Optical Mouse Sensor Solutions
- PC Pointing Device
Available!

Mouse Sensor

- Optical Sensor
  - 6100A
  - 6110A (Low Bill of Material)
  - 118A (SoC for Wire)
  - 120A (Low Power for Wireless)

- Laser Sensor
  - 8500A (Low Power both Wire and Wireless)
## SPCP Mouse Sensor Table List

<table>
<thead>
<tr>
<th>Part No. (SPCP)</th>
<th>Sensor Type</th>
<th>Working Voltage (V)</th>
<th>Tracking Performance</th>
<th>Resolution</th>
<th>Package</th>
<th>OSC. Ext. CLK</th>
<th>Special Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>6100A</td>
<td>Optical Sensor</td>
<td>4.1 ~ 5.5</td>
<td>3g, 12ips</td>
<td>400 (800 by MCU)</td>
<td>DIP 8pins</td>
<td>24MHz</td>
<td>2-wire SPI</td>
</tr>
<tr>
<td>6110A</td>
<td>Optical Sensor</td>
<td>4.0 ~ 5.25</td>
<td>2g, 14ips</td>
<td>500 / 1000</td>
<td>DIP 8pins</td>
<td>Internal Oscillator</td>
<td>3-wire SPI</td>
</tr>
<tr>
<td>8500A</td>
<td>Low Power Laser Sensor</td>
<td>2.7 ~ 3.6</td>
<td>8g, 20ips</td>
<td>400 / 800</td>
<td>DIP 22pins</td>
<td>Internal Oscillator</td>
<td>4-wire SPI, Build-in VCSEL</td>
</tr>
<tr>
<td>120A</td>
<td>Low Power Optical Sensor</td>
<td>3.0 ~ 3.6</td>
<td>3g, 14ips</td>
<td>400 / 600 / 800</td>
<td>DIP 16pins</td>
<td>6MHz</td>
<td>3-wire SPI</td>
</tr>
<tr>
<td>118A</td>
<td>SoC Optical Mouse Sensor</td>
<td>4.0 ~ 5.5</td>
<td>3g, 14ips</td>
<td>400 / 600 / 800</td>
<td>DIP 16 / 20 pins</td>
<td>6MHz</td>
<td>USB Combo SoC, Build-in LED for 20pins</td>
</tr>
</tbody>
</table>
SPCP6100A Optical Mouse Sensor

- 18X18 pixels matrix
- 3000fps, 3g & 12 ips tracking performance
- 400cpi Resolution (up to 800cpi by MCU)
- SPI to programming reg. & data transfer
- Smooth surface navigation
- Conforms to USB suspend mode
- One 24MHz clock source
- Package DIP 8pins with Small form factor
SPCP6110A Optical Mouse Sensor

✓ Auto fps, 2g & 14 ips tracking performance
✓ Selectable 500cpi & 1000cpi resolution
✓ 3-wire serial interface
✓ Low bill of passive components
✓ Built-in LED driver with simply circuitry
✓ Smooth surface navigation
✓ Conforms to USB suspend mode
✓ Internal oscillator – no clock input needed
✓ Package DIP 8pins with Small form factor

Available!
SPCP8500A Laser Mouse Sensor

- Auto fps, 8g & 20 ips tracking performance
- Selectable 400cpi & 800cpi resolution
- 4-wire serial port
- Low bill of passive components
- Built-in VCSEL driver with simply circuitry
- Smooth surface navigation
- Conforms to USB suspend mode
- Internal oscillator – no clock input needed
- Wide operating voltage: 2.7V-3.6V
- IEC 60825-1 Class-1 eye safety compliance
- Package DIP 22pins

