

CS 8560D

BIW Progressive Scan CCD Video Camera



- **1/3" Progressive Scan CCD Image Sensor with Square Pixel ICX424AL-6**
- **Resolution 659(H) x 494(V) VGA**
- **High Speed Image Output, 60fps**
- **Random Trigger Shutter (RTS)**
- **Restart / Reset, Internal/External Sync**
- **Multiple Shutter**
- **Partial Scan Mode**
- **Ultra Compact and Light Weight**
- **Application**
 - Machine vision
 - Factory automation
 - Quality control



Technical Data

Type Image sensor

Video output pixels
Unit pixel size
Image Area
Scanning lines
TV system
Video output format

Sync system
Aspect ratio
Illumination

Video output
Resolution
S/N
Gain

Gamma correction
White-clip level
Power source
Power consumption

Internal sync signal spec

Base clock frequency
H sync frequency
V sync frequency

External sync signal spec

Ext. sync input signal
Input level
Input impedance
Interlace
Polarity
Pulse width
Repeating frequency
Phase difference

Trigger spec

Input level
Input impedance
Capture timing
Pulse width

Electronic shutter spec

Normal Shutter

RTS (Random Trigger Shutter)

CS 8560D

1/3" Progressive Scan Interline CCD
Type: ICX 424 AL-6
648 (H) x 494 (V)
7.4 (H) x 7.4 (V) μm (Square grid array)
4.8 (H) x 3.6 (V) mm
525 lines
Special format (Non-conforming to EIA/CCIR)
1/60s Non-interlace mode
1/120s 2:1 interlace mode. Switching via rear-panel DIP SW
Internal/External automatic switch-over
4:3
Standard: 400lx, F 5.6
Minimum: 4lx (F 1.4) (GAIN MAX. approx. 50% video output)
VS 1.0V(p-p)/75 Ohm, DC coupled
485 TV lines (H)
Standard: 52 dB(p-p)rms
FIX (fixed) gain: Factory-shipped preset level
MANU (manual) gain: Setting through GAIN VR
FIX/MANU switching via rear-panel DIP SW
Fixed at 1.0
Approx. 840mV(p-p) (Excluding SYNC)
DC12V +/-10%, Ripple voltage: 50mV(p-p) or less
Approx. 125mA

24.545MHz (1CLK) +/-200ppm
31.468kHz (1H=780CLK)
59.94Hz (Under non-interlace), 119.88Hz (Under 2:1 interlace)

HD/VD
2 ~ 5V(p-p) / 2 ~ 4V(p-p) / 75Ohm
75Ohm/High impedance, 10k Ohm (switching via rear-panel SW), (Initial factory setting: High)
1/60s non-interlace or 1/120s 2:1 interlace
Negative
HD: 3.2 +/- 1 μs (LOW), VD: From 125 through 400 μs (LOW)
 $f_H = 31.468 \text{ kHz} \pm 1\%$, $f_V = f_H/262.5$ or $f_H/525$
HD/VD: 0 +/-5.0 μs , 1/ $f_H/2$ +/-5.0 μs

LOW level: 0-0.5V(p-p), HIGH level: 4-5V(p-p)
High impedance (10k Ohm)
Rising edge detection (Positive)
Minimum 2 μs , Maximum 1/8s

Shutter speed setting via rear-panel SW (Initial:OFF)
8 steps selectable (=OFF, 1/200, 1/500, 1/1000, 1/2000, 1/4000, 1/8000, 1/20000s)

No.	Reset	Exposure	Sync
1	Non-reset	Rear SW (FIX mode)	Internal
2			Consecutive HD / Consecutive VD IN
3		Consecutive HD / Single VD IN	
4		TRIG pulse width (PULSE width mode)	Internal
5	Consecutive HD / Consecutive VD IN		
6	Consecutive HD / Single VD IN		
7	V reset	Rear SW (FIX mode)	Internal
8			Consecutive HD IN
9	SYNC reset		Internal
10	V reset	TRIG pulse width (PULSE width mode)	Internal
11			Consecutive HD IN

Technical Data

Type

CS 8560D

Multiple Shutter Restart / Reset

Multiple shutter via ext. trigger signal and ext. VD signal
Restart / reset available via ext. VD signal (Switching via rear panel DIP SW, Initial OFF)

Partial Scan

No.	Scan mode	Sync	Reset	E-shutter Normal	E-shutter RTS
1	1/2 partial	Internal	Non-reset	Enabled [Option]	Enabled
2			V-reset	Disabled	
3		Consecutive HD VD IN	Non-reset	Enabled [Option]	Enabled
4		Consecutive HD (VD) IN	V-reset	Disabled	
5	1/4 partial	Internal	Non-reset	Enabled [Option]	Enabled
6			V-reset	Disabled	
7		Consecutive HD VD IN	Non-reset	Enabled [Option]	Enabled
8		Consecutive HD (VD) IN	V-reset	Disabled	
9	programmable	Consecutive HD VD IN	Non-reset	Enabled [Option]	Enabled [Option]

Reset mode

Non-reset

	1/2 partial scan	1/4 partial scan
1/60s non-interlace	525 H	525 H
1/120s interlace	262.5 H	262.5 H

