DESCRIPTION

The IS31IO7328 2-wire serial-interfaced peripheral features 8 I/O ports. Ports are divided into four push pull I/Os and four open-drain I/Os and transition detection.

Any of the 8 I/O ports can be configured as an input or an output. All I/O ports configured as inputs are continuously monitored for state changes (transition detection). State changes are indicated by the INT output. The interrupt is latched, allowing detection of transient changes. When the IS31IO7328 is subsequently read through the serial interface, any pending interrupt is cleared.

FEATURES

- Supply voltage range from 2.4V to 5.5V
- 400kHz I2C serial interface
- 4 push-pull I/O ports
- 4 open-drain I/O ports, rated to 20mA sink current at 0.22V headroom
- Selectable I/O port power-up default logic states
- INT output alerts change on inputs
- Low 0.3μA (Typ.) standby current
- Pb-free QFN-16 (3mm×3mm) package

QUICK START

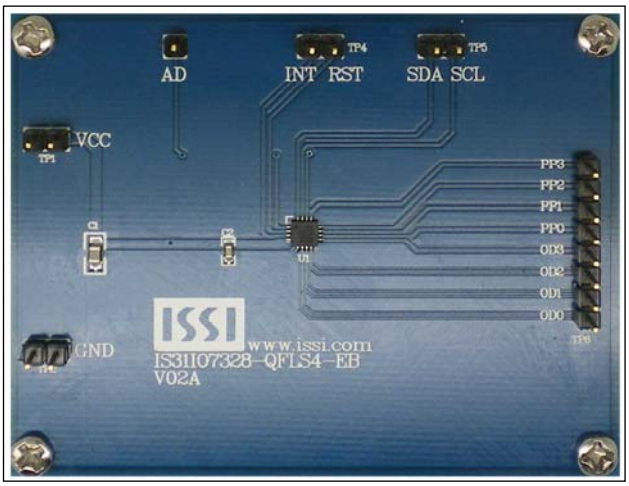

Figure 1: Photo of IS31IO7328 Evaluation Board

RECOMMENDED EQUIPMENT

- 2.5V~5.5V, 2A power supply

ABSOLUTE MAXIMUM RATINGS

- ≤ 5.5V power supply

Caution: Do not exceed the conditions listed above, otherwise the board will be damaged.

PROCEDURE

The IS31IO7328 evaluation board is fully assembled and tested. Follow the steps listed below to verify board operation.

Caution: Do not turn on the power supply until all connections are completed.

1) Connect power positive terminal to VCC pin and negative terminal to GND pin.
2) INT pin is pulled-up to VCC by a 4.7kΩ resistor.
3) SCL is an input clock pin. SDA is a bi-direction open drain pin. Both of them are pulled-up to VCC by 4.7kΩ resistors.
4) RST pin is Low active reset pin with 4.7kΩ resistor pull-up.
5) AD pin is used to set the I2C device address. Its value can be 00, 01 (0 is GND; 1 is VCC). After power-on, I/O output will be dependent on the AD connection (see Table 2 for details). Default AD pin is pulled to GND by 100kΩ resistor.
6) TP6 is PP and OD output ports.

ORDERING INFORMATION

Part No.	Temperature Range	Package
IS31IO7328-QFLS4-EB	-40°C to +125°C	QFN-16, Lead-free

Table 1: Ordering Information

For pricing, delivery, and ordering information, please contacts ISSI's analog marketing team at analog@issi.com or (408) 969-6600.

Pin Connection	Port Power Up Default							
AD	PP3	PP2	PP1	PP0	OD3	OD2	OD1	OD0
AD= GND	0	0	0	0	0	0	0	0
AD= V_{CC}	1	1	1	1	Hi-Z	Hi-Z	Hi-Z	Hi-Z

Table 2: Power on Default State for I/O Ports

SOFTWARE SUPPORT

Note: Please refer to the datasheet to get more information about IS31IO7328.

