

LTC2634

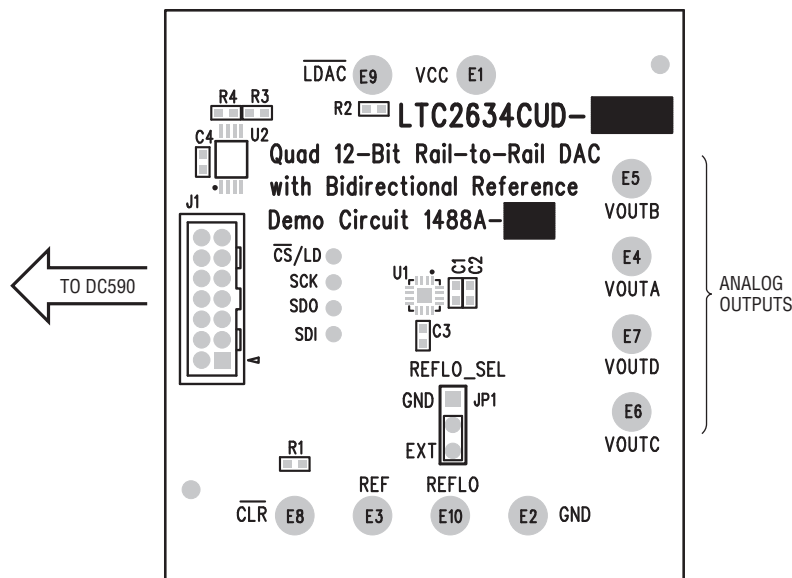
Quad 12-Bit SPI V_{OUT} DAC with Internal Reference

DESCRIPTION

Demonstration circuit 1488A features the LTC®2634 quad 12-bit DAC. This device has an integrated, high accuracy, low drift reference. It has a rail-to-rail output buffer and is guaranteed monotonic. This DAC communicates through the simple SPI/MICROWIRE compatible interface.

Design files for this circuit board are available at
<http://www.linear.com/demo>

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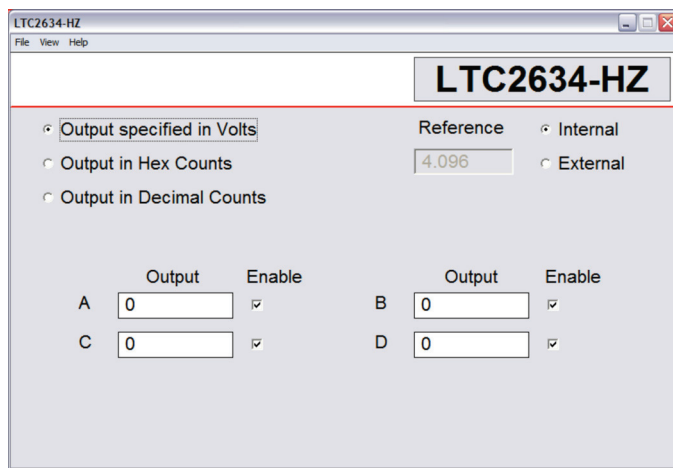
DEMOBOARD TYPE	LTC2634 VARIATION	POWER UP	FULL SCALE
DC1488A-A	LZ	Zero	2.5V
DC1488A-B	LMI	Mid-Scale	2.5V
DC1488A-C	HZ	Zero	4.096V
DC1488A-D	HMI	Mid-Scale	4.096V

DEMO MANUAL DC1488A

QUICK START PROCEDURE

Connect DC1488A to a DC590 USB serial controller using the supplied 14 conductor ribbon cable. Connect DC590 to a host PC with a standard USB A/B cable. Run the evaluation software supplied with DC590 or download it from www.linear.com. The correct control panel will be loaded automatically. To update DAC values, enter new value in corresponding output text box and press enter. Be sure the DAC is enabled.

Complete software documentation is available from the Help menu item, as features may be added periodically.



HARDWARE SETUP

Analog Connections

DAC Outputs: The four DAC outputs from the LTC2634 are brought out to turrets labeled V_{OUTA} through V_{OUTD} . These may be connected to external instruments or other circuitry.

NOTE: DAC outputs are not in alphabetical order on the circuit board.

VREF: The REF turret is connected directly to the reference terminals of the LTC2634. When the integrated reference is being used, the reference voltage may be monitored at this point. An external reference may also be applied to this turret after changing the setting in the QuikEval™ software.

