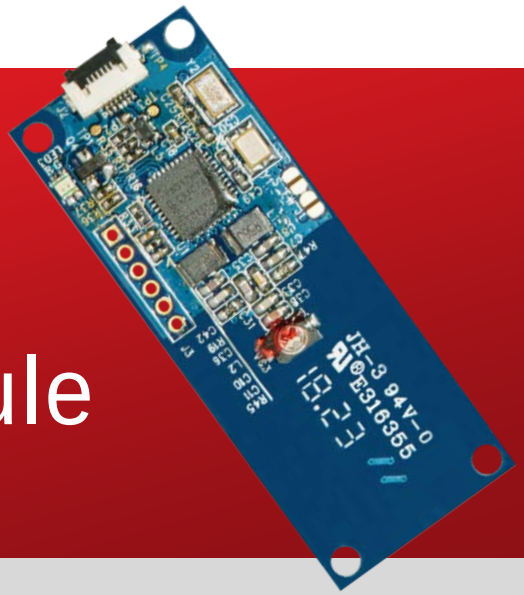
Advanced Card Systems Ltd.
Card & Reader Technologies

ACM1252U-Z6

Small NFC Reader Module



User Manual V1.00

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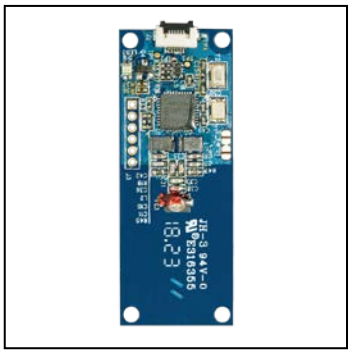
1.0. Introduction



The ACM1252U-Z6 is an NFC reader module with an FFC connector developed based on the 13.56 MHz contactless technology. This NFC Reader Module supports all three NFC modes, namely card reader/writer, card emulation, and peer-to-peer communication.

The ACM1252U-Z6 supports ISO 14443 Type A and B cards, MIFARE®, FeliCa, and ISO 18092–compliant NFC tags. It also supports other NFC devices with an access speed of up to 424 Kbps and a proximity operating distance of up to 30 mm (depending on tag type used).

It is PC/SC-compliant for interoperability across different applications and platforms, and provides high-speed communication ability for contactless cards and NFC tags/devices. Post-deployment firmware upgrade is also supported, eliminating the need for additional hardware modification.

2.0. PIN Assignment

2.1. LED Configuration

There is a bi-color LED (Red and Green) on the ACM1252U-Z6 to display and control its operation status.

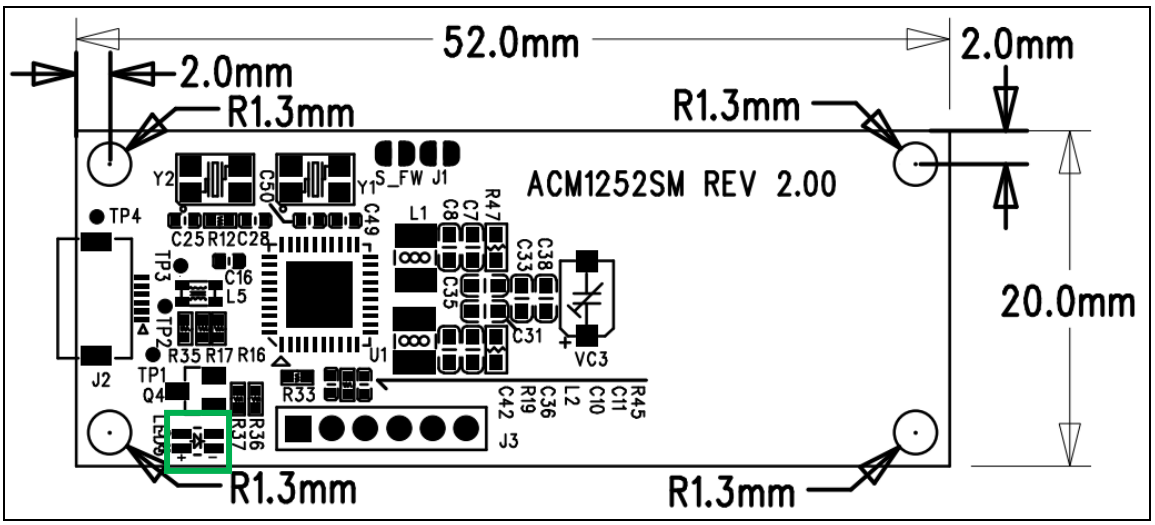


Figure 1: LED Configuration

2.1.1. LED for Power status

The default LED settings when the power is on are Red and Green and then slow flashing Green. These LEDs cannot be controlled.

