Providing a true alternative to D²PAK, Nexperia's LFPAK88 delivers industry leading power density in a truly innovative 8mm x 8mm footprint. Delivering 2x higher continuous current rating, ultimate thermal performance and reliability, and up to 60% space efficiency, making LFPAK88 the MOSFET of choice for the most challenging new designs. Available in both automotive AEC-Q101 and industrial grades.

### LFPAK88
Driving power-density to the next level

**Space saving footprint**

<table>
<thead>
<tr>
<th>D²PAK</th>
<th>LFPAK88</th>
</tr>
</thead>
<tbody>
<tr>
<td>163 mm² footprint area</td>
<td>64 mm² footprint area</td>
</tr>
</tbody>
</table>

- 60% footprint reduction
- 65% height reduction
- 86% overall space reduction

**Ultra Low On-Resistance**

- Latest low voltage superjunction technology
- 0.7 mΩ @ 40 V
- Copper clip technology gives low electrical and thermal resistance
- Low $R_{DS(on)}$ without compromising SOA capability

**Reliable & Manufacturable**

- Advanced package design exceeds 2x AEC-Q101
- Recommended for automotive applications such as power steering, ABS braking, DC/DC conversion and LED lighting

**High Current Rating**

- Up to 425 A continuous current rating
- High transient robustness
- 100% avalanche tested (310 Amps)
- Best-in-class linear mode (SOA) performance for in-rush & surge protection
### AEC-Q101 LFPAK88 Portfolio

<table>
<thead>
<tr>
<th>Type number</th>
<th>$V_{DS\ max}$ (V)</th>
<th>$R_{DS(on)\ max}$ @ 10 V (mΩ)</th>
<th>$I_D\ max$ @ 25°C (A)</th>
<th>$R_{th(j-mb)}\ typ$ (K/W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUK7S0R7-40H</td>
<td>40</td>
<td>0.7</td>
<td>425</td>
<td>0.25</td>
</tr>
<tr>
<td>BUK7S0R9-40H</td>
<td>40</td>
<td>0.9</td>
<td>375</td>
<td>0.28</td>
</tr>
<tr>
<td>BUK7S1R0-40H</td>
<td>40</td>
<td>1.0</td>
<td>325</td>
<td>0.39</td>
</tr>
</tbody>
</table>

### Industrial LFPAK88 Portfolio

<table>
<thead>
<tr>
<th>Type number</th>
<th>$V_{DS\ max}$ (V)</th>
<th>$R_{DS(on)\ max}$ @ 10 V (mΩ)</th>
<th>$I_D\ max$ @ 25°C (A)</th>
<th>$R_{th(j-mb)}\ typ$ (K/W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSMNR70-40SSH</td>
<td>40</td>
<td>0.7</td>
<td>425</td>
<td>0.25</td>
</tr>
<tr>
<td>PSMNR90-40SSH</td>
<td>40</td>
<td>0.9</td>
<td>375</td>
<td>0.28</td>
</tr>
<tr>
<td>PSMN1R0-40SSH</td>
<td>40</td>
<td>1.0</td>
<td>325</td>
<td>0.32</td>
</tr>
</tbody>
</table>

- **Compact footprint**
  - D²PAK replacement
  - Low profile

- **Manufacturability & robustness**
  - Flexible leads for temp cycling reliability
  - Compatible with SMD soldering and AOI

- **High performance silicon**
  - 0.7 mΩ Trench 9 40 V
  - Improved SOA

- **Copper clip**
  - Tested high $I_D\ max$ rating (425 A)
  - Low inductance (1 nH)
  - Current spreading
  - Low $R_{DS(on)}$

- **Low thermal resistance**
  - Low $R_{th(j-mb)}\ typ$ (0.25 K/W)

- **Qualification**
  - AEC-Q101
  - 175 °C rating
  - MSL1
  - Halogen free

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