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LTC6363
Rail-to-Rail SAR ADC Driver Amplifier

DESCRIPTION

Demonstration circuit 2487A features the LTC®6363 amplifier. The DC2487A is designed to drive the inputs of the DC2290A demo board. The DC2290A features the LTC®2387 18-bit, 15Msps high speed SAR ADC. The linearity and low noise of the LTC6363 make it an ideal candidate to drive the LTC2387 at frequencies up to 100kHz. See Table 1.

Design files for this circuit board are available at http://www.linear.com/demo/DC2487A

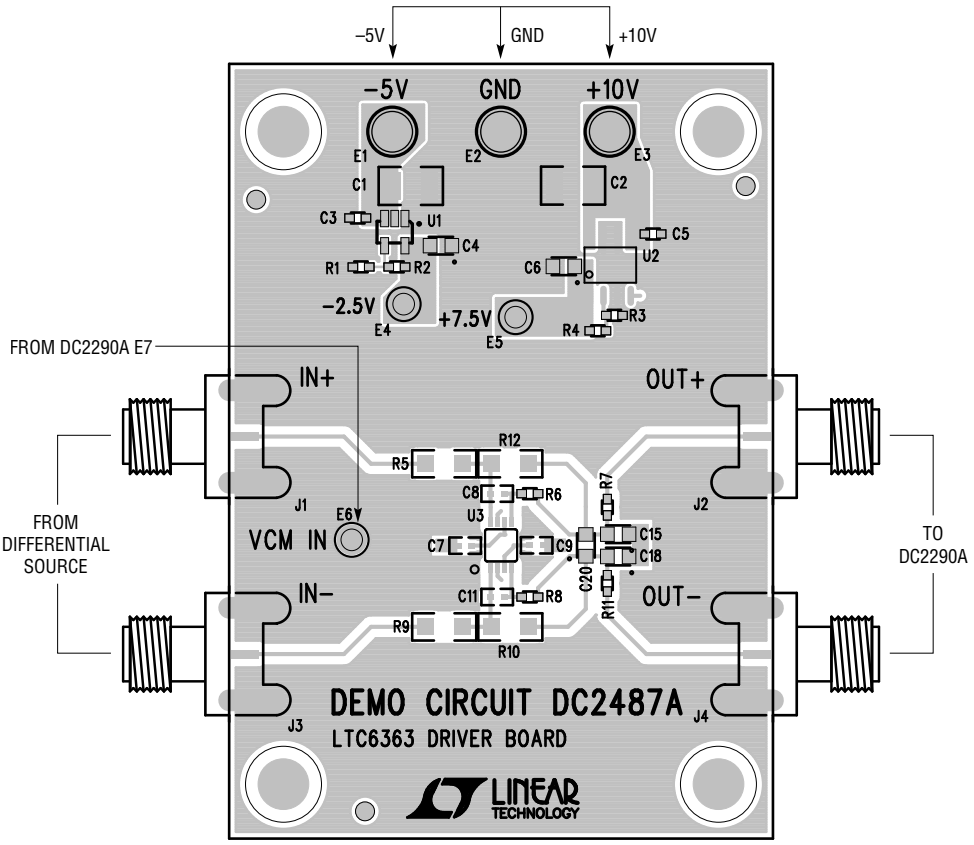


Figure 1. DC2487A Connection Diagram

Table 1. DC2290A (LTC2387 Family) Driver Board

INPUT FREQUENCY	DRIVE BOARD	AMPLIFIER
Up to 10kHz	DC2402	LT6237
Up to 100kHz	DC2487	LTC6363
Up to 1MHz	DC2403	LT6200
>1MHz	Contact Factory	Contact Factory

QUICK START PROCEDURE

Connect the DC2487A to a DC2290A using the two output SMA connectors J2, J4. Connect the +10V and –5V DC supplies to the turrets on the DC2487A. Connect the VCM IN turret to E7 of the DC2290A.

HARDWARE SETUP

SIGNAL CONNECTIONS

J1 +IN. This is the positive signal input.

J3 –IN. This is the negative signal input.

