

Introduction

The ISL2828xEVAL1Z evaluation board is a design platform containing all the circuitry needed to characterize critical performance parameters of the ISL28286 and ISL28288 dual operational amplifiers, using a variety of user defined test circuits.

The ISL2828x amplifiers feature low noise, low distortion, and rail-to-rail output drive capability. They are designed to operate with single and dual supplies from +5VDC (± 2.5 VDC) down to +2.4VDC (± 1.2 VDC).

Reference Documents

- ISL28286 Data Sheet, FN6312
- ISL28288 Data Sheet, FN6339

Evaluation Board Key Features

The ISL2828xEVAL1Z is designed to enable the IC to operate from a single supply (+2.4VDC to +5VDC), or from split supplies (± 1.2 VDC to ± 2.5 V). The board is configured for 2 independent op amps connected for differential input with a closed loop gain of 10. A single external reference voltage (VREF) pin and provisions for a user-selectable voltage divider (filter is included).

Power Supplies (Figure 1)

External power connections are made through the V+, V- and Ground connections on the evaluation board. For single supply operation, the V- and Ground pins are tied together to the power supply negative terminal. For split supplies V+ and V- terminals connect to their respective power supply terminals. De-coupling capacitors C₁₂, C₁₇, connect to ground through R₁, R₄₆, 0 Ω resistors. Resistors R₄₀ and

R₄₉ are 0 Ω but can be changed by the user to provide additional power supply filtering, or to reduce the voltage rate-of-rise to less than ± 1 V/ μ s. Two additional capacitors, C₁₀ and C₁₈, are connected close to the part to filter out high frequency noise. Anti-reverse diodes D₁, D₂ and zener diode D₃ protect the circuit in the case of accidental polarity reversal.

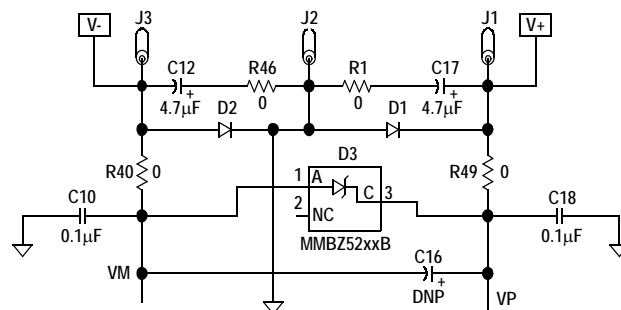


FIGURE 1. POWER SUPPLY CIRCUIT

Amplifier Configuration (Figure 2)

The schematic of each of the 2 op amps with the components supplied is shown in Figure 2. The circuit implements a differential input amp with a closed loop gain of 10. The circuit can operate from a single 2.4VDC to +5VDC supply, or from dual supplies from ± 1.2 VDC to ± 2.5 VDC. The VREF pin can be connected to ground to establish a ground referenced input for split supply operation, or can be externally set to any reference level for single supply operation.

