

The diagram illustrates the internal circuitry of the LCD/I2C PCF8574 Breakout Board. Key components and connections include:

- PCF8574 (U4):** The central IC, with pins VCC (16), GND (8), SDA (15), and SCL (14) connected to the I2C interface. Address pins A0-A3 (13, 1, 2, 3) are connected to ground via resistors R20, R25, R24, and R23.
- LCD Display (DS1):** A 16x2 LCD with VDD (3), VSS (1), RS (4), R/W (5), E (6), and data pins DB0-DB7 (9-12) connected to the PCF8574. The backlight is controlled by pin A (13) through transistor Q2.
- Backlight Control:** A 5V supply is connected to the backlight through resistor R9 and transistor Q2. The ON/OFF pin header (1, 2) is connected to the backlight line through resistor R1.
- Power and Grounding:** 5V supplies are connected to various components via resistors R22, R21, and R18. A 100nF capacitor (C1) is connected to the VCC pin of the PCF8574.
- Transistors:** Q1 (BC817) and Q2 (BC807) are used for signal switching and backlight control.

The diagram is labeled "LCD/I2C PCF8574 BREAKOUT BOARD – EQUIVALENT CIRCUIT".

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