

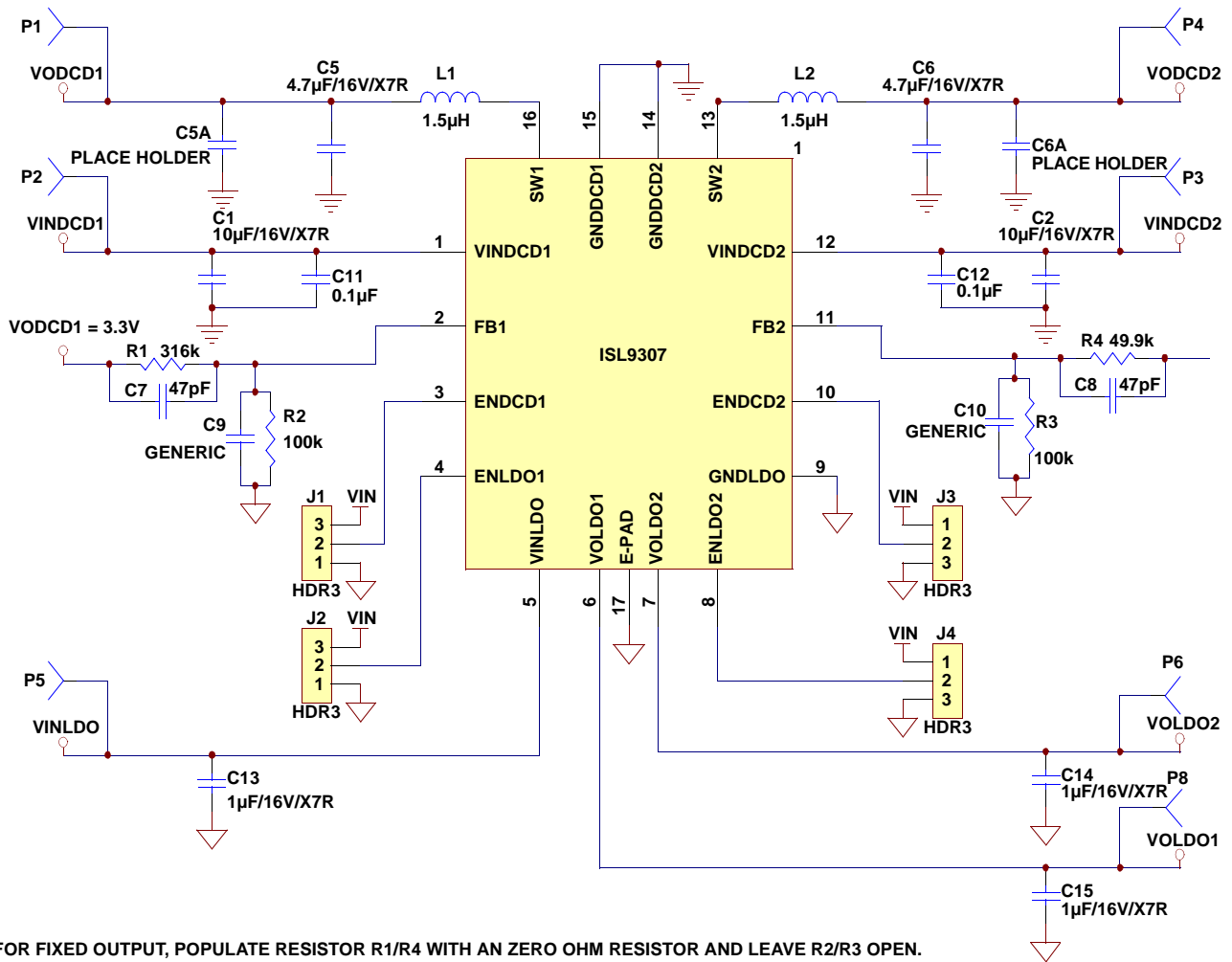
# ISL9307 Evaluation Board

## Evaluation Board Features

- Input voltage rating from 2.5V to 5.5V
- Two 1.5A buck converters
- Two 300mA LDOs
- Enable control for power sequencing
- 3MHz switching frequency
- Connector, test point and jumper

## Required Equipment

- Power supply capable of delivering up to 5.5V and 3A
- Electronic load
- Voltmeter, Oscilloscope



