

DW9786

General Purpose OIS+OLAF Controller and Driver IC

Description

The DW9786 is a general purpose OIS+CLAF controller and driver IC for the camera module. This consists of built-in MCU, embedded flash memory, SRAM, and the PWM controller to drive OIS and VCM actuators.

Features

- On-chip 32bit MCU
- eFlash 64KB: 40KB for Program, 8KB for LUT, 16KB for User
- SRAM: 40KB for program, 16KB for data, 1KB for filter, 1KB for FMC, 256B for ring_buffer, 128B for ADC buffer
- VDDM = 1.8V ~ 3.6V, VDDA = 2.6V ~ 3.6V, VDDIO = 1.7V ~ 3.6V
- OIS: Current type linear driver 2ch I_{max}. = 200mA
- AF: Current type linear driver 1ch I_{max}. = 200mA
- ADC: 15.7bit resolution Analog-to-Digital Converter (ADC)
- DAC: 8bit Hall offset control
- I²C slave main: Fast Mode, Fast Mode plus and HS mode
 - ID Pin Low: 0x24(OIS), 0x46(Memory)
 - ID Pin High: 0x32(OIS), 0x74(Memory)
- I²C master/slave sub: Fast Mode, Fast Mode plus and HS mode
- 2ch SPI master/slave: multi-CS slave function available
- SAC: SAC2, 3, 4
- Internal OSC: 72MHz
- 192MHz PLL for PWM
- PWM frequency: 20KHz ~ 1MHz
- Internal Temperature Sensor
- External Thermometer
- LDO with external capacitor (1uF)
- Gyro I/F: SPI I/F
- Current sourcing type (PMOS)
- Consider TMR solution: Sensor LDO, Offset control, 6ch
- PKG: 44 pins WLCSP (1.65mm x 4.8mm x 0.32mm)

Applications

- Mobile cameras
- Digital still cameras
- Camcorders
- Web cameras
- Action cameras

Typical Application Diagram

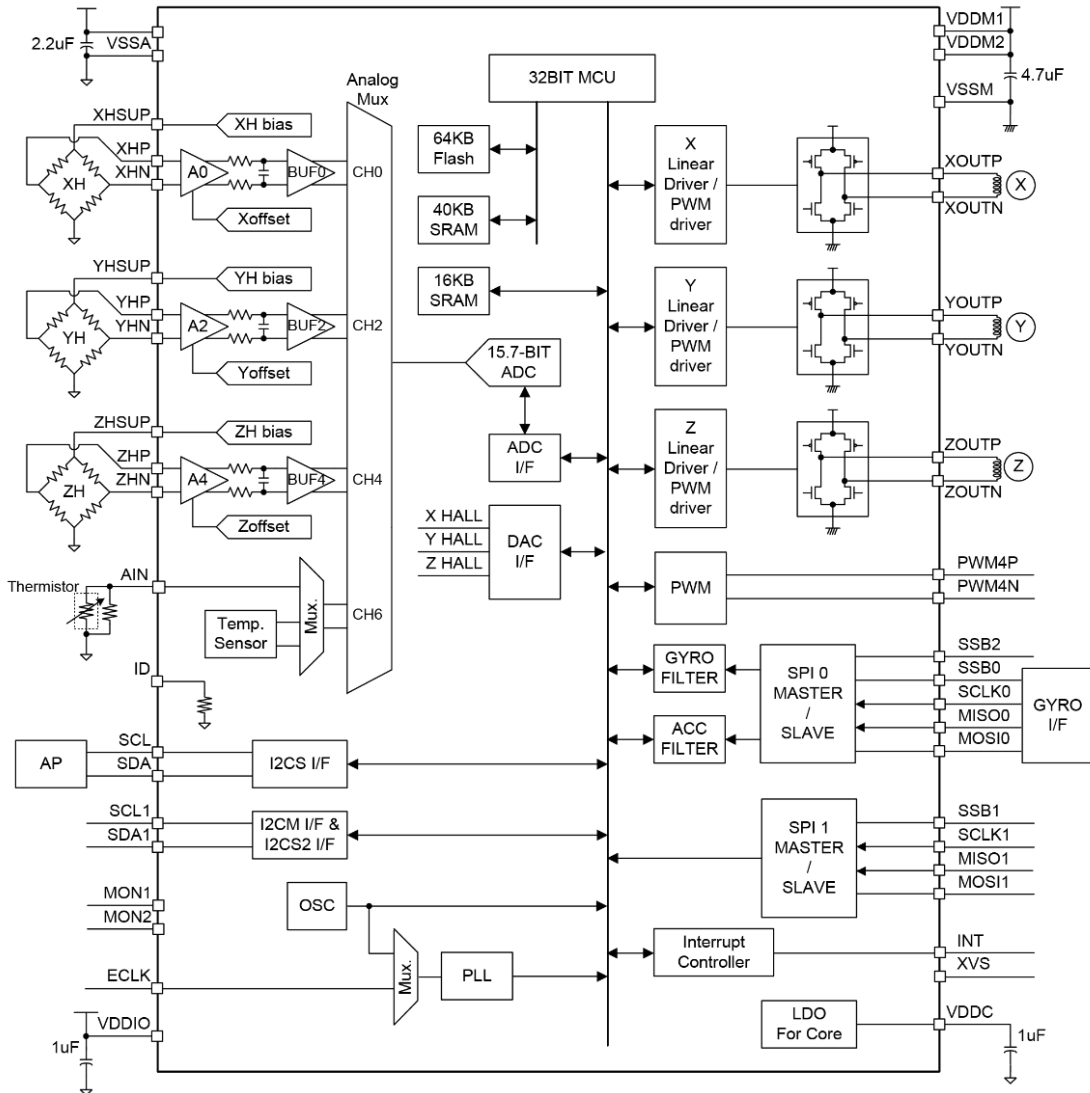


Figure 1. Typical Application Diagram

Important Notice

HMI reserves the rights to modify, update, improve, and discontinue its products, services, documentations and more without advance notice. We encourage customers to contact HMI's sales representative for the most up to date product information.

HMI's products, solutions, and documents must not be used for any medical or military purposes without a proper legal authorization from HMI. HMI disclaims any responsibilities and liabilities for personal or property damages arising from such applications.

All content, visuals, trademarks within this document, and any other intellectual property embedded in the product and document remains the sole property of HMI. Reproduction, alteration, distribution, or publication of any part or whole of this document is prohibited without legal consent from HMI.