Grounding And Power Connections

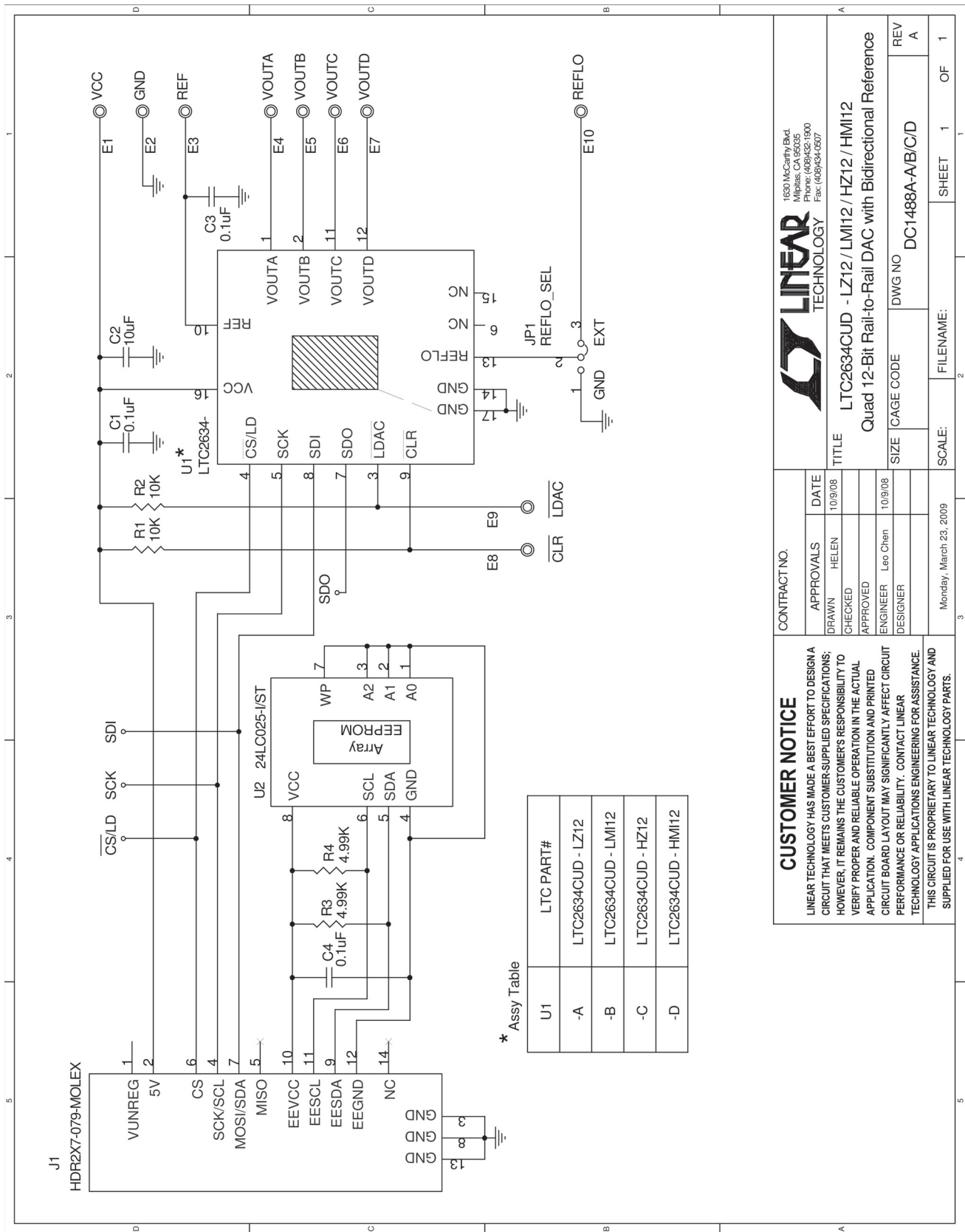
Power (VCC): Normally DC1488A is powered by the DC590 controller. VCC can be supplied to this turret, however the power supply on DC590 must be disabled! Refer to the DC590 Quick Start Guide for more details on this mode of operation.

Grounding: Ground turrets as well as 2 grounding strips are provided.

PARTS LIST

ITEM	QTY	REFERENCE	PART DESCRIPTION	MANUFACTURER/PART NUMBER
1	3	C1, C3, C4	CAP, X7R, 0.1 μ F, 16V, 10%, 0603	AVX, 0603YC104KAT
2	1	C2	CAP, X5R, 10 μ F, 6.3V, 20%, 0603	AVX, 06036D106MAT
3	10	E1-E10	TESTPOINT, TURRET, 0.095"	MILL-MAX, 2501-2-00-80-00-00-07-0
4	1	JP1	0.1" SINGLE ROW HEADER, 3-PIN	SAMTEC, TSW-103-07-L-S
5	1	JP1	SHUNT, 0.1" BLK	SAMTEC, SNT-100-BK-G
6	1	J1	HEADER, 2X7PIN, 0.079CC	MOLEX, 87831-1420
7	2	R1, R2	RES., CHIP, 10k, 1/16W, 1%, 0603	VISHAY, CRCW060310K0FKEA
8	2	R3, R4	RES., CHIP, 4.99k, 1/16W, 1%, 0603	VISHAY, CRCW06034K99FKEA
9	1	U2	IC, 24LC025-I/ST, TSSOP	MICROCHIP, 24LC025-I/ST

SCHEMATIC DIAGRAM



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CONTRACT NO.

APPROVALS	DATE
DRAWN: HELEN	10/9/08
CHECKED:	
APPROVED:	
ENGINEER: Leo Chen	10/9/08
DESIGNER:	



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TITLE		LTC2634CUD - LZ12 / LMI12 / HZ12 / HMI12	
Quad 12-Bit Rail-to-Rail DAC with Bidirectional Reference			
SIZE	CAGE CODE	DWG NO	REV
		DC1488A-A/B/C/D	A
SCALE:	FILENAME:	SHEET	OF
		1	1

DEMO MANUAL DC1488A

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This notice contains important safety information about temperatures and voltages. For further safety concerns, please contact a LTC application engineer.

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