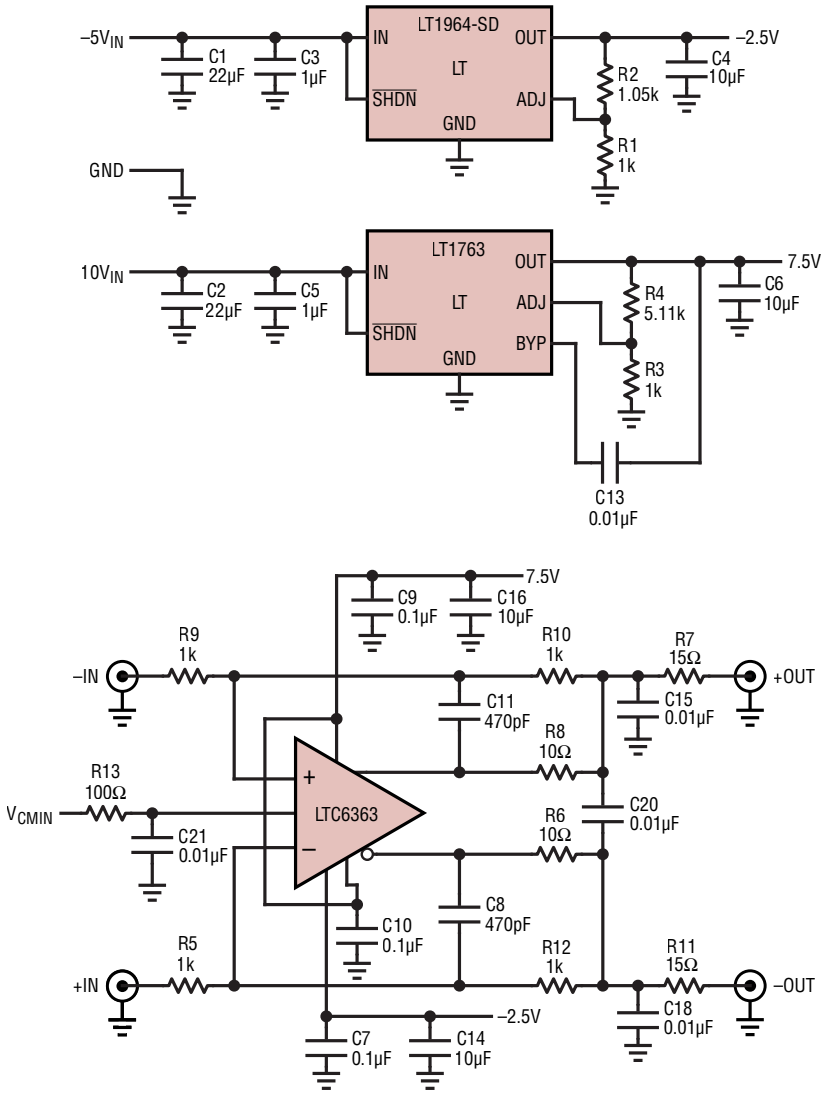
J4 –OUT. This is the negative signal output.

J2 +OUT. This is the positive signal output.

PARTS LIST

ITEM	QTY	REFERENCE	PART DESCRIPTION	MANUFACTURER/PART NUMBER
Required Circuit Components				
3	4	C4, C6, C14, C16	CAP., TANT, 10µF, 16V, 20%, 0805	VISHAY, 298D106X0016R2T
4	2	C3, C5	CAP., X5R, 1µF, 16V, 10%, 0603	AVX, 0603YD105KAT2A
6	2	C1, C2	CAP., X5R, 22µF, 16V 10%, 1210	AVX, 1210YD226KAT2A
8	4	C7, C9, C10, C21	CAP., X5R, 0.1µF, 16V 10% 0402	AVX, 0402YD104KAT2A
9	3	C15, C18, C20	CAP., X7R, 0.01µF, 10V 10%, 0805	AVX, 0805JC103KAT2A
10	1	C13	CAP., X7R, 0.01µF, 16V, 10%, 0402	AVX, 0402YC103KAT2A
11	2	C8, C11	CAP., NPO, 470pF, 50V, 5%, 0402	MURATA, GRM1555C1H471J
13	3	E5, E4, E6	TEST POINT, TURRET, 0.064"	MILL MAX, 2308-2-00-80-00-00-07-0
14	3	E1, E2, E3	TEST POINT, TURRET, 0.094"	MILL-MAX, 2501-2-00-80-00-00-07-0
15	2	J1, J3	CONN, SMA, 50Ω, EDGE-LAUNCH, FEMALE	E.F. JOHNSON, 142-0701-851
16	2	J2, J4	CONN, SMA, 50Ω, EDGE-LAUNCH, MALE	E.F. JOHNSON, 142-0801-811
18	2	R7, R11	RES., 15Ω, 1/10W, 1% 0603	PANASONIC, ERJ-3EKF15R0V
19	2	R6, R8	RES., 10Ω, 1/10W, 1% 0603	PANASONIC, ERJ-3EKF10R0V
20	1	R13	RES., 100Ω, 1/10W, 1% 0603	PANASONIC, ERJ-3EKF101V
21	1	R4	RES., 5.11k, 1/10W, 1% 0603	PANASONIC, ERJ-3EKF5111V
22	4	R5, R9, R10, R12	RES., 1.00k, 1/10W, 1% 1206	PANASONIC, ERJ-8ENF1001V
22	2	R1, R3	RES., 1.00k, 1/10W, 1% 0603	PANASONIC, ERJ-3EKF1001V
23	1	R2	RES., 1.05k, 1/10W, 1% 0603	PANASONIC, ERJ-3EKF1051V
24	1	U2	IC, MICROPOWER REGULATOR, SO8	LINEAR TECH., LT1763CS8#PBF
25	1	U3	IC, 400MHz AMPLIFIER, MS8	LINEAR TECH., LTC6363IMS8#PBF
26	1	U1	IC, MICROPOWER NEG. REGULATOR, SOT-23	LINEAR TECH., LT1964ES5-SD#PBF
27	4	MH1-MH4	STANDOFF, NYLON 0.25"	KEYSTONE, 8831 (SNAP ON)

SCHEMATIC DIAGRAM



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