



Miniature 1/2" Type CCD Analog Monochrome Camera for Factory Automation and Inspection



## Key Features

**COMPACT DIMENSIONS** make the CS8420i camera ideal for space-sensitive industrial vision applications. It measure 31 x 29 x 70mm and weighs only 80g

**ELECTRONIC SHUTTER** enables the CS8420i to capture fast moving subjects in factory automation, assembly, machine vision and inspection. Shutter is selectable from 1/60s to 1/10000s

**1/2" TYPE INTERLINE CCD** delivers 768(H) x 494(V) active pixels for 570 TV Line resolution

**EXTERNAL SYNC SYSTEM** with automatic changeover

**ECONOMICAL** without compromising excellent performance

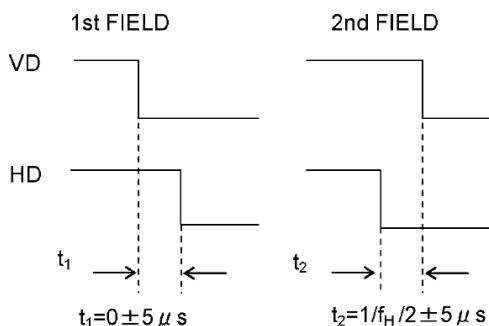
# CS8420i

## SPECIFICATIONS

TV System	EIA
Image Sensor	Interline CCD
Active pixel	768(H) x 494(V)
Chip size	8.4umx 9.8um
Active image area	6.5mm(H) x 4.85mm(V) (equivalent to 1/2" normal optical image size respectively)
Number of scanning lines	525 lines
Scanning system	2:1 interlace
Sync system	Internal/External(Automatic change over)
Scanning frequencies	
Horizontal drive (H)	15.734 kHz
Vertical drive (V)	59.94Hz
Aspect ratio	4 : 3
Sensitivity	
Standard :	100 lx at F5.6
Minimum	0.2 lx at F1.4
Video output	VS(Video + SYNC) : 1.0V(p-p)/75 Ω
Resolution	Horizontal direction : 570 TV lines Vertical direction : 485 TV lines (350 TV lines)
S/N Ratio	56dB
Gamma correction	1.0
Input Signal	
HD,VD and SYNC	4.0±2.0 V(p-p)
VS	1.0 V(p-p)(SYNC 0.3V(p-p))
Input impedance	75Ω/HIGH selection can be made using the internal switch
Pulse polarity	Negative polarity
Pulse width	HD : 6.4+3 μ sec VD : 150 to 800 μ sec
Frequency	Horizontal( $f_H$ ) : 15.734 kHz±2% Vertical( $f_V$ ) : $2f_H/525$
Number of scanning lines	525 lines
Output Signal	
Pulse level	4.5V(p-p) / not impedance
Interlace	2:1
Polarity	Negative
Pulse width	HD : 6.36±0.1 μ sec VD : 572±1 μ sec
Frequency	Horizontal( $f_H$ ) : 15.73426 kHz±100ppm Vertical( $f_V$ ) : $2f_H/525$
Number of scanning lines	525 lines
Electronic shutter	ON/OFF selectable (1/60,1/100,1/250,1/500,1/1000,1/2000,1/4000,1/10000 sec.)
Power source	DC12V±10% within 10mV(p-p) ripple
Power consumption	approx. 210mA
Ambient condition	0°C to 40°C, Humidity less than 90%
Lens mount	C-mount
Dimensions	31(W)mm x 29(H)mm x 70(D) mm
Weight	approx. 80 g

## Phase Between HD/VD

The phase relations between HD and VD should be as shown:

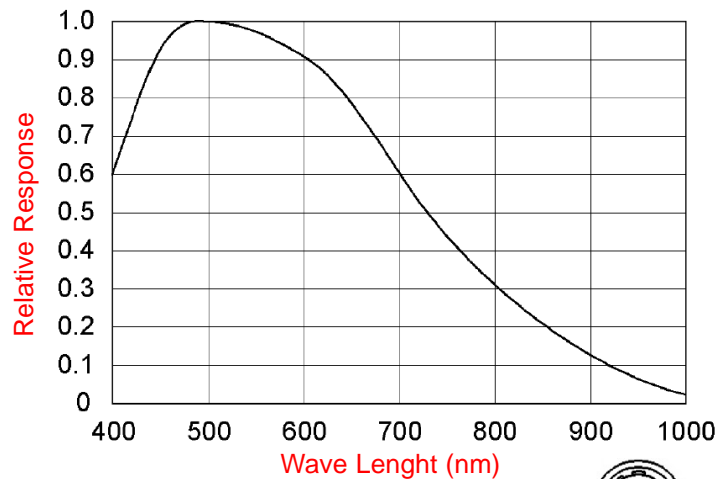


## Typical Applications

Video image capture applications for the CS8420i include high-speed machine vision, inspection, factory automation, quality control, positioning and many others.

## Typical Spectral Response

(lens characteristics and light source is not reflected in table)

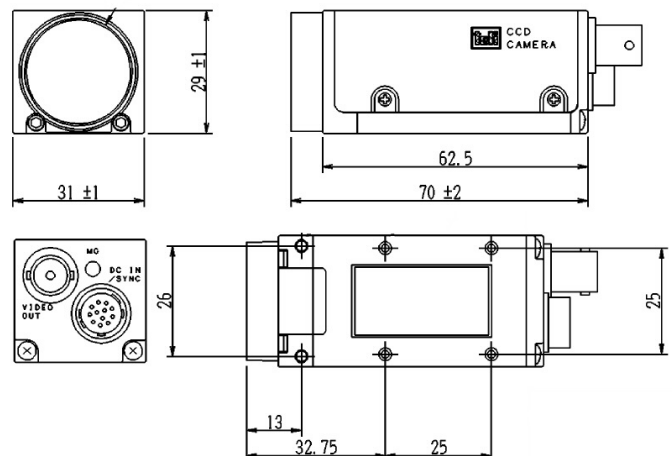


## DC IN/SYNC CONNECTOR ASSIGNMENT

Camera Connector: HR10A-10P-12P (Hirose Denki)



PIN NO.	EXTERNAL SYNCHRONIZATION		INTERNAL SYNCHRONIZATION
	HD AND VD	VS/SYNC	
1	GND	GND	GND
2	+12V	+12V	+12V
3	Video output (GND)	Video output (GND)	Video output (GND)
4	Video output (signal)	Video output (signal)	Video output (signal)
5	HD input (GND)		HD output (GND)
6	HD input (signal)		HD output (signal)
7	VD input (signal)	VS/SYNC input (signal)	VD output (signal)
8			
9			
10	GND	GND	GND
11	+12V	+12V	+12V
12	VD input (GND)	VS/SYNC (GND)	VD output (GND)



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