Available!
Optical Mouse SoC Solutions
- PC Pointing Device
SPCP118A Optical Mouse SoC

a normal optical mouse
SPCP118A Optical Mouse SoC Feature

- 16X16 pixels matrix
- 2000 fps, 3g & 14 ips tracking performance
- 400/600/800 cpi Selectable
- 3 ~ 5 buttons support
- 8bits MCU + Sensor Built-in
- USB + PS/2 Combo interface
- Few extra components (at last 8 parts)
- Lower illumination required
- One 6MHz Clock Source only
- Package DIP 16pins ; 20pins

Available!
Low Power Optical Mouse Sensor Solutions
- PC Pointing Device
SPCP120A Low Power Optical Mouse Sensor

- 16X16 pixels matrix
- 3000 fps, 3g & 14 ips tracking performance
- 400/600/800 cpi Selectable
- 3-wire serial interface
- Built-in LED driver with simply circuitry
- Operating voltage: 3.0V-3.6V
- Lower illumination required
- One 6MHz Clock Source only
- Package DIP 16pins
Wire/Wireless IPD Solutions
- Keyboard/Mouse
# SPCP Micro-controller Table List

<table>
<thead>
<tr>
<th>Part No. (SPCP)</th>
<th>CPU</th>
<th>Working Voltage (V)</th>
<th>Max. Speed (MHz)</th>
<th>ROM (Byte)</th>
<th>RAM (Byte)</th>
<th>USB Speed Endpoint</th>
<th>Analog</th>
<th>Timer</th>
<th>CPU OSC.</th>
<th>Wdog</th>
<th>Low V. Reset Circuit</th>
<th>Special function</th>
</tr>
</thead>
<tbody>
<tr>
<td>800A (OTP)</td>
<td>8-bit</td>
<td>2.0 ~ 5.5</td>
<td>10</td>
<td>10.5K</td>
<td>192</td>
<td>--</td>
<td>--</td>
<td>PB0-3, PE0-3</td>
<td></td>
<td></td>
<td></td>
<td>SPI</td>
</tr>
<tr>
<td>18A</td>
<td>8-bit</td>
<td>4.0 ~ 5.5</td>
<td>6</td>
<td>8.5K</td>
<td>128</td>
<td>Low 2-EPs</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>USB, Capture</td>
</tr>
<tr>
<td>825A (OTP)</td>
<td>8-bit</td>
<td>4.0 ~ 5.5</td>
<td>12</td>
<td>10.5K</td>
<td>192</td>
<td>Full / Low 3-EPs</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>USB, Capture, SPI, SCI</td>
</tr>
<tr>
<td>25A</td>
<td>8-bit</td>
<td>4.0 ~ 5.5</td>
<td>12</td>
<td>10.5K</td>
<td>192</td>
<td>Full / Low 3-EPs</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>USB, Capture, SPI, SCI</td>
</tr>
<tr>
<td>826A (OTP)</td>
<td>8-bit</td>
<td>4.0 ~ 5.5</td>
<td>12</td>
<td>16K</td>
<td>384</td>
<td>Full / Low 3-EPs</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>USB, Capture, SPI, UART</td>
</tr>
<tr>
<td>26A</td>
<td>8-bit</td>
<td>4.0 ~ 5.5</td>
<td>12</td>
<td>16K</td>
<td>384</td>
<td>Full / Low 3-EPs</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>USB, Capture, SPI, UART</td>
</tr>
<tr>
<td>835A (OTP)</td>
<td>8-bit</td>
<td>4.0 ~ 5.5</td>
<td>12</td>
<td>10.5K</td>
<td>192</td>
<td>Full 5-EPs</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>USB, Capture, UART, DMA</td>
</tr>
</tbody>
</table>
Wireless Mouse MCU OTP – SPMC802B

- 8-bit CPU, up to 6MHz operation
- Up to 28 GPIO with external interrupt input for system wake up
- 4.5KB OTP ROM, 128B RAM
- 2 Timers with WDT, 1 6-bit PWM
- 2 Analog Comparators
- 3 groups of interrupt
- 2.4V ~ 5.5V Operation
- SPMC02A: Mask version
Keyboard MCU OTP – SPCP800A