**FIGURE 1. ISL9307 EVALUATION BOARD SCHEMATIC**

## Quick Setup Guide

1. Install jumpers on J5, J6, JP7.
2. Install jumpers on J1, J2, J3, J4 to tied enable pins to VIN on each channel.
3. Connect power supply to VIN and GND, with voltage setting at 3.6V.
4. Connect electronic loads at VODCD1, VODCD2, with load setting up to 1.5A.
5. Connect electronic loads at VOLDO1, VOLDO2, with current setting up to 300mA.
6. Place scope probes at 4 outputs.
7. Turn on the power supply.
8. Monitor 4 channel power sequencing. The waveforms will look similar to Figure 2.
9. Turn on the electronic loads at all outputs.
10. Measure the output voltages with voltmeter. The voltages should regulate within the datasheet spec limit ([FN7931](#)).

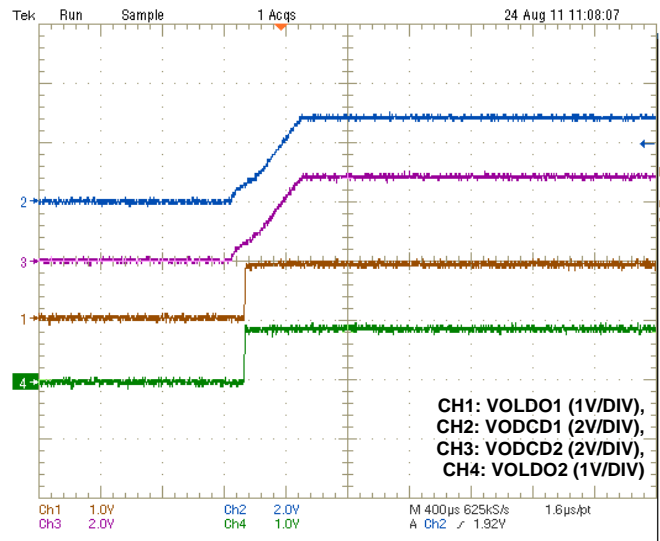


FIGURE 2. 4-CHANNEL POWER UP AFTER ENABLE

## Evaluation Board Layout

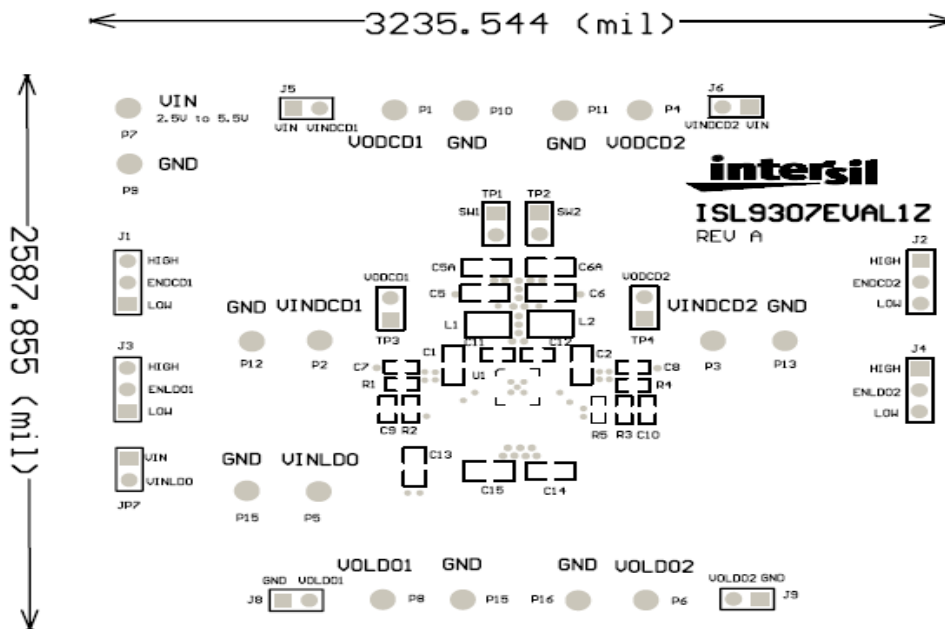


FIGURE 3. ISL9307 EVALUATION BOARD SILKSREEN TOP

Evaluation Board Layout (Continued)

