



# VT5366

## 1.8V Optical mouse sensor

Data Brief

### Feature summary

- Pin compatible with VT5364
- Can be used (with external MCU) in all optical mouse applications
- Single +1.8V supply
- Very low power operation, enabling long battery life
- CPI programmable up to 3200 (default 800 cpi)
- Up to 9,600 frames per second
- Tracking at up to 40 ips
- I2C Interface
- On-chip ADC for voltage level reporting
- Proven, high volume package technology - smallest package currently available on market
- Minimal external circuitry
- Suitable for use with both LED and laser (VCSEL) light sources

### Description

The VT5366 has been designed for pin to pin compatibility with the VT5364<sup>(a)</sup> and is STMicroelectronics first generally available chip for use in all optical mice applications (USB/PS2, Wireless - 27MHz/2.4GHz and BlueTooth). The device has been designed to provide long battery life whilst enabling excellent navigation control and precision on a wide range of surfaces. Housed in the smallest, currently available, package (7mmx7mm), the chip is suitable for use in small form-factor mice demanded by laptop users. Minimal external circuitry is required thereby reducing BOM and assembly costs.

The VT5366 sensor operates over a wide range of illuminant wavelengths. For devices operating at approximately 850 nm (IR LED or VCSEL), the on-die automatic exposure controller (AEC) compensates for the change in sensitivity compared to 640nm (red LED). Motion performance can be improved by increasing the current supplied to the navigation LED.

### Applications

- USB/PS2, Wireless & BlueTooth Optical Mouse

### Technical specifications

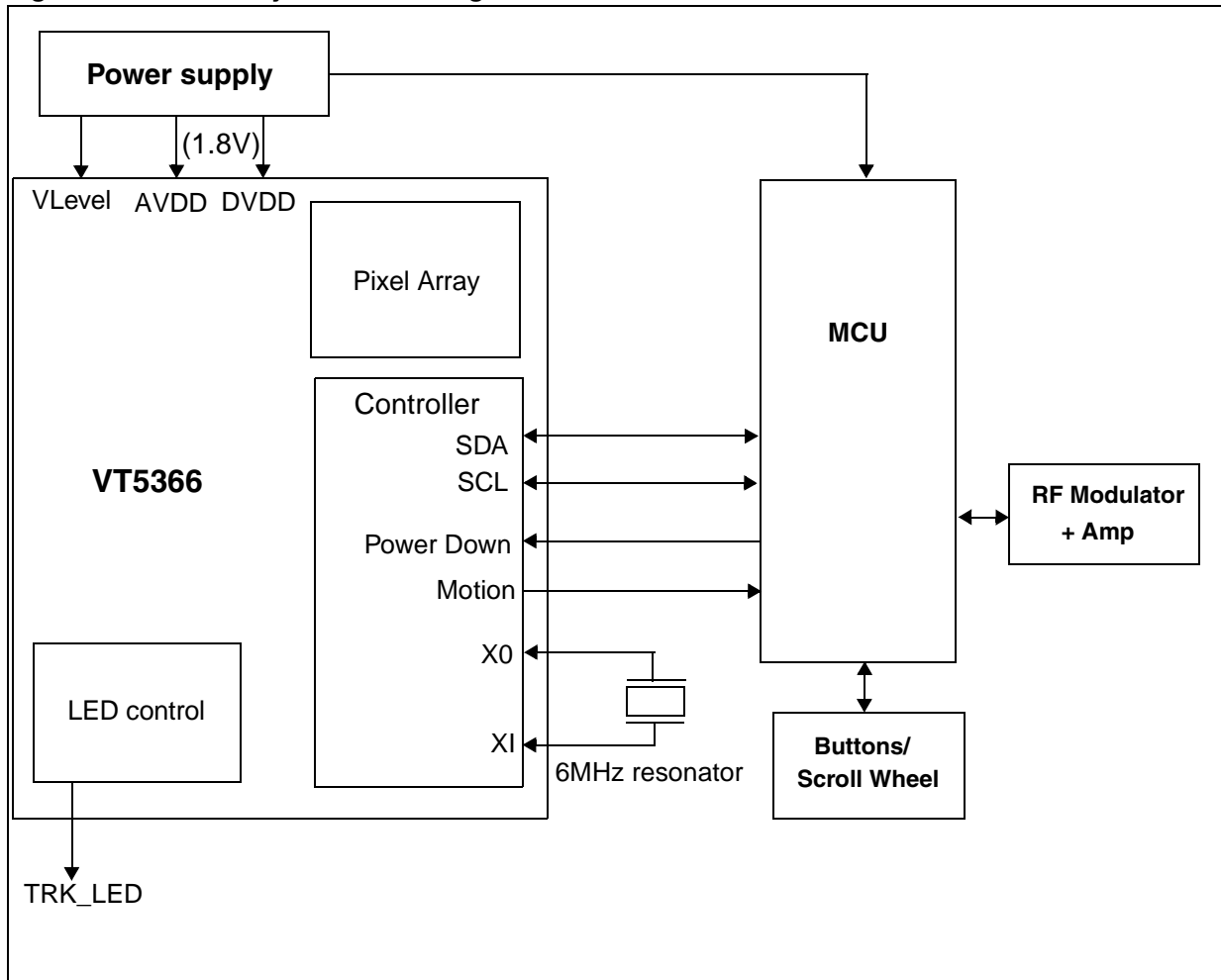
Resolution	CPI programmable up to 3200. Default 800
Pixel size	30.4 µm
Array size	20*20 pixels
Frame rate	Up to 9,600 frames/second
High speed motion detector	Accurate motion up to 40 ips
Clock	6MHz
Supply voltage	1.8V
Supply current	Run (9.6 Kfps) - 9 mA Power down - 10 µA typ. excluding LED
Operating temperature	[0: 60] °C
Package type	7*7mm 32 lead LOQFP (Low profile Optical Quad Flat Pack)

### Order codes

Part number	Package
VT5366V032	32-lead LOQFP

a. To make use of the new battery level function the PCB and firmware will need to be modified

Figure 1. VT5366 system block diagram





## Revision history

**Table 1. Document revision history**

Date	Revision	Changes
17-Mar-2006	1	Initial release.
13-Jun-2006	2	<i>Technical specifications</i> : Updated supply current values.

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