Description
The ISL8022EVAL2Z kit is intended for use by individuals with requirements for Point-of-Load applications sourcing from 2.8V to 5.5V. The ISL8022EVAL2Z evaluation board is used to demonstrate the performance of the ISL8022 low quiescent current mode converter.

The ISL8022 is offered in a 4mmx3mm 12 Ld DFN package with 1mm maximum height. The complete converter occupies less than 0.175in² area.

Key Features
- Dual 2A/1.7A High Efficiency Synchronous Buck Regulator with up to 97% Efficiency
- 180° Out-of-Phase
- Power-Goods (PG) Output with 1ms Delay
- 2.8V to 5.5V Supply Voltage
- 3% Output Accuracy Over-temperature/Load/Line
- Start-up with Pre-biased Output
- 40µA Quiescent Supply Current in PFM Mode
- Selectable Forced PWM Mode and PFM Mode
- External Synchronization up to 8MHz
- Typical 6.5µA Logic Controlled Shutdown Current
- 100% Maximum Duty Cycle for Lowest Dropout
- Internal Current Mode Compensation
- Peak Current Limiting, Hiccup Mode Short Circuit Protection and Over-temperature Protection
- Negative Current Detection and Protection

Recommended Equipment
The following materials are recommended to perform testing:
- 0V to 10V Power Supply with at least 3A source current capability or 5V battery
- Electronic Loads capable of sinking current up to 3A
- Digital Multimeters (DMMs)
- 100MHz quad-trace oscilloscope
- Signal generator

Quick Setup Guide
1. Ensure that the circuit is correctly connected to the supply and loads prior to applying any power.
2. Connect the bias supply to VIN, the plus terminal to VIN and the negative return to P1.
3. Turn on the power supply.
4. Verify the output voltage is 2.5V for VOUT1 and 1.8V for VOUT2.

<table>
<thead>
<tr>
<th>TABLE 1. BILL OF MATERIALS</th>
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<tbody>
<tr>
<td>REFERENCE DESIGNATOR</td>
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<tr>
<td>PWB-PCB, ISL8022EVAL2Z, REVA, ROHS</td>
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<tr>
<td>C2, C4 CAP, SMD, 0805, 22µF, 6.3V, 20%, X5R, ROHS</td>
</tr>
<tr>
<td>C1, C8 CAPACITOR, SMD, 0805, 10µF, 6.3V, 10%, X5R</td>
</tr>
<tr>
<td>C6, C7 CAP, SMD, 0805, DNP-PLACE HOLDER, ROHS</td>
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<tr>
<td>C3, C5 CAP-RF HQ, SMD, 0402, 10pF, 50V, 5%, COG, ROHS</td>
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<tr>
<td>L1, L2 COIL-PWR INDUCTOR, WW, SMD, 4mm, 1.2µH, 30%, 2.7A, ROHS</td>
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<tr>
<td>U1 IC-2A/1.7A BUCK REGULATOR, 12P, DFN, 4X3, ROHS</td>
</tr>
<tr>
<td>R1, R3, R6 RES, SMD, 0402, 100k, 1/16W, 1%, TF, ROHS</td>
</tr>
<tr>
<td>R5 RES, SMD, 0402, 200k, 1/16W, 1%, TF, ROHS</td>
</tr>
<tr>
<td>R9 RES, SMD, 0402, 316k, 1/16W, 1%, TF, ROHS</td>
</tr>
<tr>
<td>R2 RES, SMD, 0402, 316k, 1/16W, 1%, TF, ROHS</td>
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<tr>
<td>VENKEL</td>
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FIGURE 1. ISL8022EVAL2Z SCHEMATIC

FIGURE 2. TOP COMPONENTS

FIGURE 3. BOTTOM SILK SCREEN
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