Best-in-class VHV STPOWER MOSFET MDmesh* K5 series enables excellent efficiency performance in flyback topology used in auxiliary power supply systems

STPOWER MOSFET MDmesh K5 series, currently the only very high voltage super-junction technology in the market, ensures the best efficiency and safety margin in high input voltage auxiliary power supply systems. These very high voltage power MOSFETs enable designers to meet the increasingly strict limits on maximum power consumption and minimum energy efficiency specified by eco-design standards such as Energy Star and the EU’s energy-related products (ErP) directive.

**KEY FEATURES**
- 1200-1700 V BV_{DSS} rated
- Extremely good R_{on,high} at very high BV_{DSS}
- High switching speed
- Low gate charge for operation at high frequency

**KEY APPLICATIONS**
- Server
- Solar
- UPS
- Charging station

**KEY BENEFITS**
- High efficiency with lower design complexity
- Good switching behavior for hard switching
- Especially targeted for flyback topologies

Note: *is a registered and/or unregistered trademark of STMicroelectronics International NV or its affiliates in the EU and/or elsewhere.
MDmesh K5 series

1200—1700 V BV_{oss} rated

An efficiency comparison between the 1700V Super Junction MDmesh K5 and the previous technology is shown in this figure. At low load, the performances are aligned. Besides at high load level, STW12N170K5 keeps excellent performance.

1200-1700V MDmesh K5

<table>
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<tr>
<th>BV_{oss}[V]</th>
<th>Max R_{DS(on)} [Ω]</th>
<th>Max I_{p} [A]</th>
<th>Q_{g}[nC]</th>
<th>Sales Type</th>
<th>Packages</th>
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<td>1200</td>
<td>2</td>
<td>6</td>
<td>13.7</td>
<td>STx8N120K5</td>
<td>TO-3PF/ TO-220/ TO-247</td>
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<td>0.69</td>
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<td>44.2</td>
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<td>TO-3PF/ T0220-FP/ H2PAK-2/ TO-220/ TO-247 long leads</td>
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<td>1500</td>
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Note: To explore the complete MDmesh K5 product portfolio visit www.st.com or download our ST-MOSFET-Finder mobile app directly from Google Play, iTunes, Wandoujia stores.