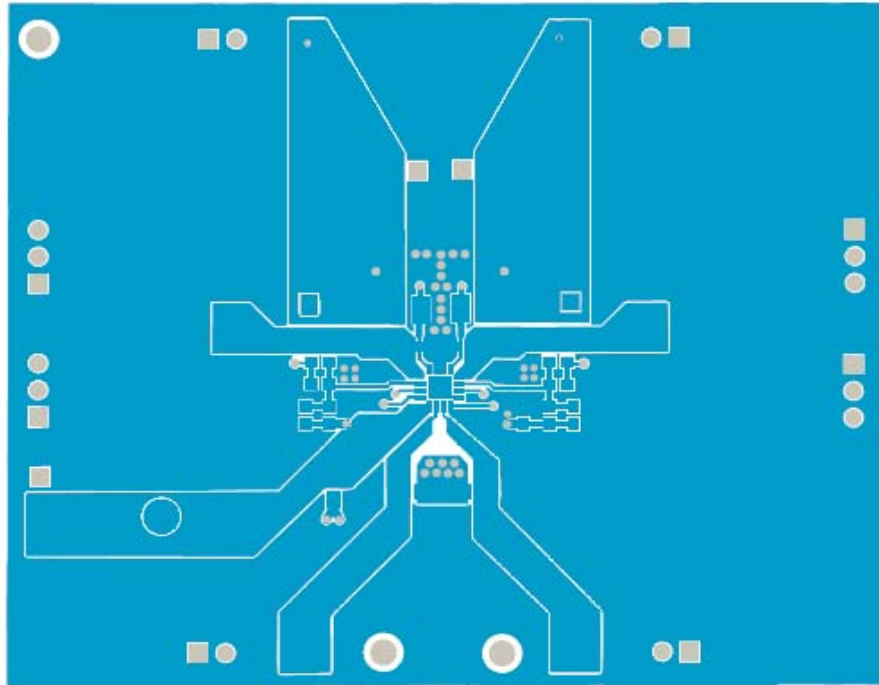


FIGURE 4. ISL9307 EVALUATION BOARD TOP COPPER

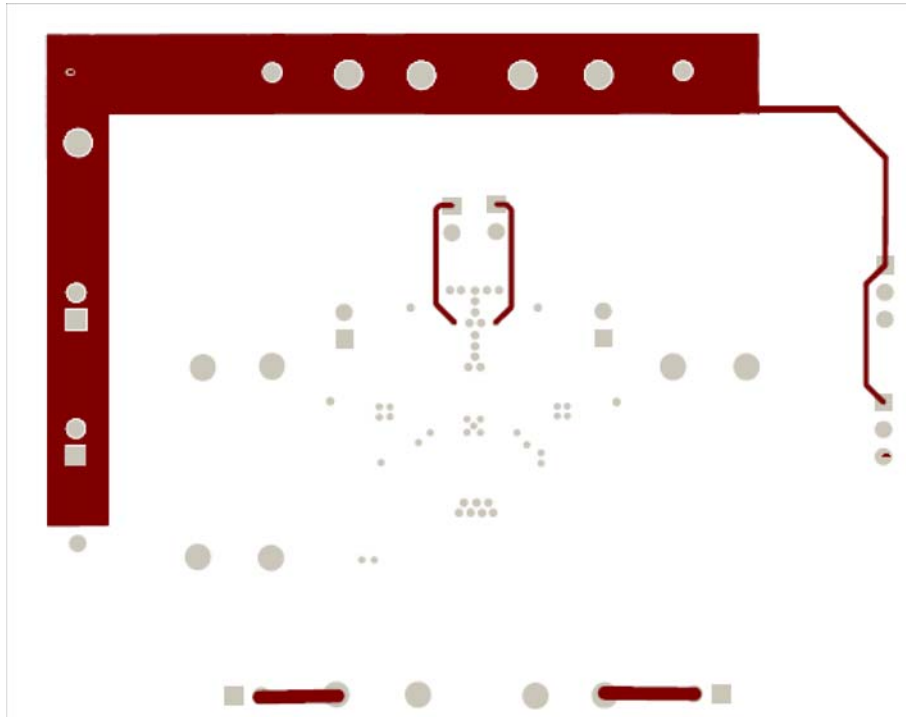


FIGURE 5. ISL9307 EVALUATION BOARD MIDLAYER 1 (VIN)

