AEM10300
Quick Start Guide EVK

FEATURES

Connectors
• 1 screw connector for the source
• 1 screw connector + 1 JST connector for the Storage Element
• 1 screw connector for the application supply
• 1 screw connector for RZMPP

Configuration
• 3 jumpers R_MPP[x] to define the MPP ratio linked to the harvester technology
• 2 jumper T_MPP[x] to define the MPP timing
• 4 jumpers STO_CFG[x] to define the storage element protection levels
• 4 resistors footprint related to the custom mode (STO_CFG[3:0]=LHHH)
• 1 jumper to set the dual cell supercapacitor BAL feature
• 3 jumpers to enable the different modes
• 2 jumpers to enable the application output supply

Size
• 79mm x 49mm
• 4 x M2.5 Mounting holes

SUPPORT PCB

BOM around the AEM10300

<table>
<thead>
<tr>
<th>Designator</th>
<th>Description</th>
<th>Quantity</th>
<th>Manufacturer</th>
<th>Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEM10300</td>
<td>Symbol UIN 40 pin</td>
<td>1</td>
<td>e-peas</td>
<td>order at <a href="mailto:sales@e-peas.com">sales@e-peas.com</a></td>
</tr>
<tr>
<td>LDCDC</td>
<td>Power inductor 10µH - 1.7A</td>
<td>1</td>
<td>Murata</td>
<td>D512S02100-100M</td>
</tr>
<tr>
<td>C47</td>
<td>Ceramic Cap 30 µF, 6,3V, 20%, X5R 0402</td>
<td>1</td>
<td>Murata</td>
<td>GMMK55620135ME1S</td>
</tr>
<tr>
<td>C34</td>
<td>Ceramic Cap 35 µF, 6,3V, 20%, X5R 0402</td>
<td>1</td>
<td>Murata</td>
<td>GMMK55620135ME0S</td>
</tr>
<tr>
<td>CSR</td>
<td>Ceramic Cap 100 µF, 6,3V, 20%, X5R 1206</td>
<td>1</td>
<td>TDK</td>
<td>C325G35M1A10F1M100AC</td>
</tr>
</tbody>
</table>

Footprint & Symbol: Informations available on the datasheet
STEP 1: AEM10300 Configuration

- **MPP timing**: \( T_{\text{MPP}[0]} - T_{\text{MPP}[1]} \)

- **MPP ratio**: \( R_{\text{MPP}[0]} - R_{\text{MPP}[1]} - R_{\text{MPP}[2]} \)

- **Storage Element voltages protection**: \( \text{STO_CFG}[3] - \text{STO_CFG}[2] - \text{STO_CFG}[1] - \text{STO_CFG}[0] \)

- **BAL option**: Select “ToCn” for dual-cells supercapacitor and “GND” for any other storage element

- **Configuration mode**: \( \text{EN}_{\text{HP}} - \text{EN}_{\text{STO FT}} - \text{EN}_{\text{STO CH}} \)
  - Connect to H for enabling the feature, connect to L for disabling the feature

- **External output supply**: Connect both jumper at the \( \text{APP}_{\text{EN AEM}} \) and \( \text{STO}_{\text{APP}} \) headers to enable the APP output supply.
STEP 2: Connect the Storage Element

STEP 3: Connect the Photovoltaic Cell

- Internal Boost efficiency Vs. input voltage in Low Power mode:

- Internal Boost efficiency Vs. input voltage in High Power mode:

STEP 4: Check the Status

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Logic Level</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST_STD</td>
<td>Logic output levels on the status STD pins</td>
<td>GND</td>
<td>$V_{STD}$</td>
</tr>
</tbody>
</table>