DALLAS SEMICONDUCTOR

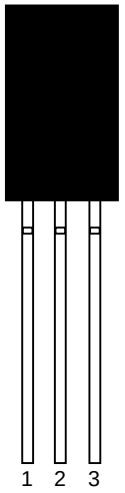
DS2433-Z01
4K-Bit 1-Wire™ EEPROM

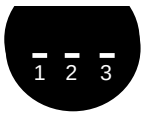
FEATURES

- 4096 bits Electrically Erasable Programmable Read Only Memory (EEPROM)
- Unique, factory-lasered and tested 64-bit registration number (8-bit family code + 48-bit serial number + 8-bit CRC tester) assures absolute identity because no two parts are alike
- Built-in multidrop controller ensures compatibility with other MicroLAN products
- Memory partitioned into sixteen 256-bit pages for packetizing data
- 256-bit scratchpad with strict read/write protocols ensures integrity of data transfer
- Reduces control, address, data and power to a single data pin
- Directly connects to a single port pin of a microprocessor and communicates at up to 16.3k bits per second
- Overdrive mode boosts communication speed to 142k bits per second
- 8-bit family code specifies DS2433-Z01 communication requirements to reader
- Presence detector acknowledges when reader first applies voltage
- Low cost PR-35, 8-pin SOIC, or solder bumped flip chip package
- Reads and writes over a wide voltage range of 2.8V to 6.0V from -40°C to +85°C

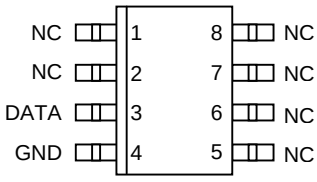
PIN ASSIGNMENT

PR-35

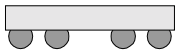




BOTTOM VIEW



8-PIN SOIC (208 MIL)



Flip Chip Package

(Visit www.dalsemi.com for flip chip pinout and mechanical data.)

PIN DESCRIPTION

	PR-35	SOIC
Pin 1	Ground	NC
Pin 2	Data	NC
Pin 3	NC	Data
Pin 4	--	Ground
Pin 5-8	--	NC

ORDERING INFORMATION

DS2433-Z01	PR-35 package
DS2433S-Z01	8-pin SOIC package
DS2433T-Z01	Tape & Reel version of DS2433-Z01
DS2433Y-Z01	Tape & Reel version of DS2433S-Z01
DS2433X-Z01	Flip Chip Pkg., Tape & Reel

DESCRIPTION

The DS2433-Z01 is identical to the standard DS2433 with the exception that the write cycle endurance specification is relaxed to 10,000 cycles as specified in Table 1. The device consists of a factory-lasered registration number that includes a unique 48-bit serial number, an 8-bit CRC, and an 8-bit Family Code (23h) plus 4096 bits of user-programmable EEPROM.

The power to read and write the DS2433-Z01 is derived entirely from the 1-Wire communication line. The memory is organized as sixteen pages of 256 bits each. The scratchpad is an additional page that acts as a buffer when writing to memory. Data is first written to the scratchpad where it may be read back for verification. A copy scratchpad command will then transfer the data to memory. This process insures data integrity when modifying the memory. The 64-bit registration number provides a guaranteed unique identity which allows for absolute traceability and acts as node address if multiple DS2433-Z01 are connected in parallel to form a local network. Data is transferred serially via the 1-Wire protocol which requires only a single data lead and a ground return. The PR-35 and SOIC packages provide a compact enclosure that allows standard assembly equipment to handle the device easily for attachment to printed circuit boards or wiring. Typical applications include storage of calibration constants, board identification and product revision status.

The DS2433X-Z01 flip chip packaged option is built to the highest quality standards and manufactured for long term reliability. All Dallas Semiconductor devices are made using the same quality materials and manufacturing methods. However, standard versions of the DS2433X-Z01 are not exposed to environmental stresses, such as burn-in, that some industrial applications require. For specific reliability information on this product please contact Dallas Semiconductor.

Table 1. WRITE CYCLE ENDURANCE SPECIFICATION

Conditions: V_{PUP} =5.0V; T_A = 25ºC

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	NOTES
Write/Erase Cycles	N_{CYCLE}	10k				

Please see the standard DS2433 data sheet for all other device specifications and operational information.