Evaluation Board Layout (Continued)

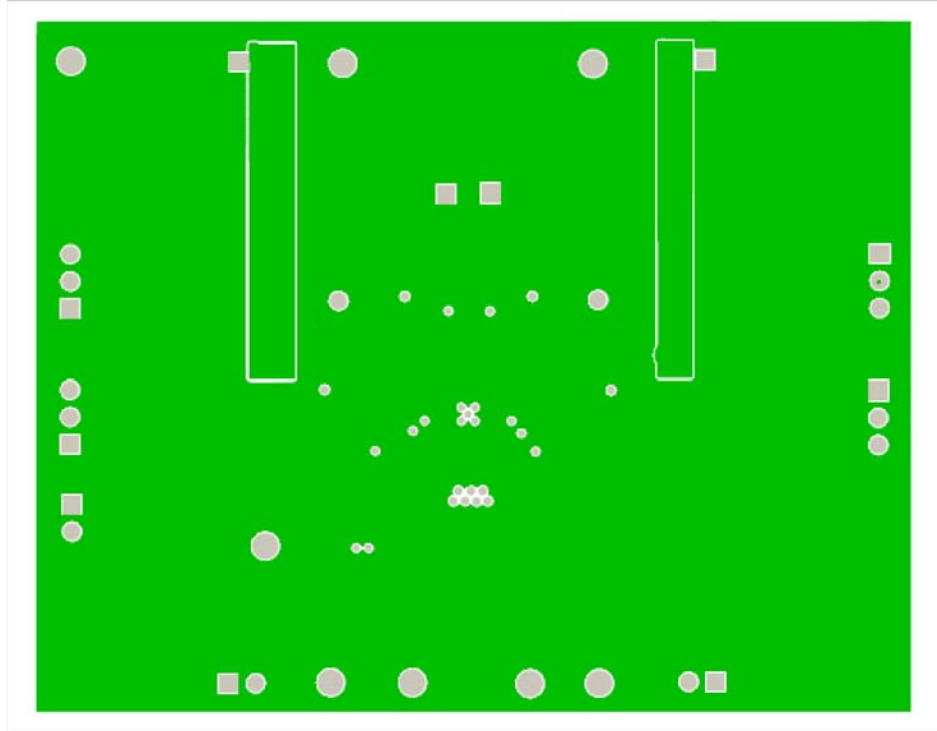


FIGURE 6. ISL9307 EVALUATION BOARD MIDLAYER 2 (PGND)

