

**SONY****ICX418ALB****Diagonal 8mm (Type 1/2) CCD Image Sensor for EIA B/W Video Cameras****Description**

The ICX418ALB is an interline CCD solid-state image sensor suitable for EIA B/W video cameras with a diagonal 8mm (Type 1/2) system. Compared with the current product ICX038DLB, basic characteristics such as sensitivity, smear, dynamic range and S/N are improved drastically.

This chip features a field period readout system and an electronic shutter with variable charge-storage time. Also, this outline is miniaturized by using original package. This chip is compatible with the pins of the ICX038DLB and has the same drive conditions.

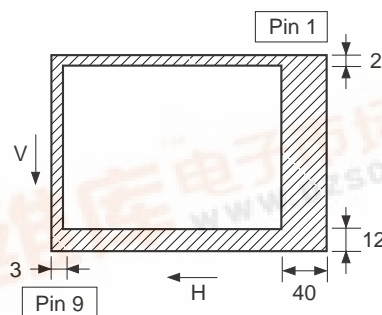
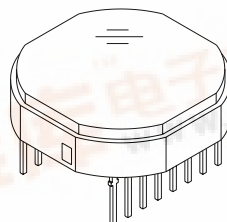
**Features**

- High sensitivity (+5.0dB compared with the ICX038DLB)
- Low smear (−5.0dB compared with the ICX038DLB)
- High D range (+2.0dB compared with the ICX038DLB)
- High S/N
- High resolution and low dark current
- Excellent antiblooming characteristics
- Continuous variable-speed shutter
- Substrate bias: Adjustment free (external adjustment also possible with 6 to 14V)
- Reset gate pulse: 5Vp-p adjustment free (drive also possible with 0 to 9V)
- Horizontal register: 5V drive
- Maximum package dimensions:  $\phi 13.2\text{mm}$

**Device Structure**

- Interline CCD image sensor
- Optical size: Diagonal 8mm (Type 1/2)
- Number of effective pixels: 768 (H)  $\times$  494 (V) approx. 380K pixels
- Total number of pixels: 811 (H)  $\times$  508 (V) approx. 410K pixels
- Chip size: 7.40mm (H)  $\times$  5.95mm (V)
- Unit cell size: 8.4 $\mu\text{m}$  (H)  $\times$  9.8 $\mu\text{m}$  (V)
- Optical black:
  - Horizontal (H) direction: Front 3 pixels, rear 40 pixels
  - Vertical (V) direction: Front 12 pixels, rear 2 pixels
- Number of dummy bits:
  - Horizontal 22
  - Vertical 1 (even fields only)
- Substrate material: Silicon

16 pin DIP (Ceramic)

**Optical black position  
(Top View)**

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