

SECURITY MODULE DIVISION

PCB MODULE



Hanse
Hanse Electronics Co., Ltd.

Hanse Electronics Co., Ltd was established in 1994 with the motto that develops oneself and company it's make the welfare state based on creative and cooperative mind.

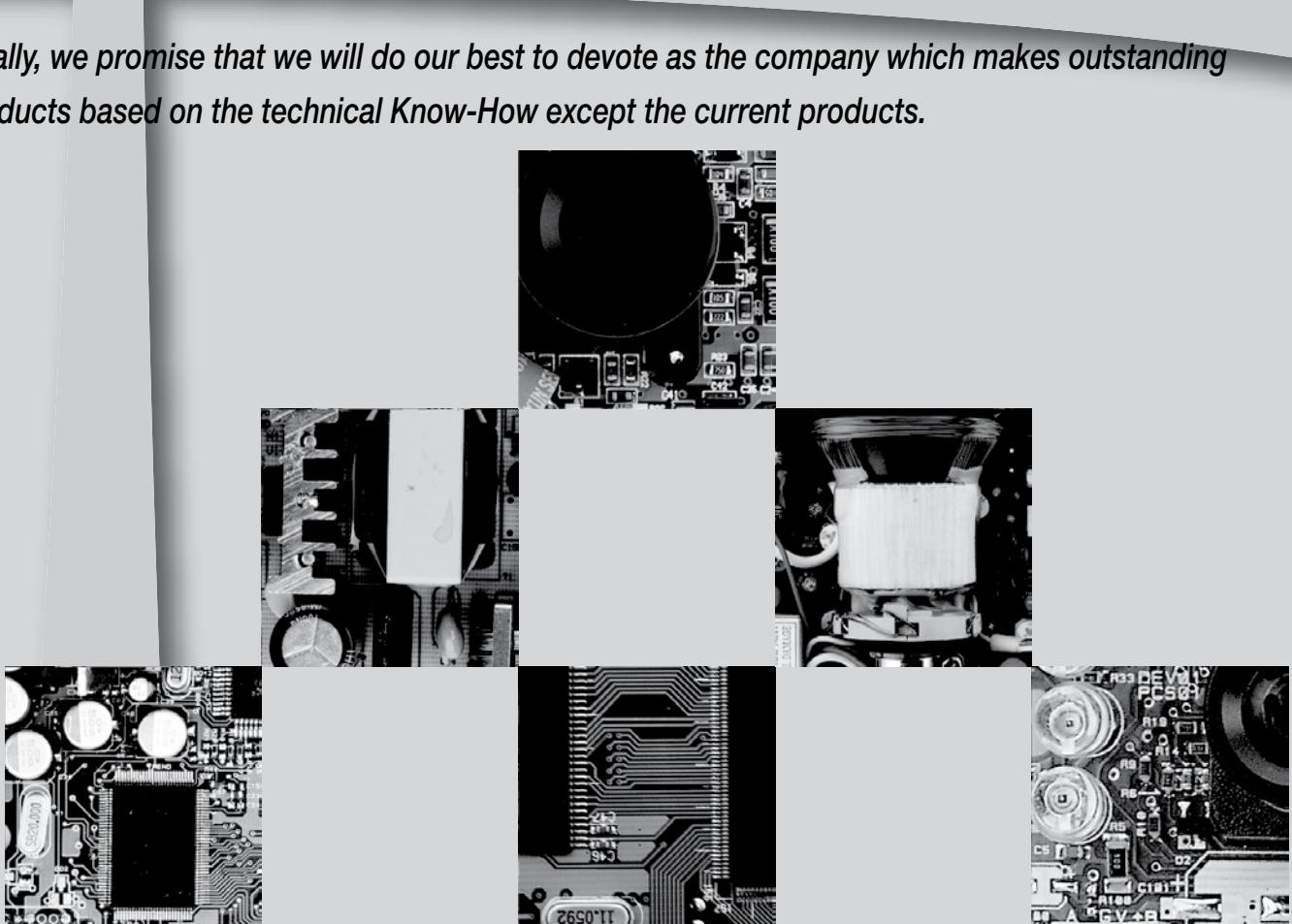
We have been concentrating our effort on manufacturing the camera board which is used for the CCTV camera and 4" B/W CRT monitor module.

Especially, we are concentrating on manufacturing and exporting to the world market of B/W, COLOR CAMERA BOARD and 4" FLAT CRT MONITOR MODULE which is used for the industrial CCTV among our products.

And our production facilities ,quality and technical Know-How have been gaining the advantage over any other companies.

From 1999, Hanse has started to manufacture CCTV for the purpose of becoming the industrial and home security expert company.

Finally, we promise that we will do our best to devote as the company which makes outstanding products based on the technical Know-How except the current products.



Hanse History

Hanse Electronics Co., Ltd.

