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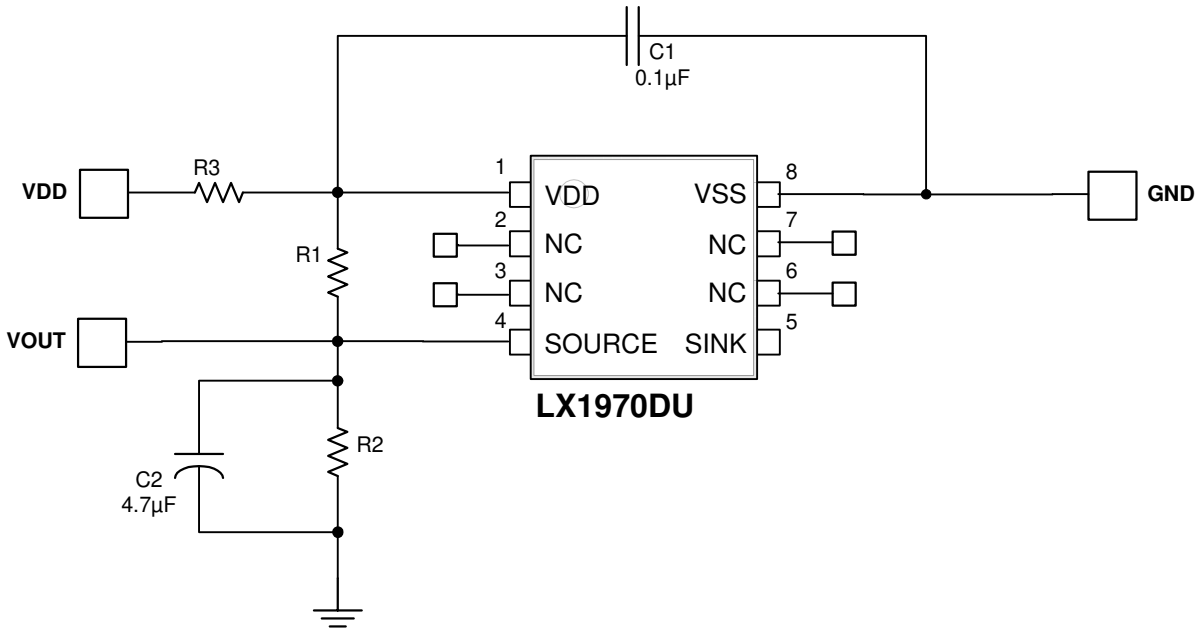
LX1970 Mini Control Board

LX1970 Light Sensor

SCHEMATIC



The LX1970 Mini Light Sensor Board can be used to convert a manual DC voltage dimmer to a closed loop automatic dimmer. The resistor values can be changed to fit the design requirements. The LX1970 output current is proportional to the incident light intensity up to the point where either the current source voltage compliance is exceeded or the light sensor saturates. See the data sheet and application note for additional information.

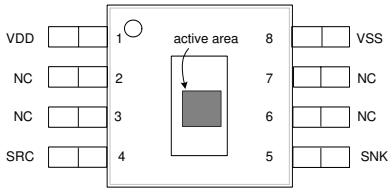
$$V_{OUT} = [(I_{SRC} \times R1) + V_{DD}] \times \frac{R2}{R1 + R2}$$

The value of R3 is typically less than 1K and is used as a power filter for the LX1970 if the VDD line is excessively noisy.

With VDD = 3.0V, R1 = 150K, R2 = 30K and R3 = 0, the current output voltage in total darkness is VDD x R2/ (R1 + R2) = 0.5V. The maximum output voltage is approximately VDD – 0.3 = 2.7V, which is limited by the output voltage compliance at a current of 2.7V x (R1 + R2) / (R1 x R2) = 108uA.

PHOTO

PACKAGE PIN OUT



DU PACKAGE
(Top View)

FUNCTIONAL PIN DESCRIPTION

NAME	DESCRIPTION
V_{DD}	Input Supply Voltage (Some boards wired with a RED pigtail.)
V_{SS}	Ground Reference for Power and Signal Output (Some boards wired with a BLACK pigtail.)
SNK	Output Current Sink
SRC	Output Current Source (Some boards wired with a YELLOW pigtail.)

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