- Up to 10MHz operation
- Up to 44 GPIO with external interrupt input for system wake up
- 10.5KB OTP ROM, 192B RAM
- One 12-bit Free-Run Timer, One 8-bit Re-loadable Timer
- 8CH 8-bit AD/C inputs
- Support schedule wake up
- One serial interface: SPI
- 40 DIP or 48 LQFP Package
- 2.0V ~ 5.5V operation
USB Low/Full Speed MCU OTP – SPCP825A

- 6 or 12MHz operation with internal PLL supporting
- Up to 17 GPIO with external interrupt input for system wake up
- 10.5KB OTP ROM, 192B RAM
- 3 EPs with programmable direction
- Support schedule wake up
- One 14-bit free-run timer, Two 8-bit reloadable/cascadable timers
- Two serial interfaces: SPI and UART
- 24/20 DIP or SOP Package
- 4.0V ~ 5.5V operation
- SPCP25A: Mask version
USB Low Speed MCU – SPCP18A

- 6 MHz operation
- Up to 13 GPIO with external interrupt input for system wake up
- 8.5KB ROM, 128B RAM
- 2 EPs with programmable direction
- Support schedule wake up
- One 14-bit free-run timer, One 8-bit reload-able timer
- 20/18/16 DIP or SOP Package
- 4.0V ~ 5.5V operation
- Can be used as simple USB dongle for wireless mouse
- Use SPCP825A for prototyping development
USB Low/Full Speed Enhanced MCU – SPCP826A

- 6 or 12MHz operation with internal PLL supporting
- Up to 21 GPIO with external interrupt input for system wake up
- 16KB OTP ROM, 384B RAM
- 3 EPs with programmable direction
- Support schedule wake up
- One 14-bit free-run timer, Two 8-bit reloadable/cascadable timers
- Two serial interfaces: SPI and UART
- Two PS2 hardware engines
- 28/24 DIP or SOP Package
- 4.0V ~ 5.5V operation
- SPCP26A: Mask version
2.4GHz 16CH - 2way Wireless Desktop Configuration

- **Key Matrix**
- **RF Keyboard**
  - CP800
  - OTP
  - 24L01
  - 16CH RF TX
- **RF Mouse**
  - A6030
  - A3040
  - OTP
- **RF Receiver**
  - 24L01
  - 16CH RF RX
  - CP825
  - USB OTP
- **USB KBD/MSE Port**
2.4GHz 16CH - 1way Wireless Mouse Configuration

**OTP : Development Stage Solution**
**Mask : Mass Production**

RF Mouse Tx

- A6030
- A3040
- Low Power Laser Sensor

MC802B OTP

24L01 16CH RF Tx/Rx

RF Mouse Tx

nRF2401 RF Tx/Rx

Mouse Rx

SPCP18A

USB/PS2 Combo
Full Speed USB Solutions
- PC Connection
SPCP825A

RS232 to USB Solution
(Virtual COM Port Solution)

Apply for
All Devices with RS232 Interface
NOTE: All AP which originally connected with COM port can use Virtual COM port without any further modification.
USB-Parallel / Serial Bridge – SPCP835A

- 6 or 12MHz operation with internal PLL supporting
- Up to 19 GPIO with external interrupt input for system wake up
- 10.5KB OTP ROM, 192B RAM
- 4 EPs for Control, Interrupt, or Bulk
- Up to 3Mbps full function UART I/F
- Up to 1MB/s 8-bit parallel I/F
- Support schedule wake up
- One 14-bit free-run timer, Two 8-bit reloadable/cascadable timers
- 2 input capture inputs
- 28 DIP or SOP Package
- 4.0V ~ 5.5V operation with 2.7V ~ 5.5V I/O
SPCP835A

USB Fingerprint Solution

Apply for Sweep Fingerprint Sensor
Simply plug the products into the PC and install the included software.
Thank You !