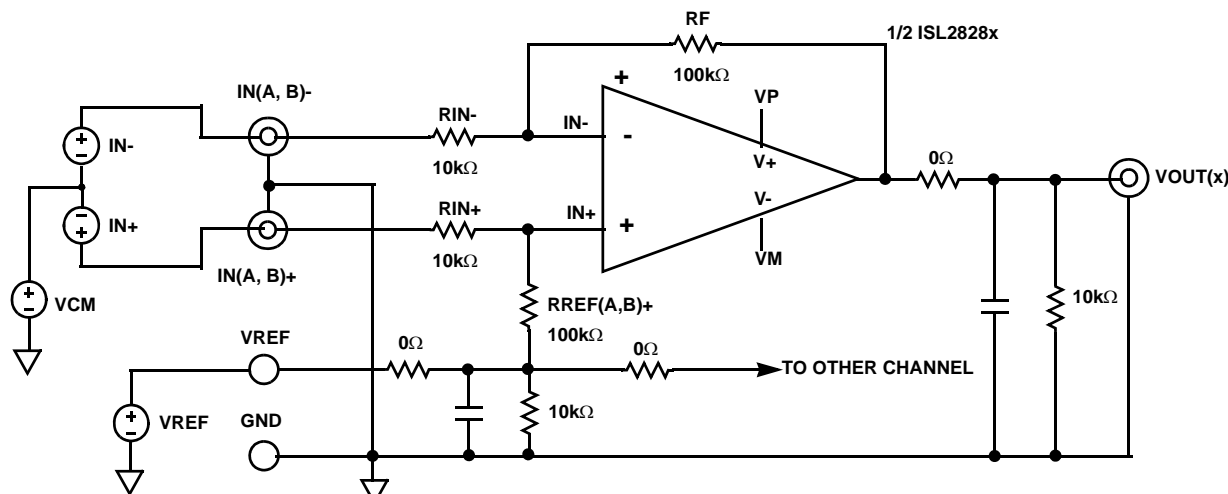
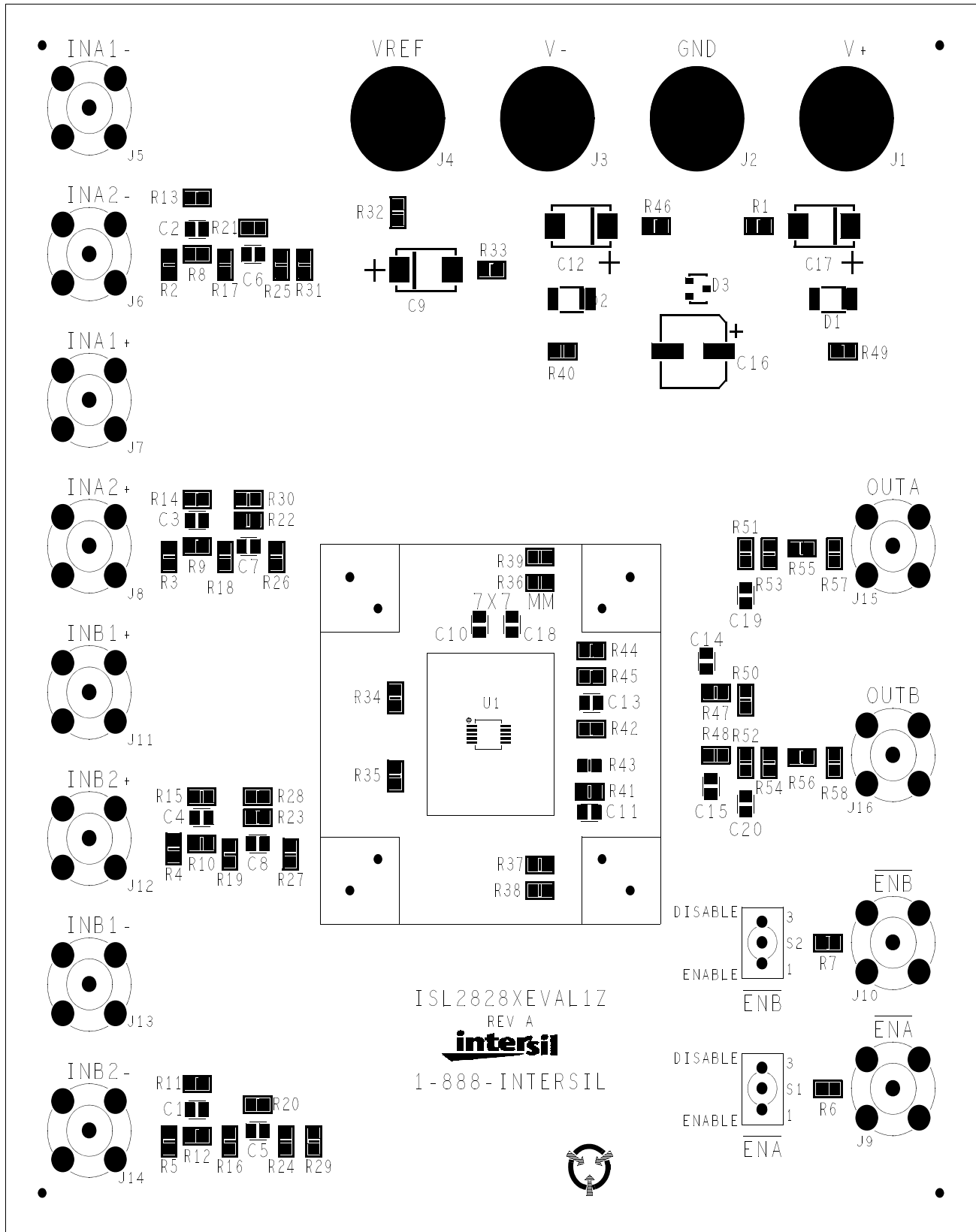
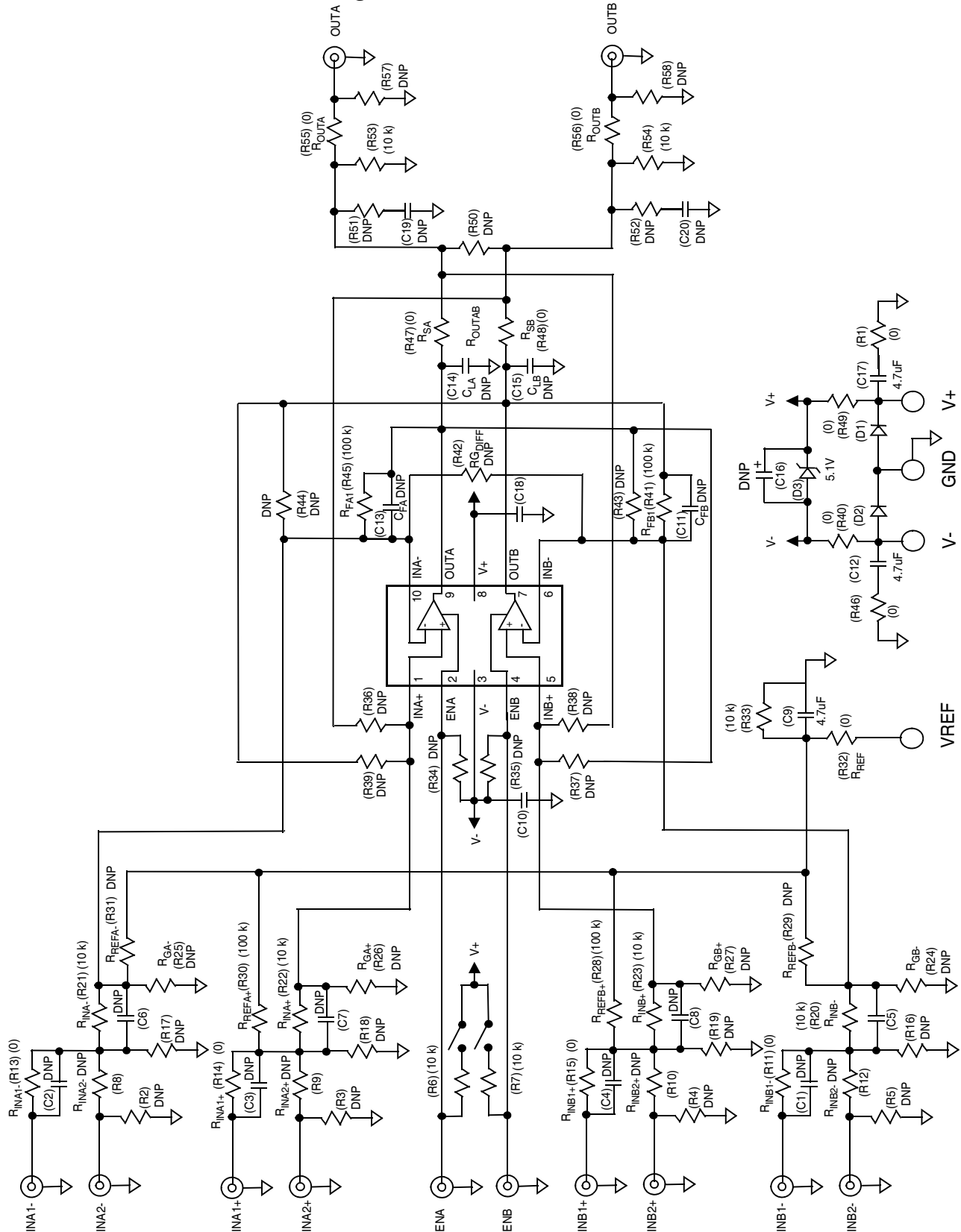


FIGURE 2. BASIC AMPLIFIER CONFIGURATION

ISL2828xEVAL1Z Top View



ISL2828xEVAL1Z Schematic Diagram



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