

# GreenBridge™ Quad MOSFET Solutions

## Higher Efficiency, Better Thermal Performance

GreenBridge™ active bridge quad MOSFETs lower conduction losses and improve power conversion efficiency in a smaller form factor for high-power PoE applications. The second-generation GreenBridge FDMQ8205 family is comprised of two N-channel and two P-channel 80V-rated MOSFETs in a single, small MLP 4.5 x 5 package.

With improved conduction loss and superior efficiency compared to a conventional Schottky bridge, all GreenBridge solutions provide up to 10 times better power dissipation. A novel self-driving technique eliminates the need for external drive components which reduces solution size, cost and complexity in active bridge applications.

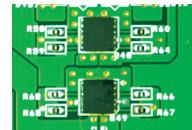
## Benefits

- Higher efficiency and lower conduction losses
- Improved thermal performance
- Reduced board space and lower system costs
- PoE standards compliance

## Applications

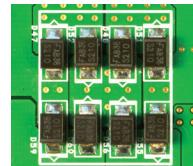
- Security cameras
- IP phones
- Wireless access points
- LED lighting

**GreenBridge II**



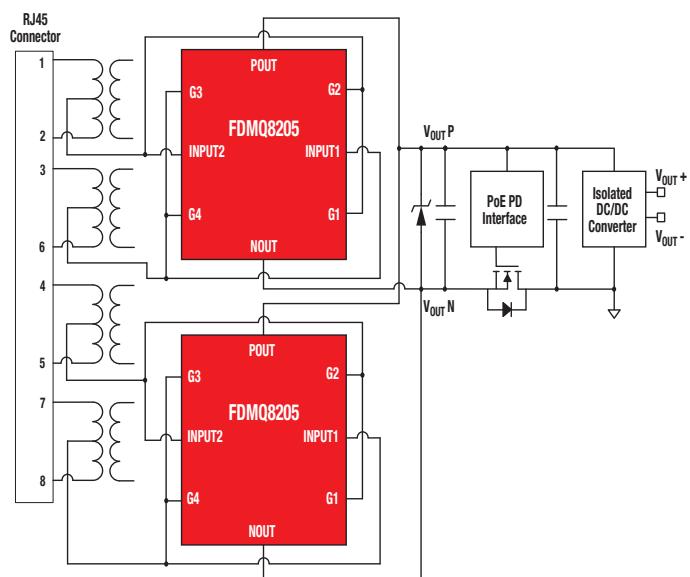