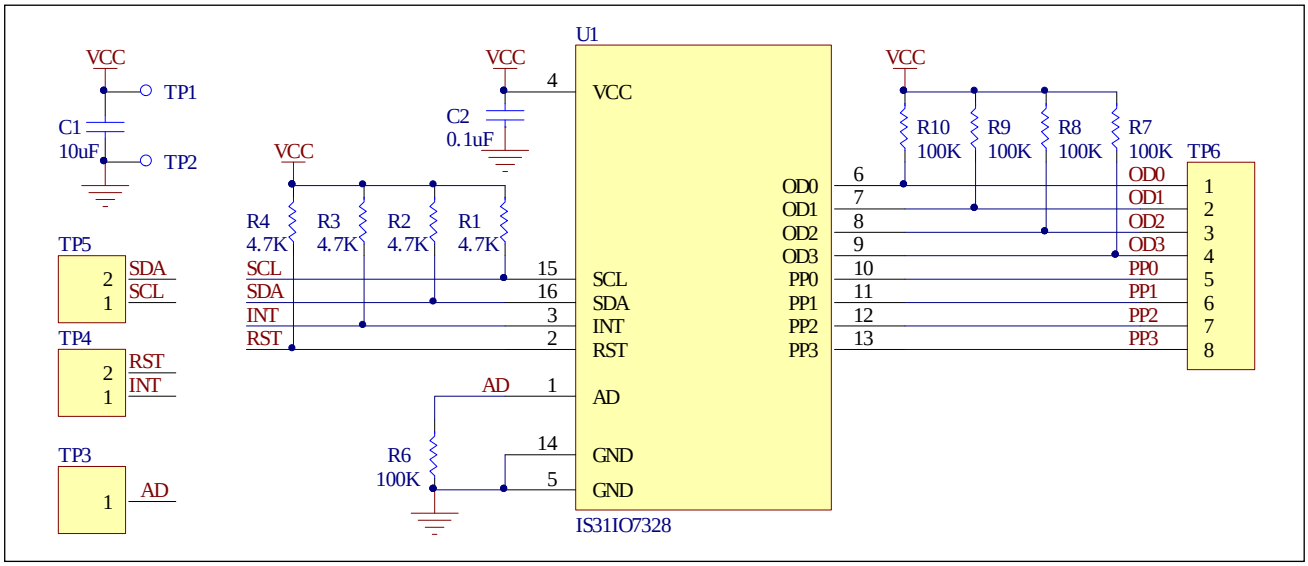

Figure 2: IS31IO7328 Application Schematic

BILL OF MATERIALS

Name	Symbol	Description	Qty	Supplier	Part No.
I/O IC	U1	8 I/O ports expander	1	ISSI	IS31IO7328
Resistor	R1~R4	RES,4.7k,1/16W,±5%,SMD	4	Yageo	RC0603JR-074K7L
Resistor	R6	RES,100k,1/16W,±5%,SMD	1	Yageo	RC0603JR-07100KL
Resistor	R7~R10	RES,100k,1/16W,±5%,SMD	4	Yageo	RC0603JR-07100KL
Capacitor	C1	CAP,10μF,16V,±10%,SMD	1	Yageo	CC0805KKX7R6BB106
Capacitor	C2	CAP,0.1μF,50V,±10%,SMD	1	Yageo	CC0603KKX9R6BB104

Bill of Materials, refer to Figure 2 above.

