ADK-8460 Evaluation Board
Quick Start Guide:
HI-8460/61 ARINC 429
Receiver with ±800V Isolation

May 2017

REVISION HISTORY

Revision	Date	Description of Change
QSG-8460, Rev. New	05-12-17	Initial Release

Introduction

This board allows the customer to evaluate the features of the HI-8460/61 differential input ARINC receiver IC. The HI-8460/61 is powered from a single 3.3V ±10% supply voltage. The device has test modes that are configured using a DIP switch.

Figure 1 – View of HI-8460/61 Evaluation Board

Board Setup

The HI-8460/61 is designed to provide up to ±800V isolation between the line receiver and the logic interface. Internal lightning protection circuitry also ensures compliance with RTCA/DO-160G, Section 22 Level 3 Pin Injection Test Waveform Set A (3 & 4), Set B (3 & 5A) and Set Z (3 & 5B) without the use of any external components.

1. Make sure the switch position matches the default setting in the table below. Connect a +3.3V power supply to VDD (RED) and 0V to GND (BLACK) terminals.

2. Connect an ARINC 429 source positive output to INA and the negative output to INB. Monitor the output on pins OUTA and OUTB with an oscilloscope. The correct pattern will be produced at the outputs for source voltages up to ±800V peak.

Default Switch Settings

SW1, 1	SW1, 2	DESCRIPTION
OFF	OFF	Normal ARINC receiver mode (default)
OFF	ON	TEST mode; OUTA = 0, OUTB =1
ON	OFF	TEST mode; OUTA = 1, OUTB =0
ON	ON	TEST mode; OUTA = HI-Z, OUTB =HI-Z (HI-8460)
ON	ON	TEST mode; OUTA = 0, OUTB =0 (HI-8461 only)

Connector Functions

NAME	DESCRIPTION
VDD	3.3VDC ±10% supply voltage (low voltage domain)
GND	Ground connection (low voltage domain)
INA	ARINC 429 Input A (high voltage domain)
INB	ARINC 429 Input B (high voltage domain)
OUTA	ARINC 429 Output A
OUTB	ARINC 429 Output B

Holt P/N: HV029
Rev. A

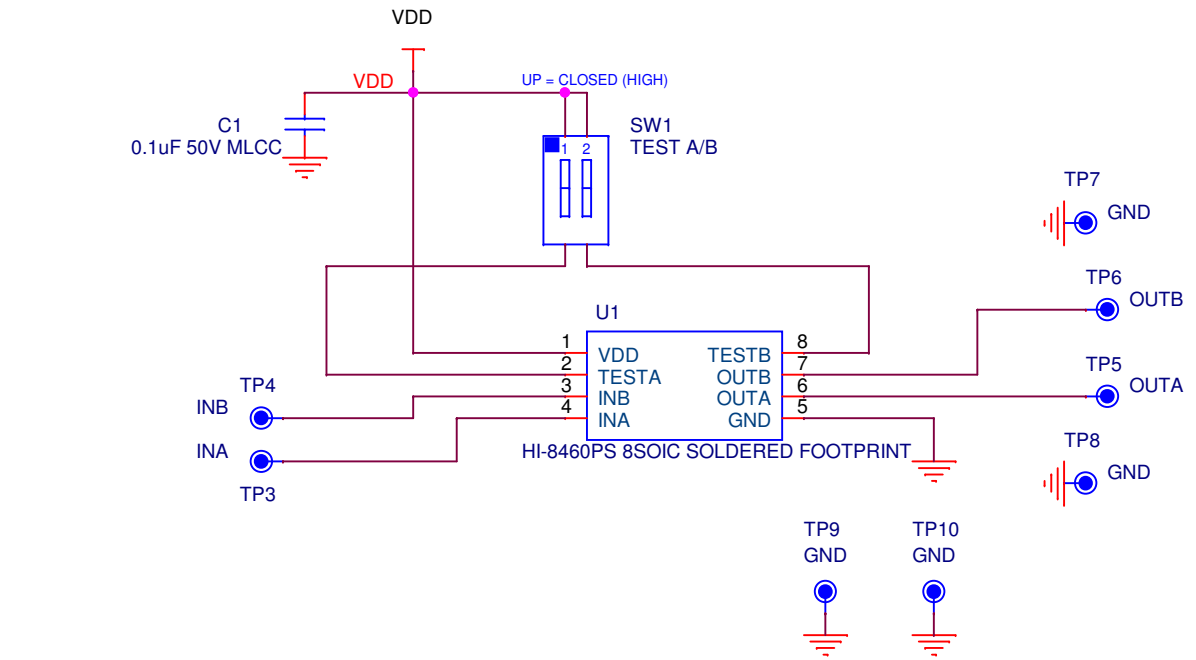
Bill of Materials
HI-8460/61PS
Evaluation Board

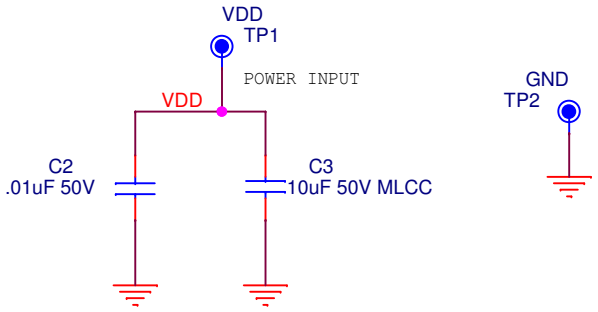
Item	*Qty*	*Description*	*Reference*	*DigiKey*	*Mfr P/N*
1	1	PCB, Bare, Eval Board	N/A	--------	NewTek PCB # 13605
2	1	Capacitor,Cer .1uF 20% 50V Z5U 0805	C1	399-1176-1-ND	Kemet C0805C104M5UACTU
3	1	Capacitor,Cer .01uF 20% 50V Z5U 0805	C2	399-1174-1-ND	Kemet C0805C103M5UACTU
4	1	Capacitor,Alum 10uF 20% 50V SMD	C3	PCE3914CT-ND	Panasonic EEE-1HA100SP
5	1	Switch, SPST 2 Postions SMT	SW1	CT2192MST-ND	CTS 219-2MST
6	1	Test Point, Red Insulator, 0.062" hole	TP1(VDD)	36-5010-ND	Keystone 5010
7	3	Test Point, Black Insulator, 0.062" hole	TP2(GND),TP7(GND),TP8(GND)	36-5011-ND	Keystone 5011
8	2	Test Point, White Insulator, 0.062" hole	TP5(OUTA), TP6(OUTB)	36-5012-ND	Keystone 5012
9	2	Test Point, Orange Insulator, 0.062" hole	TP3(INA),TP4(INB)	36-5013-ND	Keystone 5013
10	2	Test Point, Loop 0.052" hole	TP9, TP10 (GND)	36-1038-ND	Keystone 1038
11	1	HI-8460PS or HI-8461PS	U1	HOLT IC	Holt IC
12	4	Rubber Foot, Bumpon Black Hemisphere, .312 X.200 H	Four corners	SJ5746-0-ND	3M SJ61A1

THE BOARD SHOULD BE SPLIT INTO TWO ISOLATED SECTIONS

LHS - INPUT POWER DOMAIN, THERE SHOULD BE NO GROUND PLANE UNDER THIS SIDE

RHS - OUTPUT POWER DOMAIN, THIS SHOULD HAVE A GROUND PLANE UNDERNEATH.





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