE
- AC/DC CONVERSION
- SOLAR OPTIMIZATION

MPS

MonolithicPower.com

Introduction

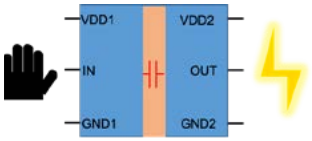
MPS has a whole family of isolated solutions that are pin-to-pin compatible with existing solutions on the market. These products are designed to be compliant to both UL1577 and VDE-0884 standards.

Visit monolithicpower.com/isolation for more information.

Why Do We Need Isolation?

SAFETY

Protect the human body and low-voltage devices

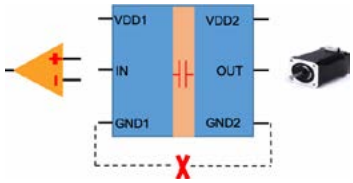


NOISE IMMUNITY

Isolate analog and power GND

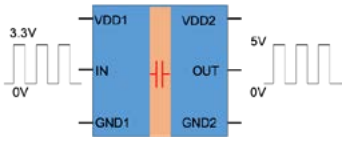
- Avoid cross-conduction from the MOSFET

Improve communication quality



LEVEL SHIFT

Shifting from 3.3V up to 5V



Product Offerings

- Isolated Gate Drivers
- Digital Isolators
- Digital Isolators with Power
- Isolated Power Modules

Advantages

- Pin-to-pin compatible with existing solutions to alleviate supply shortage
- Wide driver bias range enables more flexibility with FET selection (SiC, GaN, IGBT)
- Higher source and sink peak currents enable higher efficiency

Applications

- Supports various isolation requirements to maximize system safety level
- Industry-leading performance
- Supports UL1577 certification

DUAL-CHANNEL ISOLATED GATE DRIVERS

Family	Part Number	P2P Replacement	Applications
MP18831/51/71	MP18831-4CGY MP18851-A4CGY MP18851-A4CGSE MP18831-A4BGLU MP18851-A4BGLU MP18871-A4BGLU	**Si823x** **UCC20520** **UCC21520** **UCC21521**	Server PSUs Telecom PSUs Solar Inverters Energy Storage DCFC Charging Stations AC/DC Conversion Motor Drives

DIGITAL ISOLATORS WITH INTEGRATED POWER

Family	Part Number	P2P Replacement	Applications
MPQ278xx	MPQ27831-HP-MGY-3 MPQ27821-LP-MGY-3 MPQ27811-HP-MGY-3	**ISOW784x** **ISOW7821**	Industrial Automation 5G RRU, Industrial CPE RS-485/422/CAN Interfaces Power Meters

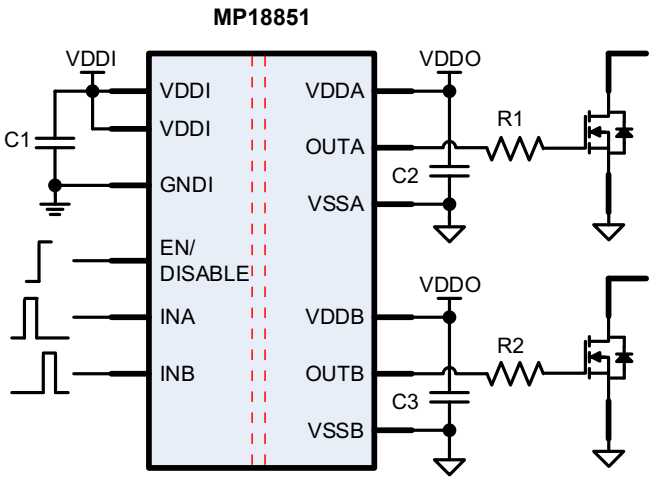
DIGITAL ISOLATORS - NO INTEGRATED POWER

Family	Part Number	P2P Replacement	Applications
MP276xx	MP27622GY-Z (2 in/2 out) MP27631GY-Z (3 in/1 out) MP27633GY-Z (3 in/3 out)	**ISO7741/ISO7641** **Si8641** **MAX14931**	Industrial Automation/PLC RS-485/422/CAN Interfaces Power Meters EV/BMS