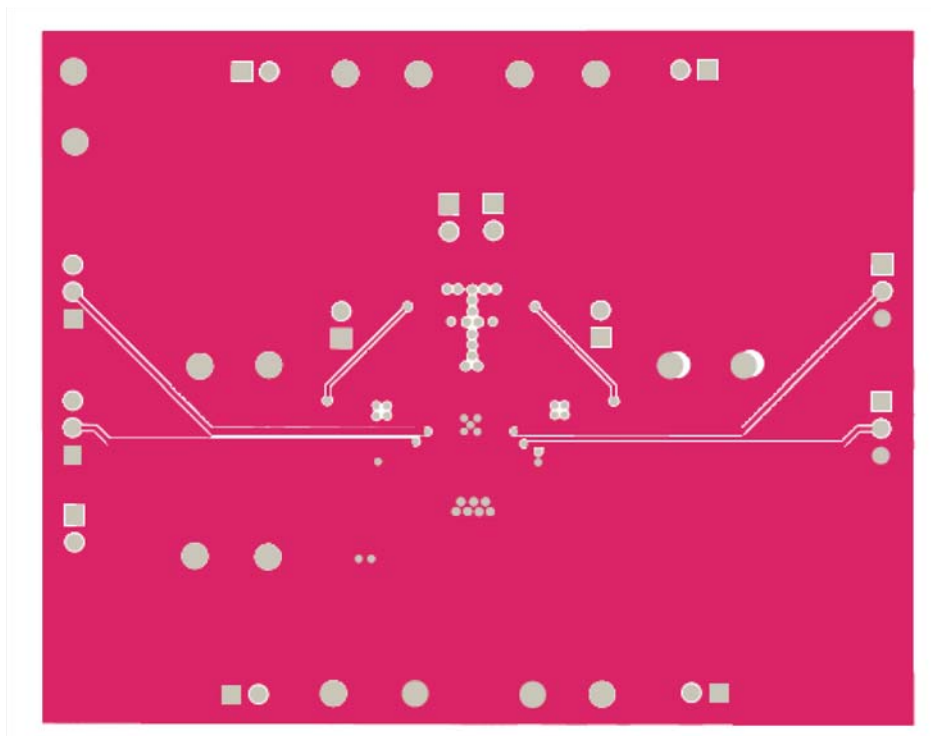


FIGURE 7. ISL9307 EVALUATION BOARD BOTTOM LAYER (AGND)

# Application Note 1736

**TABLE 1. ISL9307 EVALUATION BOARD BILL OF MATERIALS**

ITEM#	QTY	DESIGNATOR	PART TYPE	FOOTPRINT	DESCRIPTION	VENDORS
1	1	U1	ISL9307	L16.4x4 TQFN	Intersil ISL9307	
2	2	L1, L2	1.5μH	3x3x1.55	CDRH2D14NP-1R5NC	SUMIDA
3	4	C1, C2, C5, C6	10μF/10V/X7R	805	GRM21BR71A106KE51L	MURATA
4	3	C13, C14, C15	1μF/16V/X7R	805	C2012X7R1C105K	TDK
5	2	C7, C8	47PF/16V/X7R	603	C1608C0G1H470J	TDK
6	2	C5A, C6A	(Place holder)	805	Capacitor, 10V rating is OK	
7	2	C9, C10	(Place holder)	603	Capacitor, 10V rating is OK	
8	2	C11, C12	0.1μF/50V	603	GRM188R71H104KA93D	MURATA
9	1	R1	316kΩ, 1%, SMD	603	CR0603-16W-3163FT	VENKEL
10	1	R4	49.9kΩ, 1%, SMD	603	CR0603-16W-4992FT	VENKEL
11	2	R2, R3	100kΩ, 1%, SMD	603	CR0603-16W-1003T	VENKEL
12	1	R5	0	603	CR0603-16W-000T	VENKEL
13	5	J5 - J9	HDR2	Jumper-2 pin	538-22-28-4360	MOLEX
14	4	J1, J2, J3, J4	HDR3	Jumper-3 pin	538-22-28-4360	MOLEX
15	16	P1 - P16	GOLD PIN	POWER POST	3156-1-00-15-00-00-08-0	MILL-MAX
16	4	TP1 - TP4	HDR2	Jumper-2 pin	538-22-28-4360	MOLEX

**TABLE 2. DESCRIPTION OF CONNECTORS AND TEST POINTS**

TEST POINT(S)	DESCRIPTION
P1	VODCD1 (Output of DCD1 buck converter)
P2	VINDCD1 (Input of DCD1 buck converter)
P3	VINDCD2 (Input of DCD2 buck converter)
P4	VODCD2 (Output of DCC2 buck converter)
P5	VINLDO (Input of LDO1 and LDO2)
P6	VOLD02 (Output of LDO2)
P7	VIN (Power supply input for EVB)
P8	VOLD01 (Output of LDO1)
P9, P10, P11, P12, P13, P15, P16	GND (Ground)

**TABLE 3. DESCRIPTION OF JUMPERS**

JUMPER	DESCRIPTION
J1	Jumper installed to connect ENDCD1 to high to enable DCD1 and low to disable.
J2	Jumper installed to connect ENDCD1 to high to enable DCD2 and low to disable.
J3	Jumper installed to connect ENLDO1 to high to enable LDO1 and low to disable.
J4	Jumper installed to connect ENLDOs to high to enable LDO2 and low to disable.
J5	Jumper installed to tie VINDCD1 to VIN
J6	Jumper installed to tie VINDCD2 to VIN
JP7	Jumper installed to tie VINLDO to VIN
J8	Jumper installed to short VOLD01 to ground
J9	Jumper installed to short VOLD02 to ground

Intersil Corporation reserves the right to make changes in circuit design, software and/or specifications at any time without notice. Accordingly, the reader is cautioned to verify that the Application Note or Technical Brief is current before proceeding.

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