

Characteristics of Serial Peripheral Interfaces (SPI) timing parameters for optical mouse sensor

In this paper we report the characterizations results of Serial Peripheral Interface (SPI) timing parameters for optical mouse sensor. SPI is an interface that facilitates the transfer of synchronous serial data. It supports two-way communication between mouse sensor and microcontroller. The test setups were used consist of digital oscilloscope, power supply, mouse sensor, test board and personal computer. The SPI timing parameters that were evaluated are readaddress data delay, the timing between read and subsequent commands, rise and fall time, hold time, setup time, NCS to SCLK active, SCLK to NCS inactive (read operation) and SCLK to NCS inactive (write operation). The timing parameters results were within the limit as specified in product datasheet.