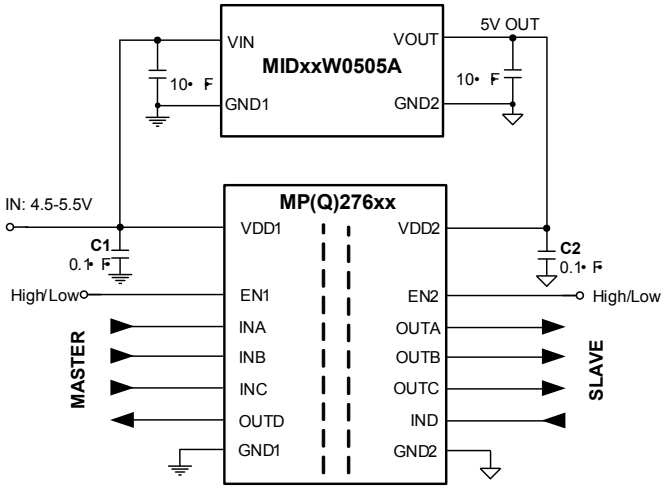
ISOLATED POWER MODULES

Family	Part Number	Description	Applications
MID1W0505A	MID1W0505AGY-3S	5V to 5V isolated module, 0.6W/1W options available	Isolated Digital Isolator Bias RS-485/422/CAN Interfaces Isolated Sensor Power Supplies Telecom/Networking
MID06W0505A	MID06W0505AGY-3R	5V to 5V isolated module, 0.6W/1W options available	Isolated Digital Isolator Bias RS-485/422/CAN Interfaces Isolated Sensor Power Supplies Telecom/Networking

Dual-Channel Isolated Gate Driver



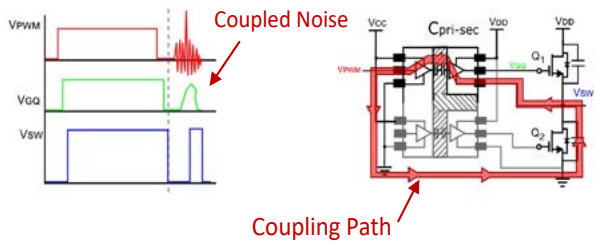
Digital Isolator + Isolated Power Module



CMTI for Isolated Products

Why Is CMTI Important?

- Common-mode transient immunity (CMTI)
- High slew rate transients can corrupt data transmission across the isolation barrier
- CMTI measures in kV/µs or V/ns
- Especially important in:
  - High-voltage applications
  - Fast transient devices (SiC, GaN)



MP18831/51/71

Isolated Dual-Channel Gate Driver

- Up to 5kV$_{RMS}$ Isolation
- CMTI > 100V/ns
- 4A Source/4A Sink Peak Current
- SOIC-16NB/WB and LGA-13 Package
- P2P with the SI823x, UCC2x520 Families

MP27622/31/33

4-Channel to 6-Channel Digital Isolator

- Last 2 Digits Denote Number of I/O Channels
- Input Range: 2.5V to 5.5V
- Up to 150Mbps Data Rate
- CMTI > 100V/ns
- 13ns Propagation Delay
- Available in an SOICW-16 Package
- P2P with the ISO7741, Si8641, and MAX14931

MPQ27811/21/31

2-Channel to 4-Channel Digital Isolator with Power

- Input Range: 4.5V to 5.5V
- Integrated 1W Isolated Power
- Up to 50Mbps Data Rate
- 3kV$_{RMS}$ Isolation, CMTI > 100V/ns
- Available in an SOICW-16 Package
- P2P with the ISOW784x, ISOW7821, and MAX14931

MID1W0505A/MID06W0505A

Isolated Power Module

- Input Range: 4.5V to 5.5V
- 5V Output Voltage
- 0.6W/1W Output Options
- 0.4% Load/1.5% Line Regulation
- 3kV$_{RMS}$ Isolation
- Available in an SOICW-16 Package

Learn more at:
monolithicpower.com/isolation

ABOUT MONOLITHIC POWER SYSTEMS

Who we are

We are creative thinkers. We break boundaries. We take technology to new levels. As a leading international semiconductor company, Monolithic Power Systems (MPS) creates cutting-edge solutions to improve the quality of life with green, easy-to-use products.

What we do

We make power design fun! With our innovative proprietary technology processes, we thrive on re-imagining and redefining the possibilities of high-performance power solutions in industrial applications, telecom infrastructures, cloud computing, automotive, and consumer applications.

Where we come from

It started with a vision. Michael Hsing, pioneering engineer and CEO, founded Monolithic Power Systems, Inc. in 1997 with the belief that an entire power system could be integrated onto a single chip. Under his leadership, MPS has succeeded not only in developing a monolithic power module that truly integrates an entire power system in a single package, but also it continues to defy industry expectations with its patented groundbreaking technologies.

Our values

We cultivate creativity.
As a company, we believe in creating an environment that encourages and challenges our employees to collaborate and think outside the box to excel beyond their preconceived capabilities.

We do not accept the status quo.
We do not believe in limitations. It is not about what is, but what can be. Possibilities are endless at MPS.

We are passionate about sustainability.
It's about the future. From materials to finances, we are committed to conservation. We will not tolerate waste in an effort to improve and preserve the quality of life.

We are committed to providing innovative products to our customers.
Let us do the heavy lifting. We relentlessly strive to make system design versatile and effortless to meet our customers' specific needs. We'll do the work, so our customers can have the fun!

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Want to order?

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