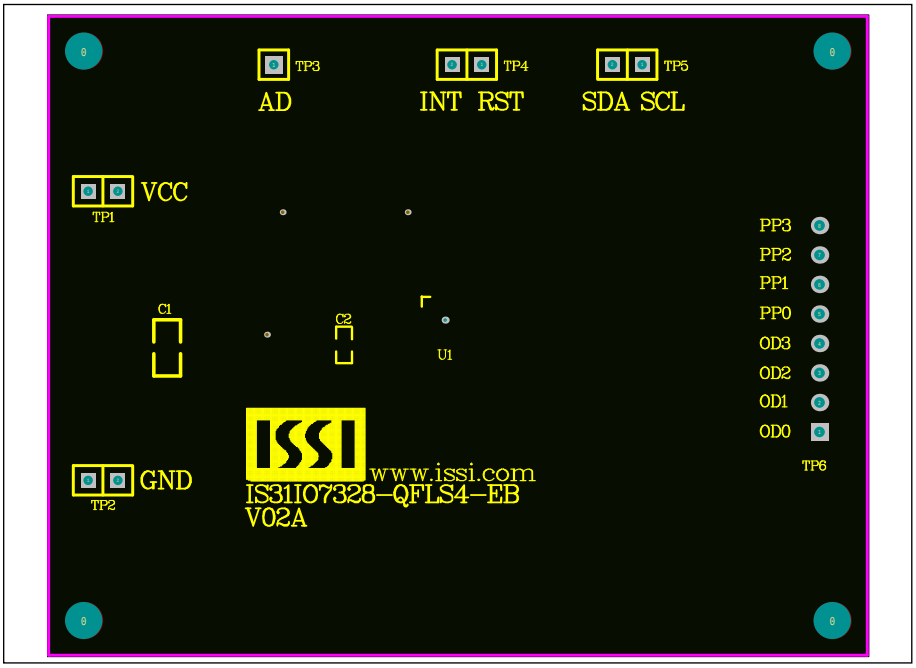

Figure 3: Board Component Placement Guide - Top Layer

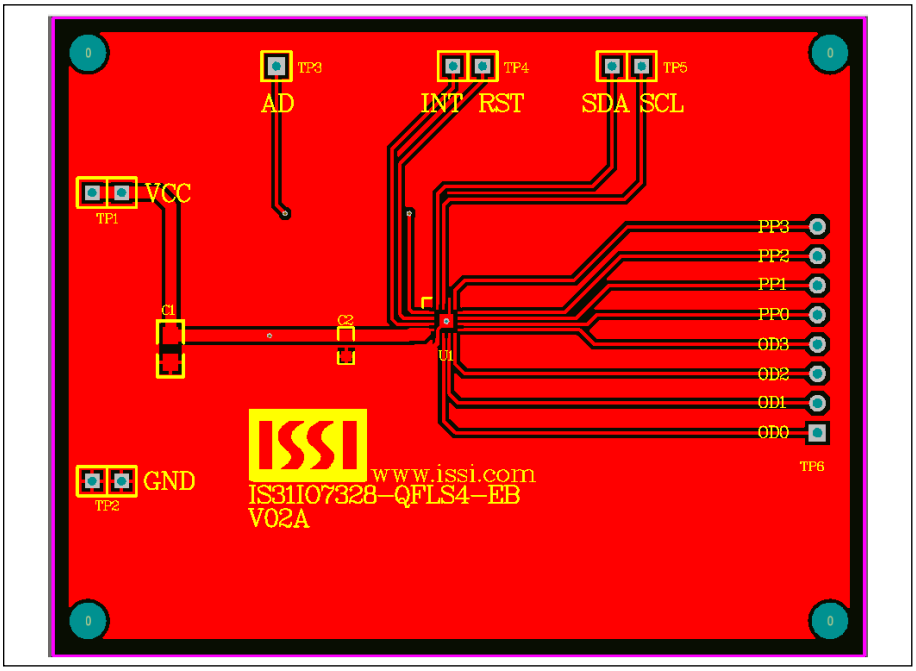

Figure 4: Board PCB Layout - Top Layer