V-reset

	1/2 partial scan	1/4 partial scan
1/60s non-interlace	262 H	131 H
1/120s interlace	131.5 H	65.5 H

Mechanical spec

External dimension

29(W) x 29(H) x 39.5(D) mm

Weight

Approx. 42g

Lens mount

C-Mount

Ambient condition

Operation

Performance guaranteed: Temperature from 0 through 40°C / Humidity from 30 through 90% (no condensing)

Storage

-5°C to 45°C / Humidity 10% to 90% (no condensing)

EMI

-20°C to 60°C / Humidity 10% to 90% (no condensing)

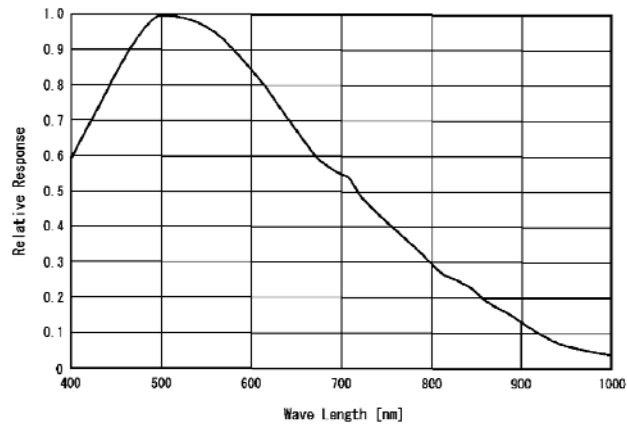
Conform to EN61000-6-4

Output Connector

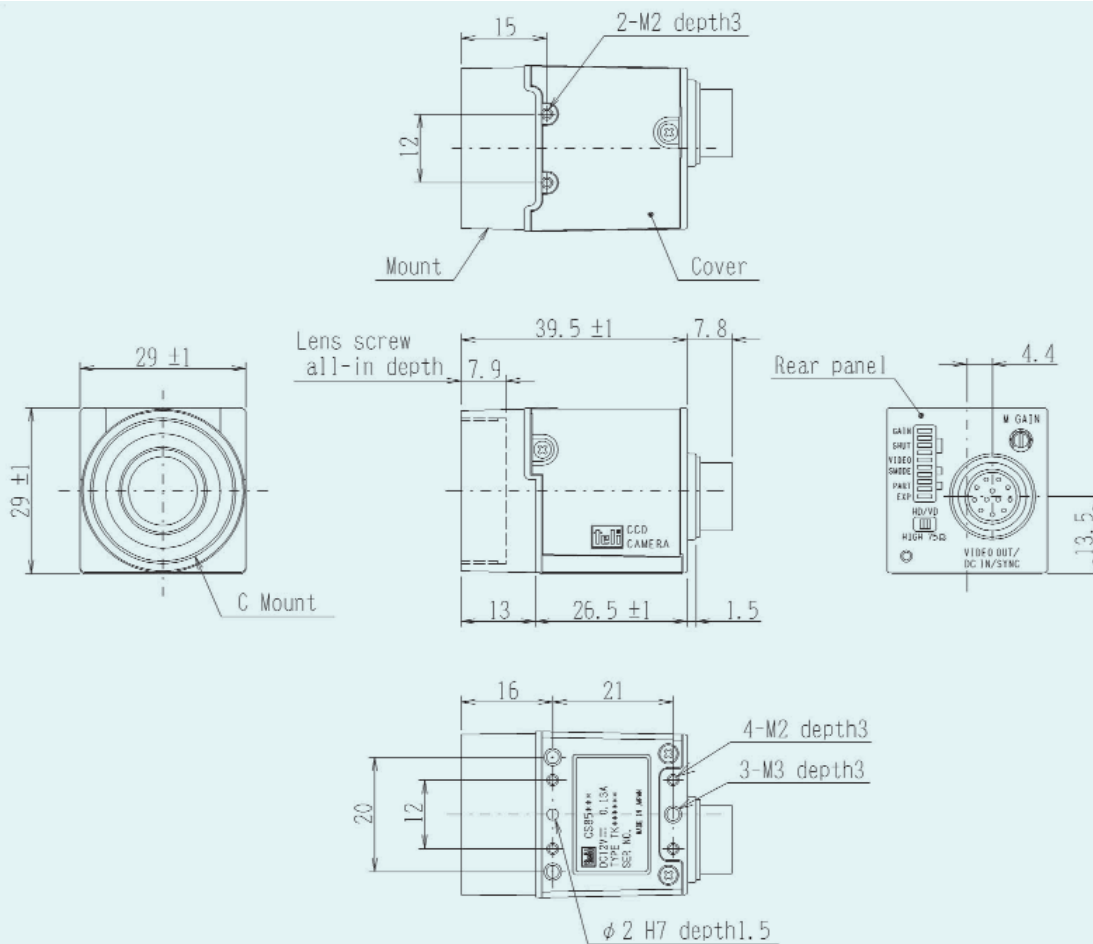
HR10A-10P-12S

Relative Spectrum Response

*Including lens characteristics, excluding light source characteristics



Outline



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