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 compatibilty with the VT5364[(a)] 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 approximatively 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

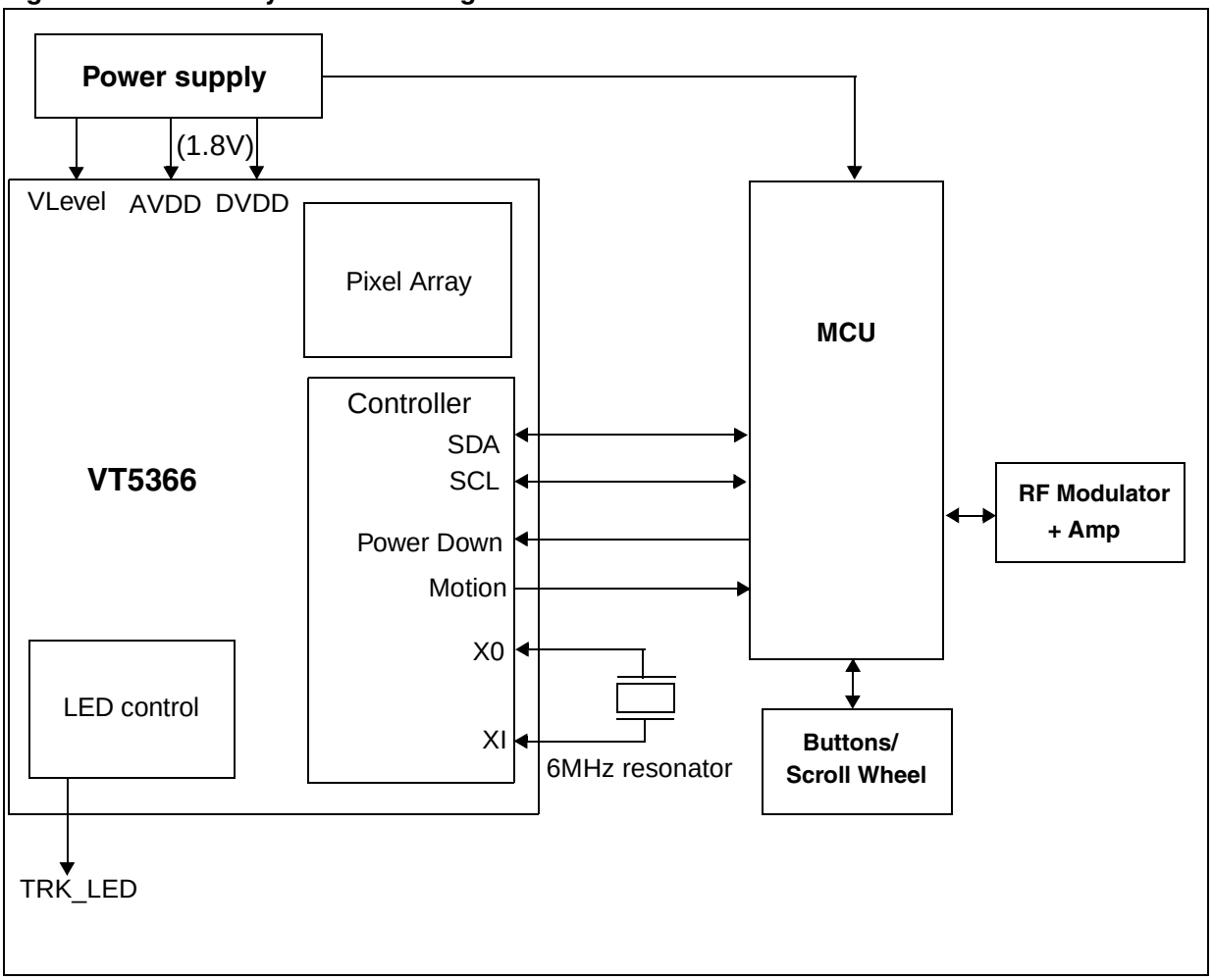
