

# ISL8033EVAL2Z Dual 3A Low Quiescent Current, High Efficiency, Synchronous Buck Regulator

## Description

The ISL8033EVAL2Z kit is intended for use by individuals with requirements for Point-of-Load applications sourcing from 2.85V to 6V. The ISL8033EVAL2Z evaluation board is used to demonstrate the performance of the ISL8033 low quiescent current mode converter.

The ISL8033 is offered in a 4mmx4mm 24 Ld QFN package with 1mm maximum height. The complete converter occupies less than 0.229in<sup>2</sup>.

## Key Features

- Dual 3A High Efficiency Synchronous Buck Regulator with up to 95% Efficiency
- Power-Goods (PG) Output with 1.5ms Delay
- 2.85V to 6V Supply Voltage
- 2% Output Accuracy Over-temperature/Load/Line
- Start-up with Pre-biased Output
- External Synchronization up to 6MHz
- Typical 8µA 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
- Adjustable Peak Overload Current

## 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 1.8V for V<sub>OUT1</sub> and 1.8V for V<sub>OUT2</sub>.

## Bill of Materials

REFERENCE DESIGNATOR	DESCRIPTION	MFR	MFR PART
	PWB-PCB, ISL8033EVAL2Z, REVA, ROHS	LIANCHUANG	ISL8033EVAL2ZREVAPCB
C3, C4, C9, C11, CIN1, CIN2	CAP, SMD, 0805, 22µF, 6.3V, 20%, X5R, ROHS	TDK	C2012X5R0J226M
C5, C10	CAP, SMD, 0402, 47pF, 50V, 5%, NPO, ROHS	MURATA	GRM36COG470J050AQ
L1, L2	COIL-PWR INDUCTOR, SMD, 4mm 1.5µH, 20%, 4.1A, 14.4mΩ, ROHS	COILCRAFT	XFL4020-152MEC
U1	IC-DUAL 3A BUCK REGULATOR, 24P, QFN, 4X4, ROHS	INTERSIL	ISL8033IRZ
R2	RES, SMD, 0402, 0Ω, 1/16W, 5%, TF, ROHS	VENKEL	CR0402-16W-00T
RF11, RF21	RES, SMD, 0402, 100k, 1/16W, 1%, TF, ROHS	PANASONIC	ERJ2RKF1003
RF12, RF22	RES, SMD, 0402, 124k, 1/16W, 1%, TF, ROHS	PANASONIC	ERJ-2RKF1243X
R1	RES, SMD, 0402, DNP, TF, ROHS		

# Application Note 1611

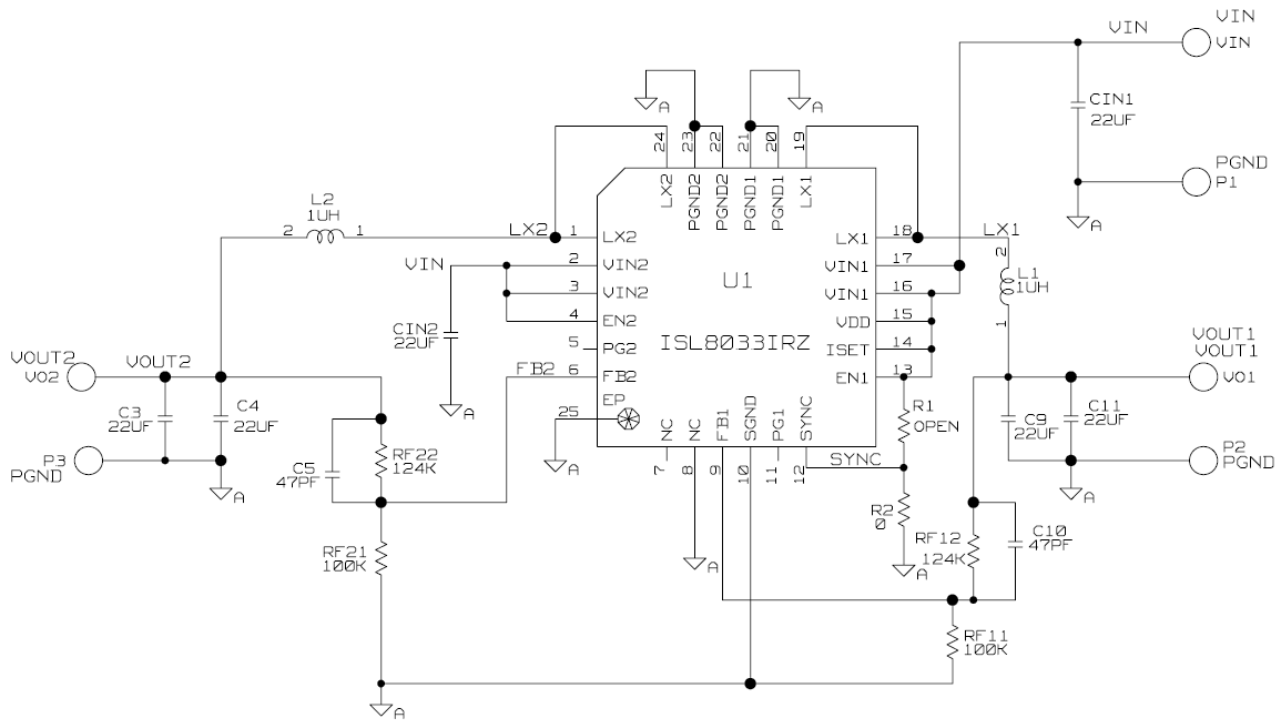


FIGURE 1. ISL8033EVAL2Z SCHEMATIC

ISL8033EVAL2Z REV. A

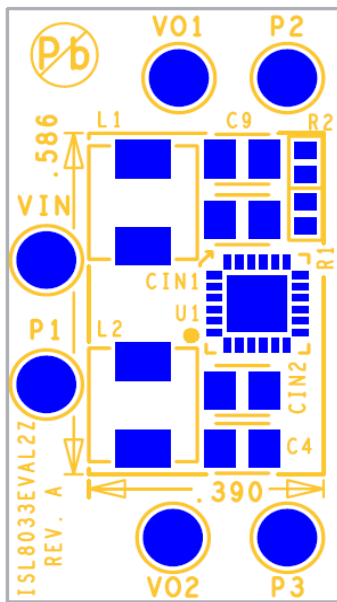


FIGURE 2. TOP COMPONENTS

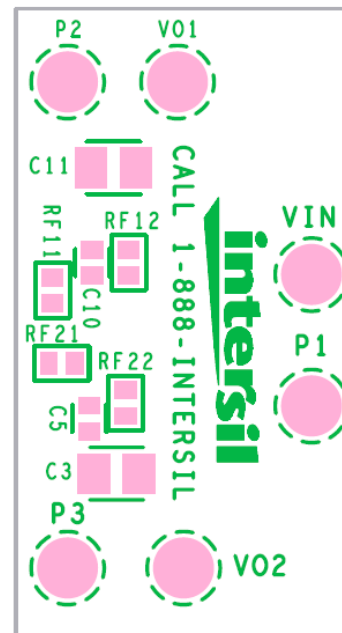


FIGURE 3. BOTTOM SILK SCREEN

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