RELAY-4REED
PERIPHERAL RELAY BOARD
Technical Manual

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Overview

Peripheral relay board RELAY-4REED is an Expander board for the MINI-MAX/51, MINI-MAX/908 and PRO-MAX series of micro-controller boards.

RELAY-4REED board has 4 sub-miniature relays with low power coil consumption. Switch current is 0.5A. Carry current is 1.25A. All relays have normally open contact. Philips I/O expander PCF8574 controls the relays. Any command to activate or deactivate any relay can be sent through I2C bus. There is configuration selector also. The selector allows to address by 3 hardware address pins up to 8 boards at the same time.

Two relay terminal blocks provide all the relay contacts for user needs.

RELAY-4REED board should be powered from 5 Volts DC of external power source through the 20-pin I/O connector.

Specifications

RELAY-4REED board has the following configuration:

- Philips I/O expander PCF8574.
- 4 sub-miniature relays with normally open contact.
- Configuration selector.
- 2 relay terminal blocks.
- 20-pin connector to a variety of micro-controller boards.
- Single operating voltage 5V.
- Dimensions are 2.35 X 2.40 inches (5.97 X 6.10 centimeters).
- Mounting holes of 0.138 inches (3.5 millimeters) are on four corners.
- 0° - 70° C operating, -40° - +85° C storage temperature range.

WARRANTY:

BiPOM Electronics warrants RELAY-4REED for a period of 1 year . If the board becomes defective during this period, BiPOM Electronics will at its option, replace or repair the board. This warranty is voided if the product is subjected to physical abuse or operated outside stated electrical limits. BiPOM Electronics will not be responsible for damage to any external devices connected to RELAY-4REED. BiPOM Electronics disclaims all warranties express or implied warranties of merchantability and fitness for a particular purpose. In no event shall BiPOM Electronics be liable for any indirect, special, incidental or consequential damages in connection with or arising from the use of this product. BiPOM's liability is limited to the purchase price of this product.

Expansion bus

The 16 control pins and 5 Volt power supply pins are available on the 20-pin connector (J1) for interfacing to existing micro-controller boards. RELAY-4REED board can be connected to a host board either as a piggyback daughter-board using standoffs or can be placed away from the host board using a 20-wire ribbon cable (Part #: EXPCABLE-6). Table 1 shows the pin assignments for the connector.

Input Connector (J1)

Signal	Pin	Pin	Signal
P3.0	20	19	P3.1
P3.2	18	17	P3.3
P3.4	16	15	P3.5
P3.6	14	13	P3.7
P1.0	12	11	P1.1
P1.2	10	9	P1.3
P1.4	8	7	P1.5
P1.6 (I^2C Data)	6	5	P1.7 (I^2C CLK)
VCC (+5V)	4	3	GND
VCC (+5V)	2	1	GND

Table 1

Board Layout

Figure 1 shows positions of major components, connectors and terminals on the RELAY-4REED board.