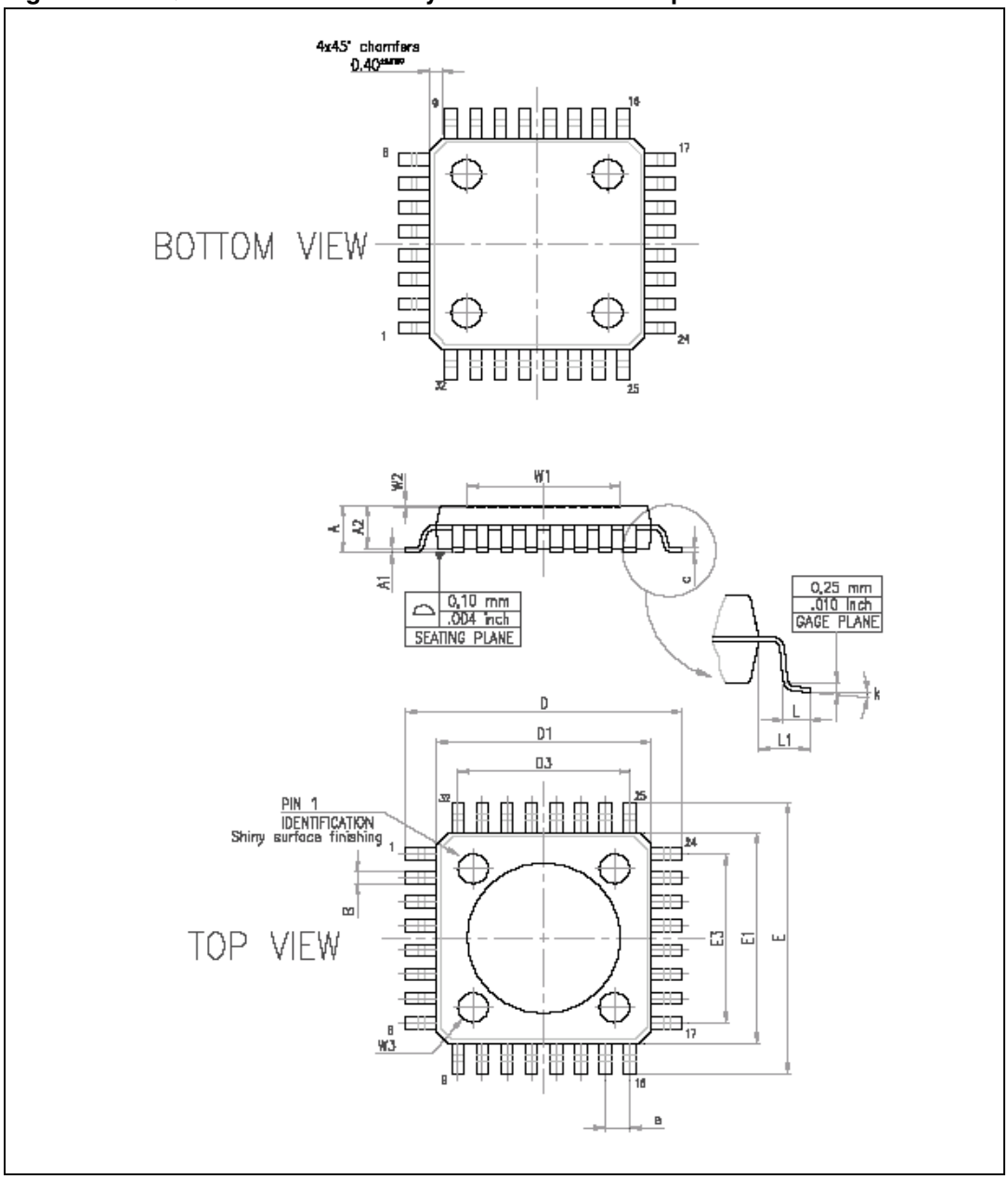


Figure 2. LQFP32 Clear resin body 7.0 x 7.0 x 1.40 footprint 1.0



Revision history

Table 1. Document revision history

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

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