

1/2-inch CMOS HD Digital Image Sensor

BG0701 Datasheet

General Descriptions

BG0701 is a high performance 1/2 inch HD CMOS digital image sensor with an active-pixel array 1280H x 720V. This chip features breakthrough high sensitivity and high dynamic range 5.5um x 5.5um pixels. Also multi-exposure mode and trigger mode is implemented. It is programmable through a simple two-wire serial interface.

Features

- High sensitivity and high dynamic range pixel.
- Single frame or video trigger mode.
- Four exposure context switching to extend dynamic range.
- Programmable controls: gain, frame rate, frame size, exposure.
- Superior low light performance.
- Enhanced NIR performance.
- Auto black level calibration.
- Black sun cancellation.
- Maximum 60 frame per sec.

Applications

- High-end surveillance
- Industrial vision

Key Parameter

Table 1 Key Specification

| Parameter | Typical Value | |
|--------------------------------|-----------------------|--------------|
| Optical format | 1/2 inch | |
| Active pixel array | 1280H x 720V | |
| Pixel size | 5.50um(H) x 5.50um(V) | |
| Active pixel array Area | 7040 um x 3960 um | |
| Frame rate | 60fps@full frame | |
| Color filter array | Bayer RGB/BW | |
| CRA | 8° | |
| Shutter Type | Electronic Rolling | |
| Sensitivity@550nm | 10.5V /lux.sec | |
| Dark current@60°C ^① | 41mV /sec | |
| SNR _{max} | 44dB | |
| Dynamic range | 64dB | |
| Output | 12-bit | |
| Power supply | Digital | 1.5V |
| | IO | 3.0V ~3.45V |
| | Analog | 3.15V ~3.45V |
| | Pixel | 2.9V ~3.1V |
| Power Consumption | 300mW@50fps | |
| Temperature range ^② | -30 ~70 °C | |
| Package Option | 48 pin CLCC | |

Note 1: junction temperature

Note 2: junction temperature