LinearDimensions
SEMICONDUCTOR

The LND-RES81

100KΩ, 20%, 7 BIT SILICON RESISTOR

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What is the LND-RES81?
The LND-RES81 is a variable resistor for logic level applications. The device is capable of operating from 10k to 100k with 20% accuracy, and 1k increments. Though absolute tolerance is 20%, an automated testing machine can easily tune the device to within 10% accuracy. The device is a very simple configuration of resistors and shorting MOSFETS; perfect for use with basic microcontrollers. The beauty of the device is its simplicity, lack of long term drift, and low cost compared to standard trim pots.

How Does it Work?
Simply connect power (5V) and ground. Connect the in and out terminals in place of your variable resistor. Connect the 7 data bits. Each data bit controls a switch across resistors each of which is twice the resistance of the less significant bit. In this way every value between 10k and 100k can be accomodated. By turning on and off the data bits, the resistance with vary linearly between 10k and 100k based on the value on the 7-bit data channel.

To create a three pin potentiometers, connect two LND-RES81 in series and take the output in the middle. In this way, a 200k trim pot can be replicated.

How Do I Get Samples?
The LND-RES81 comes in a 28 pin ceramic package for testing purposes. Volume production is available in most standard packages including 10-pin SOIC or SSOP. Contact your regional Linear Dimensions sales representative for more information.

Features

- ExTREmely simple interface
- Microcontroller friendly
- Any value from 10k to 100k with 20% accuracy & 1k increments
- Will not shift over time like standard variable potentiometers
- Trim with automated equipment rather than manually

Applications

- Frequency Synthesis
- Digital Wireless
- Wireless Lans
- GSM, PCN, DECT, CT2,CTI

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