



**THE DATASHEET OF  
DS28E01-100+**



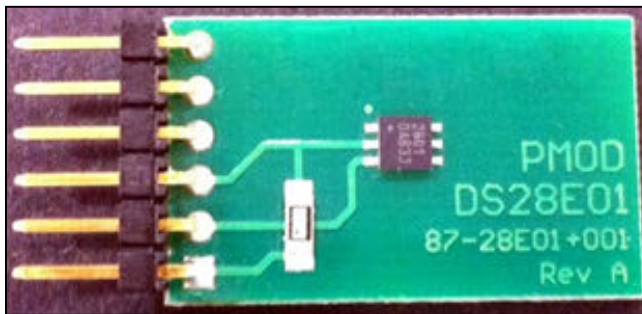
# DS28E01-100 Plug-In Module

## Evaluates: Xilinx FPGA IFF Copy Protection Scheme

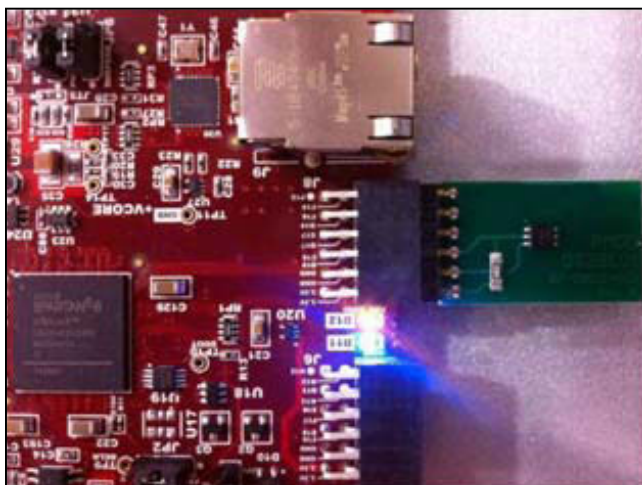
### General Description

The DS28E01PMOD provides the necessary hardware to interface a DS28E01-100 1Kb protected 1-Wire® EEPROM with a SHA-1 engine to a Xilinx Spartan®-6 LX16 Evaluation Kit made by Avnet. By using the DS28E01PMOD and the PicoBlaze™ SHA-1 Authentication Design for the Xilinx Spartan-6 LX16 Evaluation Kit, a secure SHA-1 challenge-and-response authentication can be implemented. The PicoBlaze SHA-1 Authentication Design is based upon the Xilinx XAPP780 application note, *FPGA IFF Copy Protection Using Dallas Semiconductor/Maxim DS2432 Secure EEPROMs*.

### DS28E01PMOD



### Interface to Evaluation Kit



**Note:** The DS28E01PMOD is designed to plug in component-side up of the upper row pins on the J8 connector, when using the Xilinx Spartan-6 LX16 Evaluation Kit.

1-Wire is a registered trademark of Maxim Integrated Products, Inc.

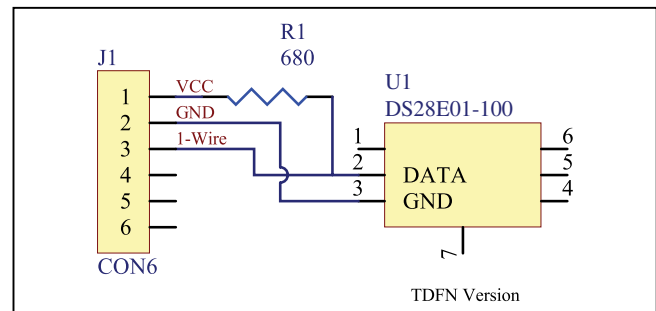
Spartan is a registered trademark and PicoBlaze is a trademark of Xilinx, Inc.

For pricing, delivery, and ordering information, please contact Maxim Direct at 1-888-629-4642, or visit Maxim Integrated's website at [www.maximintegrated.com](http://www.maximintegrated.com).

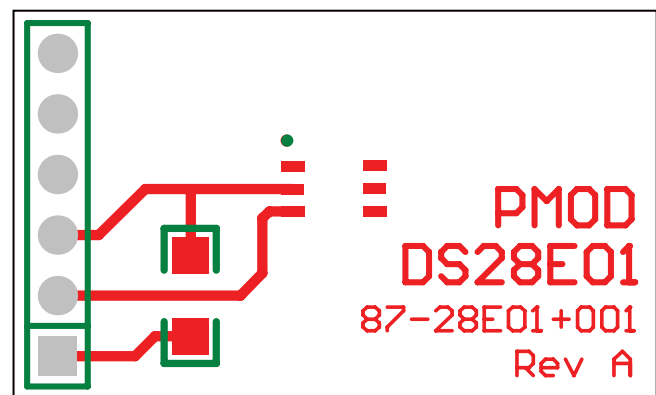
### Features

- ◆ Interfaces to Avnet-Made Xilinx Spartan-6 LX16 Evaluation Kit (Part No.: AES-S6EV-LX16-G)
- ◆ Designed for Use with PicoBlaze SHA-1 Authentication Design
- ◆ On-Board Rpup for 1-Wire Communication to a FPGA I/O at 3.3V
- ◆ 0.1in-Spaced Pin Breakout of DS28E01-100 TDFN
- ◆ Board Size: 1.06in x 0.64in

### Schematic



### Layout



### Ordering Information

PART	TYPE
DS28E01PMOD+	Module
AES-S6EV-LX16-G*	Evaluation Kit

+Denotes lead(Pb)-free and RoHS compliant.

\*Order the Xilinx Spartan-6 LX16 Evaluation Kit directly from Avnet at [www.avnet.com](http://www.avnet.com).

# DS28E01-100 Plug-In Module Evaluates: Xilinx FPGA IFF Copy Protection Scheme

## Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	5/11	Initial release	—



Maxim Integrated cannot assume responsibility for use of any circuitry other than circuitry entirely embodied in a Maxim Integrated product. No circuit patent licenses are implied. Maxim Integrated reserves the right to change the circuitry and specifications without notice at any time. The parametric values (min and max limits) shown in the Electrical Characteristics table are guaranteed. Other parametric values quoted in this data sheet are provided for guidance.

**Maxim Integrated 160 Rio Robles, San Jose, CA 95134 USA 1-408-601-1000**

2

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

 [View DS28E01-100+](#) on WIN SOURCE

 [Maxim Integrated](#) Information

## Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management