Training kit for operational amplifiers and comparators

Features

- Schematics and applications based on operational amplifiers and comparators:
  - Follower, inverter, noninverter
  - Filters
  - Low-side current sensing
  - Photodiode transimpedance amplification
- Low cost to high-performance low-voltage operational amplifiers:
  - Rail-to-rail
  - High bandwidth
  - Low offset
  - High output current
  - Low-power

Description

The STEVAL-CCA058V1 training kit is intended for hands-on training on operational amplifiers and comparator-based analog circuits.

You can use the kit in an academic context for students' training, as well as for professionals' training: junior analog engineers, distributors, and customers. It is also useful for a fast evaluation and prototyping of low frequency op amp-based applications.

The STEVAL-CCA058V1 consists of a configurable board, which features the most widely used op-amp-based schematics and applications, and ST op-amps mounted on DIP adaptors.

It should be used with a set of through passive components (resistors and capacitors), and a set of lab instruments (power supply, function generator, multimeter, and oscilloscope).

The kit allows the trainee to experiment the most common op-amp-based schematics. It also allows learning how to choose the most suited op-amp for a custom application. You can find the detailed documentation on guided experiments at www.st.com.
Figure 1. STEVAL-CCA058A1 main board circuit schematic
Figure 2. STEVAL-CCA058B1 op-amp adapter board circuit schematic

- Rail-to-rail high output single current AOP
- Micropower dual CMOS voltage comparators
- Rail-to-rail 0-9 V nanopower comparator
- Rail-to-rail input/output 20 MHz GBP AOP
- Rail-to-rail input/output 20 MHz GSP AOP
- High bandwidth (22 MHz) low offset (200 μV) R/R 5V AOP
- High bandwidth (50 MHz) low offset (200 μV) R/R 5V AOP
- Very high accuracy (5μV) 0 drift power 5V AOP
- High/low-side, bidirectional, 0 drift current sense AOP
- Nanopower, rail-to-rail IN/OUT, 5V CMOS AOP
- Rail-to-rail 0-9 V nanopower comparator
- Micropower dual CMOS voltage comparators
- Rail-to-rail input/output 20 MHz GBP AOP
- Rail-to-rail input/output 20 MHz GSP AOP
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2 Kit versions

<table>
<thead>
<tr>
<th>Finished good</th>
<th>Schematic diagrams</th>
<th>Bill of materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEVAL$CCA058V1A</td>
<td>STEVAL$CCA058V1A schematic diagrams</td>
<td>STEVAL$CCA058V1A bill of materials</td>
</tr>
<tr>
<td>STEVAL$CCA058V1B</td>
<td>STEVAL$CCA058V1B schematic diagrams</td>
<td>STEVAL$CCA058V1B bill of materials</td>
</tr>
</tbody>
</table>

1. This code identifies the STEVAL-CCA058V1 evaluation kit first version. The kit consist of the STEVAL-CCA058A1 main board, whose version is identified by the code STEVAL$CCA058A1A on the silkscreen, and the STEVAL-CCA058B1 op-amp adapter board, whose version is identified by the code STEVAL$CCA058B1A on the silkscreen.

2. This code identifies the STEVAL-CCA058V1 evaluation kit second version. The kit consist of the STEVAL-CCA058A1 main board, whose version is identified by the code STEVAL$CCA058A1B on the silkscreen, and the STEVAL-CCA058B1 op-amp adapter board, whose version is identified by the code STEVAL$CCA058B1B on the silkscreen.

Table 1. STEVAL-CCA058V1 kit versions
## Revision history

Table 2. Document revision history

<table>
<thead>
<tr>
<th>Date</th>
<th>Revision</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>01-Mar-2022</td>
<td>1</td>
<td>Initial release.</td>
</tr>
<tr>
<td>24-Aug-2023</td>
<td>2</td>
<td>Updated cover image and Section 2 Kit versions.</td>
</tr>
</tbody>
</table>