

PAW3805EK-CJV1: Track-On-Glass Mouse Chip

General Description

The PixArt PAW3805EK-CJV1 is an optical chip which is optimized for infrared (IR) LED based wireless mouse application. It has high accuracy navigation ability that enables navigation virtually on any flat surface, including the transparent glass. The low power architecture and automatic power management make it suitable for power-sensitive application such as a wireless mouse. PAW3805EK-CJV1 is capable of high-speed motion detection up to the velocity of 40 inches/sec and 10g on non-glass surfaces, 20 inches/sec and acceleration of 5g on glass surface. In addition, it has an on-chip oscillator and a built-in programmable LED current driver. In order to achieve the best tracking performance, it is recommended to match the chip with L029-LSI optical lens.

Key Features

- Integrated package with optical chip and light source
- Virtually track on any flat surface, including glass
- Low power consumption
- Interface : 3-wire SPI (NCS, SCLK, SDIO)
- 16-bit motion data length for X-movement and Y-movement
- Resolution up to 3000cpi with ~26cpi per step
- Motion detection interrupt output
- Built-in Low Power Timer (LPT) for Sleep1/ Sleep2/ Sleep3 mode
- Programmable downshift time and sampling time during sleep modes
- Adaptive frame rate control for power saving during moving at different speeds
- Programmable LED Current Source (5-bits with 1.2mA/step) to provide LED with constant current

Applications

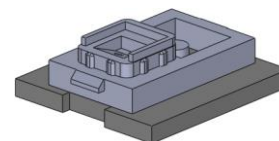
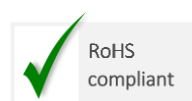
- Wireless mouse applications
- Optical navigation systems

Key Parameters

Parameter	Value
Supply Voltage (V)	2.2V - 3.3V
Interface	3-wire SPI (NCS, SCLK, SDIO)
Light Source	Infrared 850nm wavelength
Companion Lens	L029-LSI
Tracking Speed (ips)	Up to 40 on non-glass surfaces Up to 20 on glass surface
Acceleration (g)	Non-Glass surfaces: 10 (max.) Glass surface: 5 (max.)
Resolution (cpi)	Up to 3000 (~26 per step)
Operating Current @ VDD = 3.3V, on glass surface	Run : 2.5 mA Sleep1 : 500 μ A Sleep2 : 80 μ A Sleep3 : 40 μ A Power down : 15 μ A
Package Dimension L x W x H (mm)	10.7 x 9.8 x 3.67

Ordering Information

Part Number	Package Type
PAW3805EK-CJV1	LGA 12-pin
L029-LSI	Trim Lens



For any additional inquiries, please contact us at <http://www.pixart.com>