

DC348A Introduction

Description

Demonstration circuit DC348 demonstrates the low power LTC1878 monolithic synchronous regulator in a power supply optimized for cellular phone applications. The LTC1878 is ideal for this application because of its 550kHz switching frequency, low quiescent current (power) consumption, and small package size (MSOP). The DC supply current is typically 10 μ A at no load and less than 1 μ A in shutdown. The high switching frequency allows the use of tiny surface mount components. With an input voltage range of 2.65V to 6V, the LTC1878 is ideally suited for Lithium-Ion Battery applications.

Quick Start Guide

It is easy to set up DC348 to evaluate the performance of the LTC1878. Please follow the procedure outlined below for proper operation.

1. Connect the input power supply to the V_{IN} and GND terminals. Refer to Figure 1 for proper measurement equipment setup.
2. Connect the load between the V_{OUT} and GND terminals.
3. To shut down the circuit, connect the RUN/SS pin to ground.
4. For synchronized operation, connect the clock signal between the SYNC and GND terminals

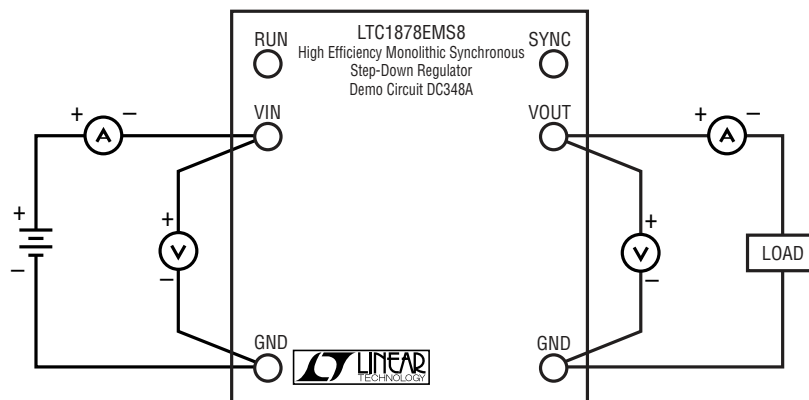
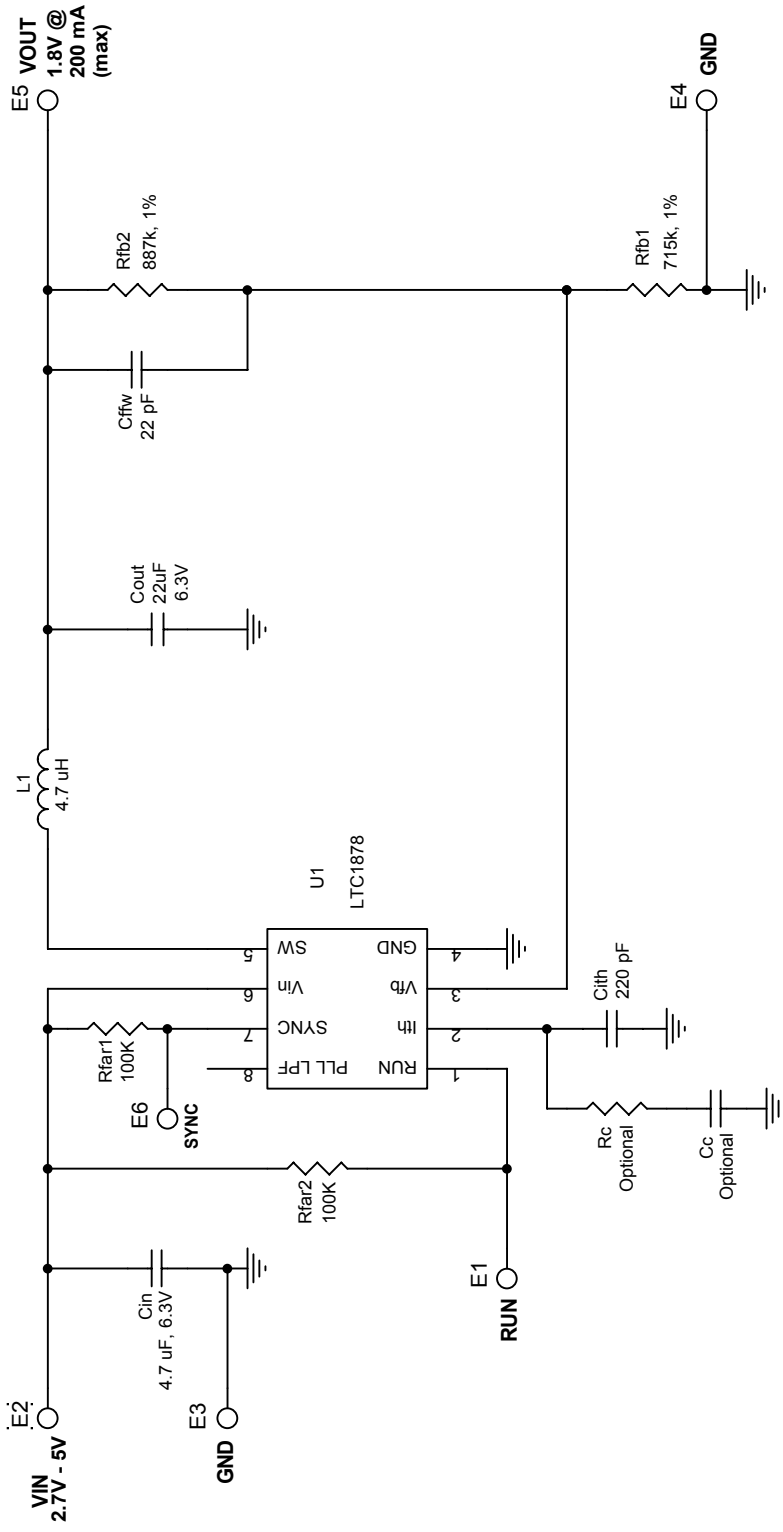
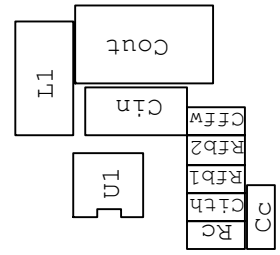


