# IS24C16A Smart Card (#32322)

The IS24C16A Smart Card provides 2 KB of serial EEPROM accessible by the Smart Card Reader (#32320). Memory is organized into eight 16-byte pages, providing a vast amount of storage for your smart card application.

## Features

- Memory Organization: 2048 x 8 bits, in eight 16-byte pages
- 1,000,000 erase/write cycles guaranteed with 100 year data retention
- 5 ms max write time with auto clear
- Compatible with BASIC Stamp® & Propeller™ microcontrollers

## Key Specifications

- Power Requirements: 1.8–5.5 VDC
- Communication: I$^2$C (CMOS)
- Operating temperature: -40 to +212 °F (-40 to +100 °C)
- Dimensions: 2.5 x 3 in (6.35 x 7.62 cm)
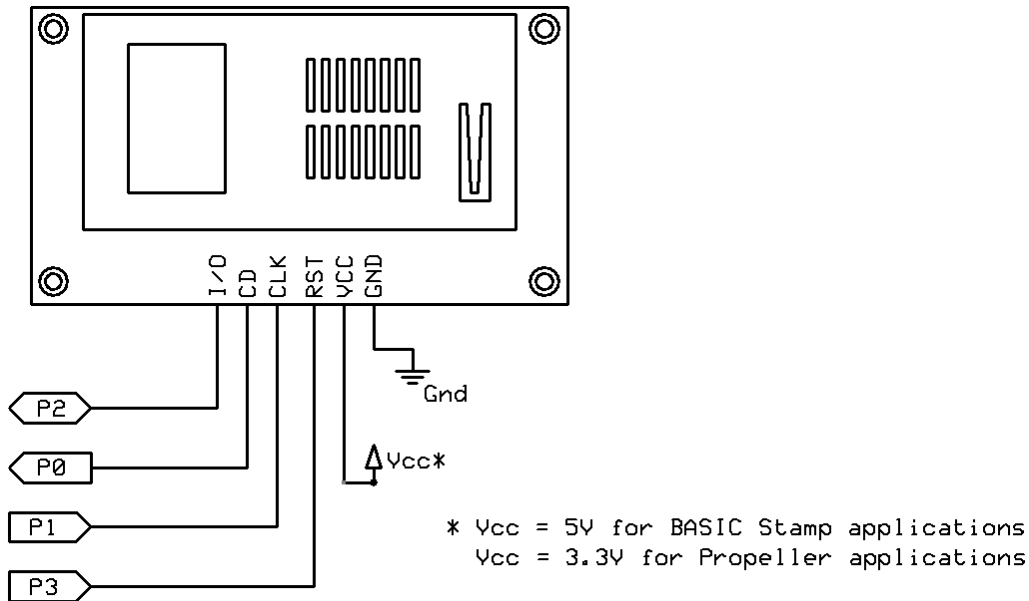
## Application Ideas

- Security systems
- Data storage
- Tracking systems
- Identity authentication

## About the IS24C16A Smart Card

Smart cards are used in a variety of applications ranging from telecommunications to personal finance. The IS24C16A smart card is 2048 x 8 bits of EEPROM memory, organized into eight 16-byte pages. The pins of the IS24C16A are accessible through the gold plated contact pads embedded in the card, and when paired with the Smart Card Reader (#32320) can be connected to the IO pins of a microcontroller.

## Connection Diagram

In order to interface with the smart card, a smart card reader must be used. The diagram below demonstrates how to connect the Smart Card Reader (#32320) from Parallax to your microcontroller for use with the example programs included on the IS24C16A product page. When inserting the smart card into the reader, be sure the gold contact pads are facing down.



* Vcc = 5V for BASIC Stamp applications
  Vcc = 3.3V for Propeller applications

## Resources and Downloads

Check for the latest version of this document, manufacturer's datasheet, and example programs from the IS24C16A Smart Card product page. Go to www.parallax.com and search 32322.

## BASIC Stamp® Example Code

Example code for the BASIC Stamp 2 can be found on the IS24C16A product page. This code demonstrates basic read and write functions to the smart card.

This program also uses the Debug Terminal, which is built into the BASIC Stamp Editor software. The software is a free download from www.parallax.com/basicstampsoftware.

## Propeller™ P8X32A Example Code

Example code for the Propeller can be found on the IS24C16A product page. This code demonstrates basic read and write functions to the smart card.

This program also uses the Parallax Serial Terminal to display the device output. The object and the Parallax Serial Terminal itself are included with the with the Propeller Tool v1.2.7 or higher, which is available from the Downloads link at www.parallax.com/Propeller.