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.

**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

**Ordering Information**

<table>
<thead>
<tr>
<th>PART</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS28E01PMOD+</td>
<td>Module</td>
</tr>
<tr>
<td>AES-S6EV-LX16-G*</td>
<td>Evaluation Kit</td>
</tr>
</tbody>
</table>

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

*Order the Xilinx Spartan-6 LX16 Evaluation Kit directly from Avnet at www.avnet.com.

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.

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

Spartan is a registered trademark and PicoBlaze is a trademark of Xilinx, Inc.
DS28E01-100 Plug-In Module
Evaluates: Xilinx FPGA IFF Copy Protection Scheme

### Revision History

<table>
<thead>
<tr>
<th>REVISION NUMBER</th>
<th>REVISION DATE</th>
<th>DESCRIPTION</th>
<th>PAGES CHANGED</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>5/11</td>
<td>Initial release</td>
<td>—</td>
</tr>
</tbody>
</table>

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.