Figure 1. DC348A Hook-up Diagram



Vout (V)	Rfb1 (ohms)
1.5	1M
2.5	412K
3.3	280K

PCB SILKSCREEN



LINEAR TECHNOLOGY CORPORATION

1630 McCarthy Blvd.
 Milpitas, CA, 95035
 (408) 432-1900
 (408) 434-0507 FAX

Title
 High Efficiency Monolithic Synchronous Step-Down Regulator

Size Document Number
DEMO DC348A LTC1878EMS8
 Rev
A

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Sheet 1 of 1

Linear Technology Corporation

LTC1878

Bill Of Material
Demo Bd. #348A

6/16/2005

12:54 PM

Item	Qty	Reference	Part Description	Manufacture Part#
1	1	Cffw	CAP., NPO 22pF 25V, 0402	AVX, 04023A220JAT1A
2	1	Cin	CAP., X5R 4.7uF, 6.3V, 0805	TAIYO YUDEN, JMK212BJ475MG
3	1	Cith	CAP., X7R 220pF, 16V, 0402	AVX, 0402YC221KAT1A
4	1	Cout	CAP., X5R 22uF, 6.3V 1210	MURATA, GRM42-2X5R226K6.3
5	1	Cc	Optional	
6	1	L1	INDUCTOR, SMD 4.7 uH	TAIYO YUDEN, LB2016T4R7K
7	2	Rfar1,Rfar2	RES.,CHIP 100K, 1/16W 5% 0603	AAC, CR16-104JM
8	1	Rfb1	RES.,CHIP 715K, 1/16W 1% 0402	AAC, CR05-7153FM
9	1	Rfb2	RES.,CHIP 887K, 1/6W 1% 0402	AAC, CR05-8873FM
10	1	Rc	Optional	
11	6	E1,E2,E3,E4,E5,E6	TURRET	MILL-MAX, 2501-2
12	1	U1	I.C., LTC1878EMS8	LINEAR, LTC1878EMS8