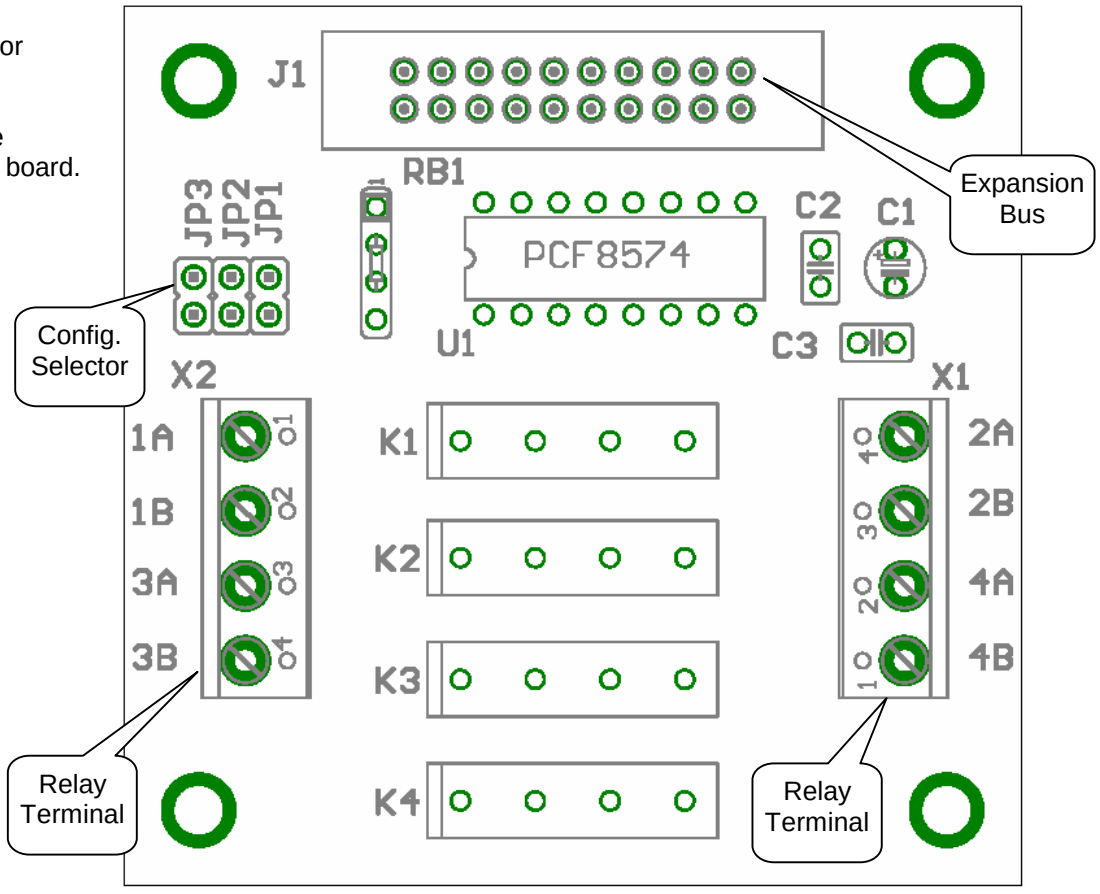
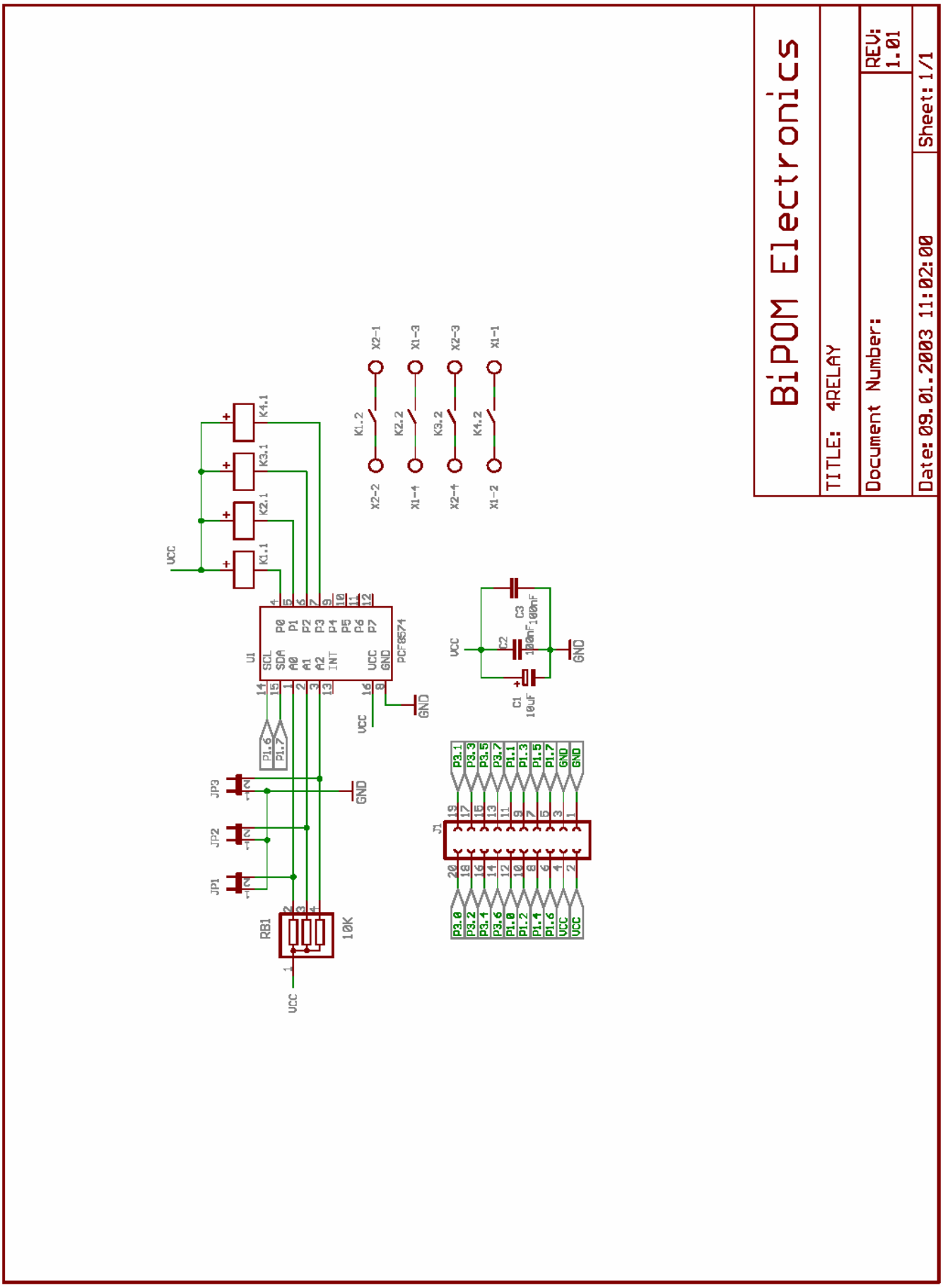


Figure 1

Schematic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K4.1
K3.1
K2.1
K1.1
VCC
U1
SCL
SDA
A0
A1
A2
INT
P0
P1
P2
P3
P4
P5
P6
P7
VCC
GND
PCF8574
GND
VCC
C3
100nF
C2
100nF
C1
10uF
VCC
GND
P1.6
P1.7
JP3
JP2
JP1
GND
RB1
10K
VCC
J1
P3.1
P3.3
P3.5
P3.7
P1.1
P1.3
P1.5
P1.7
GND
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VCC
VCC