

DS2433-Z01 4kbit 1-Wire EEPROM

www.maxim-ic.com

FEATURES

- 4096 bits Electrically Erasable Programmable Read-Only Memory (EEPROM)
- Unique, factory-lasered and tested 64-bit registration number (8-bit family code + 48bit 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 single data pin
- Directly connects to a single portopin of a microprocessor and communicates at up to 16.3kbits per second
- Overdrive mode boosts communication speed to 142kbits per second
- 8-bit family code specifies DS2433-Z01 computition requirements to reader
- Presence detector acknowledges when reader that sophies voltage
- Dow-cost PR-35, 8-pin SO, 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 T Z 3 Bottom View NC 2 7 NC 3 6 NC 4 5 NC NC 4 5 NC NC S-Pin SO (208-Mil) Flip-Chip Package

(Visit www.maxim-ic.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 SO Package

DS2433S-Z01/T&R Tape & Reel Version of DS2433S-Z01 DS2433X-Z01 Flip-Chip Pkg., Tape & Reel 10k pc reel DS2433X-ZS Flip-Chip Pkg., Tape & Reel 2.5k pc 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 WRITE CYCLE ENDURANCE SPECIFICATION **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-Z0 have 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.

WRITE CYCLE ENDURANCE SPECIFICATION Table 1

		~1C	<u> </u>	Conditions: $V_{PUP} = 5.0V$; $T_A = 25$ °C				
PARAMETEI	₹	SYMBOL	MHN	TYP	MAX	UNITS	NOTES	
Write/Erase Cycles		CACTE	10k					

Please see the standard D\$2433 datasheet for all other device specifications and operational information.