Total Solution Size  
4.5 x 10 mm

**Diode Bridge**

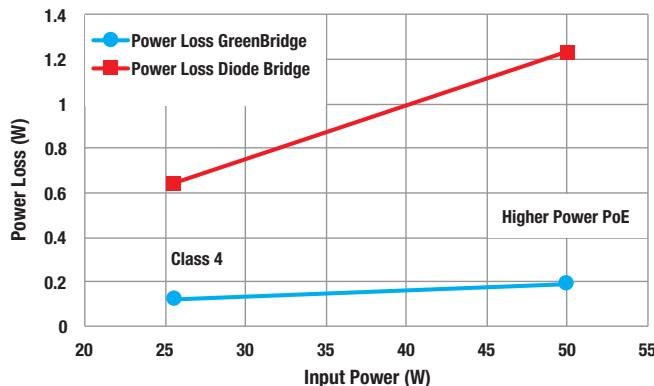


Total Solution Size  
12 x 16 mm

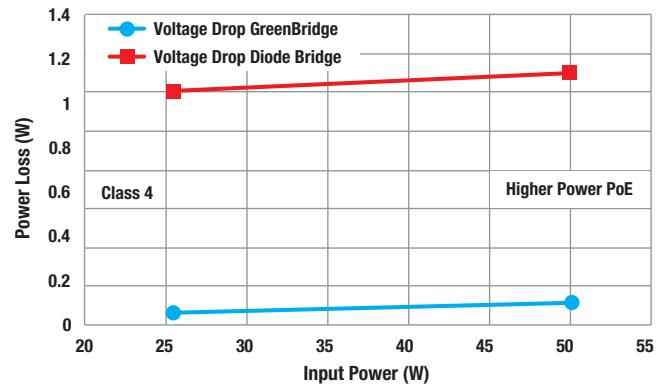
**Typical Application Diagram**



**Power Loss Comparison**



**Voltage Drop Comparison**

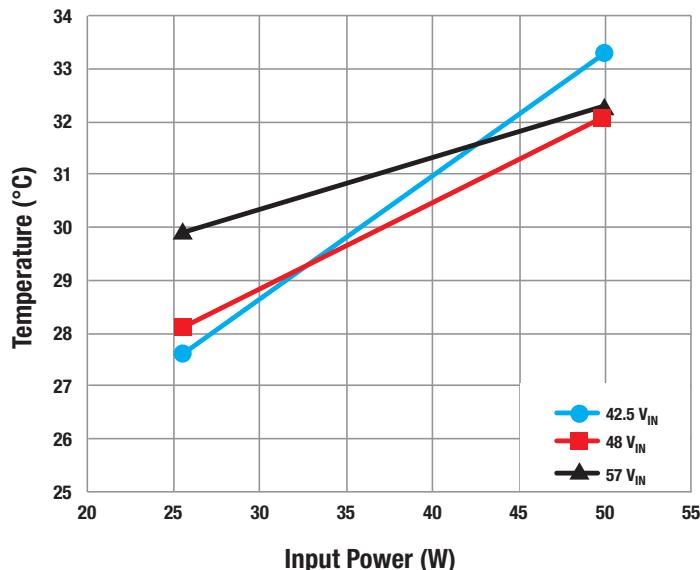


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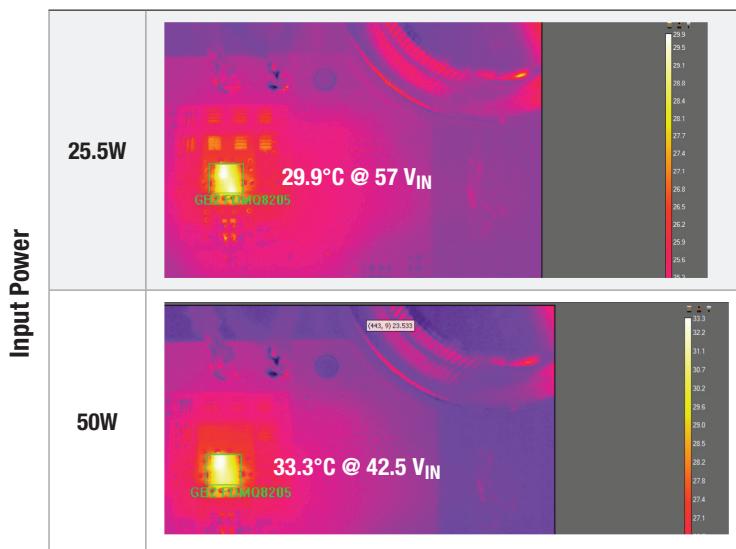
## GreenBridge Series Devices

Product Number	Description	Drive Circuitry	Total Conduction Resistance @ 25°C (mΩ)	Package
<b>FDMQ8205</b>	Second-generation GreenBridge high-efficiency bridge rectifier	Internal	N&P = 169	MLP-12, 4.5 x 5 mm
<b>FDMQ8203</b>	GreenBridge high-efficiency bridge rectifier	External	N&P = 300	MLP-12, 4.5 x 5 mm
<b>FDMQ8403</b>	GreenBridge high-efficiency bridge rectifier	External	N&N = 220	MLP-12, 4.5 x 5 mm

**FDMQ8205 Thermal @ 25°C Room Temperature**



**FDMQ8205 Top Case Temperature**



For more detailed information including evaluation boards and samples, please visit [fairchildsemi.com/greenbridge](http://fairchildsemi.com/greenbridge).

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