2.1.2. LED for smart card operation status

To control the LEDs' output and checking their behavior for smart card operation status, please refer to the ACM1252U-Z6 Reference Manual. The manual will discuss how PC/SC APDU commands were implemented for the contactless interface and device peripherals of the ACM1252U-Z6.

2.1.3. Default LED Behaviors

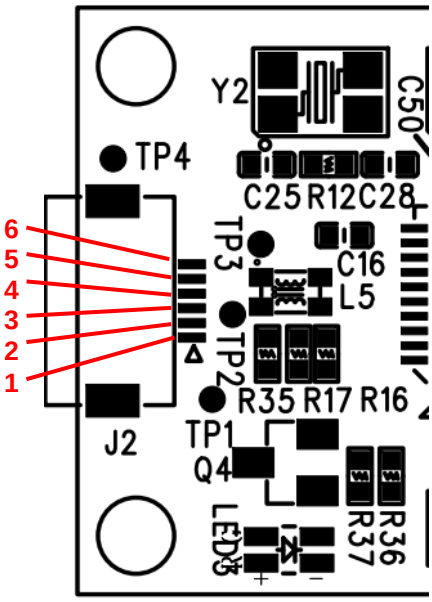
To control the LEDs' output and check the LED's behavior, you may refer to the ACM1252U-Z6 Reference Manual.

2.2. Connect ACM1252U-Z6 to another device via USB

A USB port is available to connect the ACM1252U-Z6 to another peripheral or device.

To do this:

1. Connect socket (**J2**) via FFC cable (6 Pins, 0.5mm Pitch) to another peripheral device (see **Figure 2**).

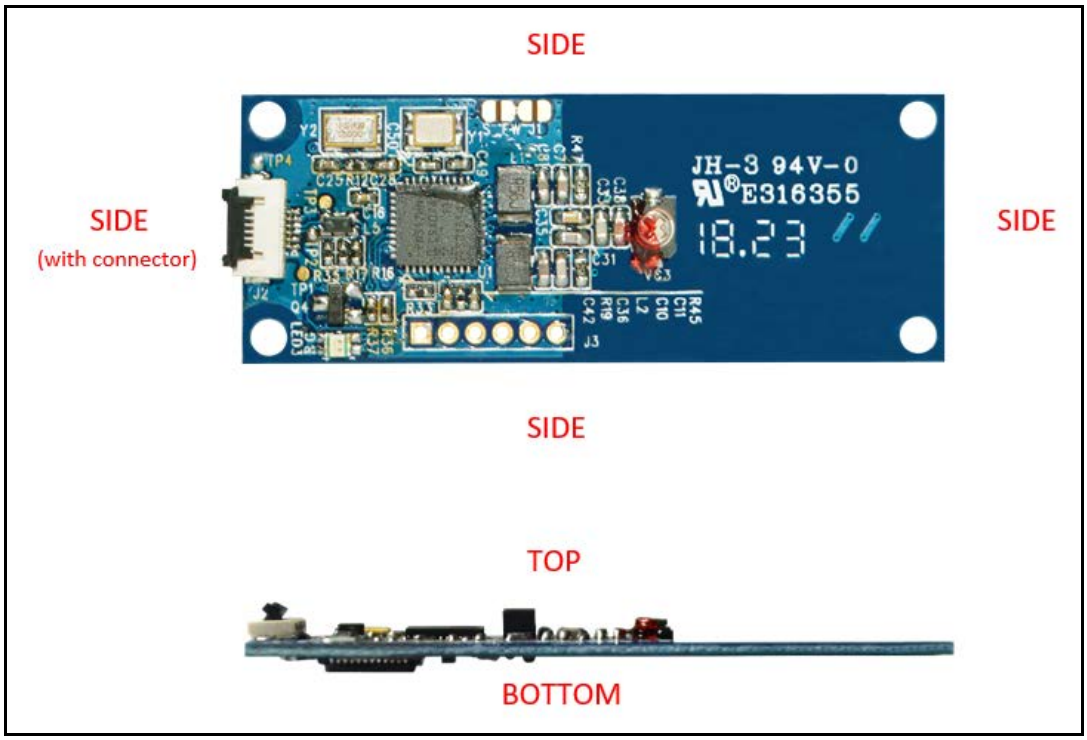


Pin	Test Point	Description
1,2	TP1	USB VBUS (5V)
3	TP2	USB D-
4	TP3	USB D+
5	TP4	USB GND
6		Connect to GND with 0ohm Resistor (R7)

Figure 2: ACM1252U-Z6 USB Configuration

3.0. Minimum Distances from Conductive Materials

The table below illustrates the recommended minimum distances of the ACM1252U-Z6 from conductive materials.



Location	Minimum Distance
Sides	15 mm
Side (with connector)	5 mm
Top and Bottom	30 mm

Table 1: Recommended Minimum Distances from Conductive Materials

Appendix A. Connector Specification

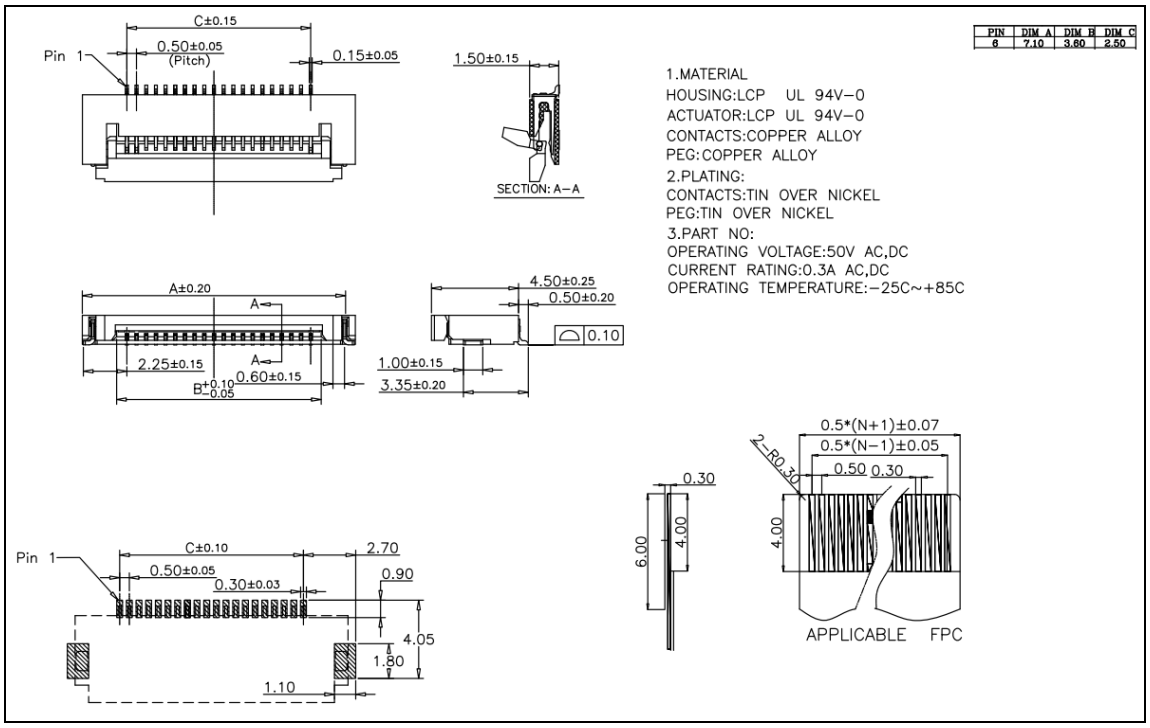


Figure 3: ACM1252U-Z6 USB Connector Specification

Note: *The connector shown in* ***Figure 3*** *is attached to the PCB.*