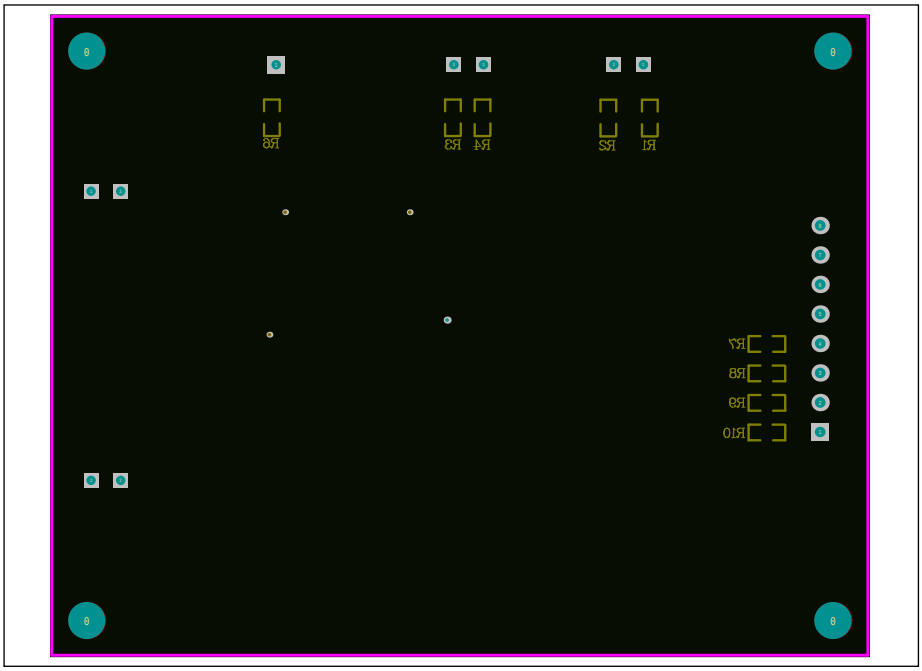

Figure 5: Board Component Placement Guide - Bottom Layer

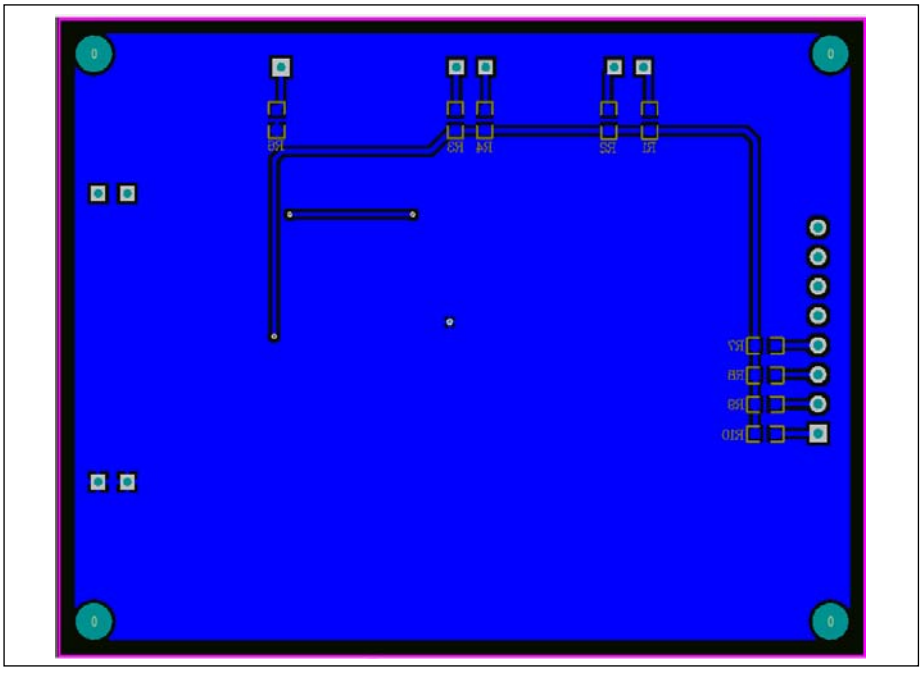

Figure 6: Board PCB Layout - Bottom Layer