### eGaN® FETs and ICs for DC-DC Conversion

<table>
<thead>
<tr>
<th>DC-DC Power Conversion</th>
<th>eGaN Technology Solutions</th>
<th>Benefits</th>
</tr>
</thead>
</table>
| 48 V – 12 V Regulated Brick Converters | **EPC9130**: 48 V – 12 V, 5-Phase Regulated IBC Using EPC2045 | GaN is...  
- More efficient  
- Smaller  
- Lower cost |
| **EPC9041**: 80 V Development Board for eGaN Monolithic Half Bridge |  
- Efficiency > 96%  
- Density > 1000 W/in³  
- Cost < $0.05 per Watt (>500 ku) |
| Point of Load Converters | **EPC2045**  
**EPC9205**  
**EPC2105**  
**EPC9130**: 48 V – 12 V, 5-Phase Regulated IBC Using EPC2045  
**EPC041**: 80 V Development Board for eGaN Monolithic Half Bridge | eGaN FETs and ICs high frequency switching and the FET’s extremely small chip-scale packaging enables high power density with outstanding thermal efficiency. |
| Rethinking the Data Center Power Architecture | **TI Reference Board Design (PMP4435)**: 48 V, 300 W 1/8th Brick Digital Module with eGaN FET  
**TI LMG5200 Module**  
**EPC2023** | High frequency switching and extremely small chip-scale packaging of eGaN FETs and ICs enable high power density with outstanding thermal efficiency. These attributes support the power architecture mandated by the Open Compute Project (OCP). |

The smallest, most cost effective and highest efficiency non-isolated 48 V – 12 V converter, suitable for high-performance computing and telecommunication applications, can be achieved by employing eGaN® FETs such as the EPC2045.

Single-stage conversion provides higher efficiency, consumes less board space and lowers cost. eGaN FETs and ICs are critical components in achieving single-stage conversion.

Power conversion is at the core of reducing energy consumption of data centers. Highly efficient eGaN FETs and ICs enable the 48 V rack design adopted by Facebook and Google’s Open Compute Project (OCP), cutting cloud data center energy bills.
## DC-DC Conversion

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>VDS (max)</th>
<th>ID(max RMS)</th>
<th>Featured Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPC9041</td>
<td>Power Stage Evaluation of Monolithic GaN Half Bridge</td>
<td>80</td>
<td>20</td>
<td>EPC2105</td>
</tr>
<tr>
<td>EPC9205</td>
<td>100 V, 10 A GaN Power Module for 48 V – 12 V Intermediate Bus Conversion</td>
<td>80</td>
<td>10</td>
<td>EPC2045</td>
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</table>

### Recommended Devices and Development Boards for DC-DC Conversion

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Configuration</th>
<th>VIN (V)</th>
<th>VOUT (V)</th>
<th>IOUT (A)</th>
<th>Featured Product</th>
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<tbody>
<tr>
<td>EPC9130</td>
<td>48 V – 12 V, Regulated Intermediate Bus Converter</td>
<td>38 - 60</td>
<td>12</td>
<td>50</td>
<td>EPC2045</td>
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**Table data subject to change. Please refer to the Product section on www.epc-co.com.**

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**Design Support Materials @ www.epc-co.com**

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Application Brief: eGaN FETs and ICs for 48 V Buck Converters

**Video:** 48 V – 12 V DC-DC with GaN, More Efficient, Smaller and Lower Cost


DC-DC Converter Handbook

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**For More Information**

Please contact info@epc-co.com or your local sales representative

Visit our website: www.epc-co.com

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