

AN-1424 LP38692-ADJ Evaluation Board

1 Introduction

The LP38692-ADJ is a 1A low-dropout linear regulator whose output voltage can be externally set to any value between 1.25 V and 9 V using two resistors. This document provides information about the evaluation board to demonstrate the function of this part.

2 Basic Application Circuit

The basic application circuit shown in [Figure 1](#) provides the component designators used on the evaluation board.

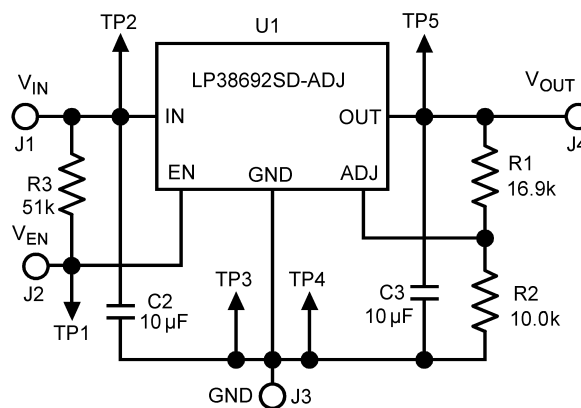


Figure 1. Evaluation Board Basic Application Circuit

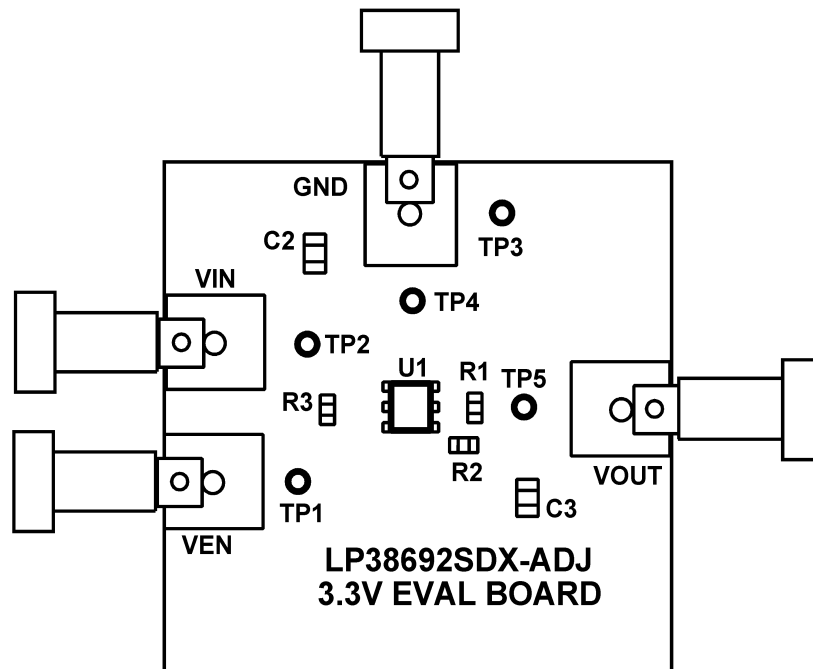


Figure 2. Evaluation Board Component Layout (Top View)

3 Setting the Output Voltage

The output voltage is set using the two external resistors: R1 and R2.

$$V_{OUT} = V_{ADJ} \times (1 + R1/R2) \quad (1)$$

It can be assumed that $V_{ADJ} = 1.25 \text{ V}$.

R2 is required to be less than 12 kΩ for minimum load. On these boards, R2 is 10.0 kΩ. Using these values for R2 and V_{ADJ} , the appropriate value for R1 can be calculated for any value of V_{OUT} between 1.25 V and 9 V. 3.3 V output can be set using a 16.9 kΩ resistor for R1.

Table 1. Component List Higher Voltage Rated Capacitors Can Be Substituted, But Only X5R or X7R Dielectric Types Can Be Used

PCB	551012806-001
U1	IC, LP38692SD-ADJ
TP1, TP2, TP3, TP4 TP5	Test point terminal, NEWARK 97H6311
J1, V_{IN} connector	Banana jack (RED): DIGI-KEY 108-0902-001
J4, V_{OUT} connector	Banana jack (BLUE): DIGI-KEY 108-0910-001
J3, ground connector	Banana jack (BLACK): DIGI-KEY 108-0903-001
J2, VEN connector	Banana jack (WHITE): DIGI-KEY 108-0901-001
R1	Resistor, 16.9 kΩ, 1%, 0.125W, 0805; Panasonic ERJ-6ENF1692V
R2	Resistor, 10.0 kΩ, 1%,0.125W, 0805; Panasonic ERJ-6ENF1002V
R3	Resistor, 51.0 kΩ, 1%, 0.125W, 0805; Panasonic ERJ-6ENF5102V
C2, C3	Ceramic capacitor, 10 μF, Taiyo-Yuden LMK325BJ106MN





Revision History

Changes from B Revision (April 2013) to C Revision	Page
• Changed R1 and R2 values	1
• Added orderable number suffix	2
• Changed Changed R1, R2 and R3 components	2

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

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- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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This Class A or B digital apparatus complies with Canadian ICES-003.

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This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

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Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

This radio transmitter has been approved by Industry Canada to operate with the antenna types listed in the user guide with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Cet appareil numérique de la classe A ou B est conforme à la norme NMB-003 du Canada.

Les changements ou les modifications pas expressément approuvés par la partie responsable de la conformité ont pu vider l'autorité de l'utilisateur pour actionner l'équipement.

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2. Use this product only after you obtained the license of Test Radio Station as provided in Radio Law of Japan with respect to this product, or
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