Compact, high-performance power modules for simple, efficient and rugged power inverter designs up to 30 kW

Our ACEPACK power modules leverage the innovative properties of silicon carbide (SiC) and a high-thermal performance substrate resulting in a good low on-resistance per area and switching performance that is virtually independent of temperature.

With an embedded NTC thermistor, these highly reliable power modules offer the best compromise between conduction and switching loss, maximizing the efficiency of any converter system up to 30 kHz.

ST offers new SiC-based power modules in several topologies such as fourpack, half-bridge, sixpack and converter inverter brake (CIB) topologies ensuring a compact design and cost-effective system.

**KEY FEATURES & BENEFITS**
- High-power density
- High reliability and robustness
- Compact design and cost-effective system approach
- High flexibility enabling developers to implement several topologies
- Simplified, reliable, and durable mounting
- Press FIT and solderable pins

**KEY APPLICATIONS**
- Industrial motor drives
- Solar inverters
- Uninterruptible power supplies (UPS)
- Charging stations

www.st.com
The performance of ST power modules vs Competitor’s is better in terms of efficiency vs high-current load.

### Efficiency vs Load Current

![Efficiency vs Load Current Graph](image)

**Switching-on behavior**

A2F12M12W2-F2 shows very low losses on turn on

### Products offer

<table>
<thead>
<tr>
<th>Part number</th>
<th>Internal configuration</th>
<th>Package</th>
<th>Voltage (V)</th>
<th>Drain current (A)</th>
<th>$R_{\text{DS(on)}}$ (mΩ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2F12M12W2-F1</td>
<td>Fourpack topology</td>
<td>ACEPACK 2</td>
<td>1200</td>
<td>75</td>
<td>13</td>
</tr>
<tr>
<td>A2U12M12W2-F2</td>
<td>3-level topology</td>
<td>ACEPACK 2</td>
<td>1200</td>
<td>75</td>
<td>13</td>
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</tbody>
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