- 1994. 9. Established
- 1994.12. Camera modules (B/W) were developed
- 1995. 1. CRT module (B/W) was developed
- 1995. 3. Camera Modules (Color) were developed
- 1996. 6. Built own factory in Bucheon, Korea
- 1997. 1. Moved and expanded factory to Ihcheon, Korea
- 1998. 1. TFT LCD color module was developed
 - Home TV camera system was developed
 - LCD color observation system was developed
- 1998. 2. Appointed prospect export SMPC
- 1998. 5. CCTV Camera (B/W, Color) was developed
- 1998. 11. Awarded Export Tower US\$ 5 Million
- 1999. 2. Started manufacturing DIY products
- 1999. 9. Approved venture company
- 2000. 1. 2.4GHz wireless RX/ TX were developed
- 2000. 2. 2CH 2way Audio Observation System was developed
- 2000. 3. Overseas Biz. Team and R&D Team moved to new office in Seoul
- 2001.11. Awarded export tower US\$ 10Million
- 2002. 6. Miniature and pipe cameras were developed
- 2002. 8. Microscope was developed
- 2002. 9. TFT LCD TV/Monitor (5.6", 7") were developed
- 2002.11. Organized R&D Institute
- 2003. 1. Color Memory Card was developed
- 2003. 5. DVR was developed
- 2004. 9. TFT LCD Module(4") were developed
- 2005. 7. TFT LCD Modules (2.5", 3.5", 4", 5, 5.6", 7") were developed
- 2006. 7. 2G Flash Memory card(Color) was developed
- 2006. 12. Skin & Hair Analysis Digital Camera(x200,x300) was developed
- Employees / PI-Capital USD10,000,000 / Y-Turn over USD40,000,000

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CCTV Camera Module

DSP Color Camera Module

CA-072N/P



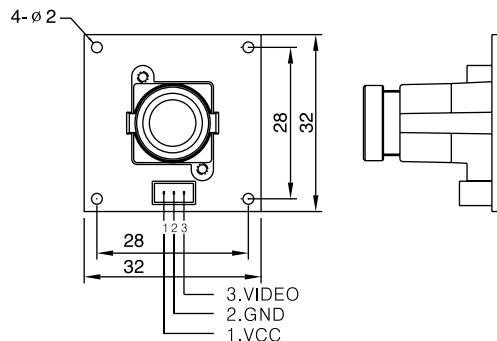
DSP Color Camera Module

CA-272N/P



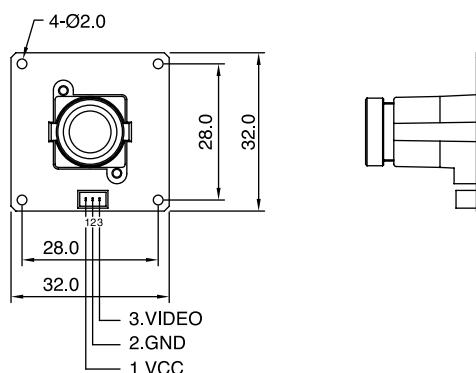
Dimension

unit: mm



Dimension

unit: mm



Specifications

	CA-072N	CA-072P
TV System	NTSC	PAL
Image sensor	1/4 inch CCD 270K pixels	1/4 inch CCD 320K pixels
Effective pixels	512(H)x491(V)	512(H)x581(V)
Scanning system	525 Lines 2:1 interlace	625 Lines 2:1 interlace
Scanning frequency	15.734KHz(H),59.94Hz(V)	15.625KHz(H),50Hz(V)
Sync. System	Internal Sync.	
Horizontal resolution	330TV Lines	
Min. Illumination	0.5Lx / F=1.2 (AGC ON)	
S/N ratio	48dB or above (AGC OFF)	
Gamma	$\gamma = 0.45$	
White balance	ATW	
Gain control	Auto	
Electronic Shutter	Auto	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video output	1.0 ± 0.2Vp-p, 75ohm	
Power consumption	DC12V ± 10%, Max. 110mA	
Operating temp.	-10 °C ~ 60 °C	
Dimension(mm)	32(W)x32(H)	
Lens	3.6mm / F=2.0(Default) or Option	

* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole
Lens(Flat lens, Semi cone lens, Super cone lens)

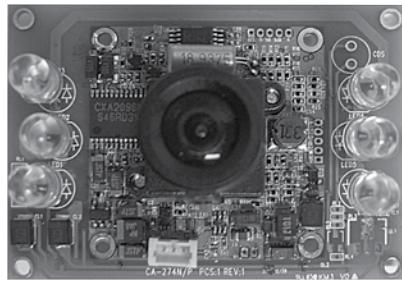
Specifications

	CA-272N	CA-272P
TV System	NTSC	PAL
Image sensor	1/3 inch CCD 270K pixels(SONY)	1/3 inch CCD 320K pixels(SONY)
Effective pixels	510(H)x492(V)	500(H)x582(V)
Scanning system	525 Lines 2:1 interlace	625 Lines 2:1 interlace
Scanning frequency	15.734KHz(H),59.94Hz(V)	15.625KHz(H),50Hz(V)
Sync. System	Internal	
Horizontal resolution	380TV Lines (Center)	
Min. Illumination	0.1Lx / F=1.2(AGC ON)	
S/N ratio	48dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
White balance	ATW	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video Output	1.0 ± 0.2Vp-p, 75ohm	
BLC	ON	
Power Consumption	DC12V ± 20%,Max. 120mA	
Operating Temp.	-10 °C ~ 60 °C	
Dimension(mm)	32(W)x32(H)	
Lens	3.6mm / F=2.0(Default) or Option	

* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole
Lens(Flat lens, Semi cone lens, Super cone lens)

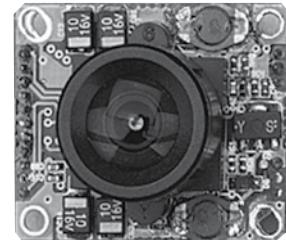
DSP Color Camera Module

CA-274N/P



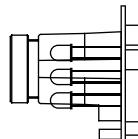
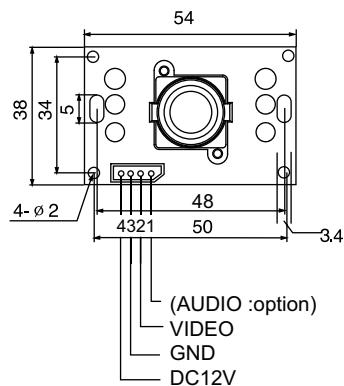
DSP Color Camera Module

CA-070N/P



Dimension

unit: mm



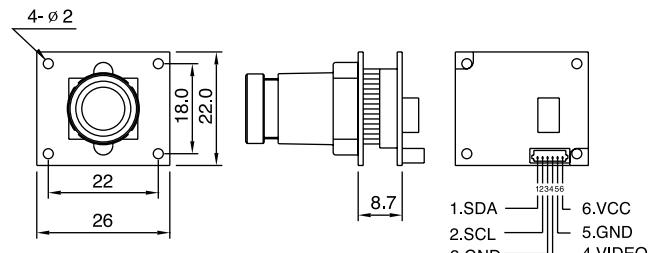
Specifications

	CA-274N	CA-274P
TV System	NTSC	PAL
Image sensor	1/3 inch CCD 270K pixels(SONY)	1/3 inch CCD 320K pixels(SONY)
Effective pixels	510(H)x492(V)	500(H)x582(V)
Scanning system	525 Lines 2:1 interlace	625 Lines 2:1 interlace
Scanning frequency	15.734KHz(H),59.94Hz(V)	15.625KHz(H),50Hz(V)
Sync. System	Internal	
Horizontal resolution	380TV Lines (Center)	
Min. Illumination	0.1Lx / F=1.2, infrared Led (Built-in 6 IR LED) ON : 0Lx	
S/N ratio	48dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
White balance	ATW	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video Output	1.0 ± 0.2 Vp-p, 75ohm	
BLC	ON	
Power Consumption	DC12V \pm 20%,Max. 160mA	
Operating Temp	-10°C~60°C	
Dimension(mm)	54(W)x38(H)	
Lens	3.6mm / F=2.0(Default) or Option	

* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole
Lens(Flat lens, Semi cone lens, Super cone lens)

Dimension

unit: mm



Specifications

	CA-070N	CA-070P
TV System	NTSC	PAL
Image sensor	1/4 inch CCD 270K pixels	1/4 inch CCD 320K pixels
Effective pixels	512(H)x491(V)	512(H)x581(V)
Scanning system	525 Lines 2:1 interlace	625 Lines 2:1 interlace
Scanning frequency	15.734KHz(H),59.94Hz(V)	15.625KHz(H),50Hz(V)
Sync. System	Internal Sync.	
Horizontal resolution	330TV Lines (Center)	
Min. Illumination	0.5Lx / F=1.2, (AGC ON)	
S/N ratio	45dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
White balance	ATW	
AGC	ON	
IRIS	Electrical Auto IRIS	
Gain control	Auto	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video output	1.0 ± 0.2 Vp-p, 75ohm	
BLC	ON	
Power consumption	DC5V \pm 10%,Max. 200mA	
Operating temp.	-10°C~60°C	
Dimension(mm)	26(W)x22(H)x 2 Board	

* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole
Lens(Flat lens, Semi cone lens, Super cone lens)

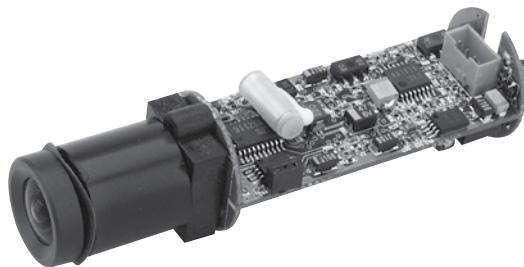
DSP Color Camera Module

CA-273N/P



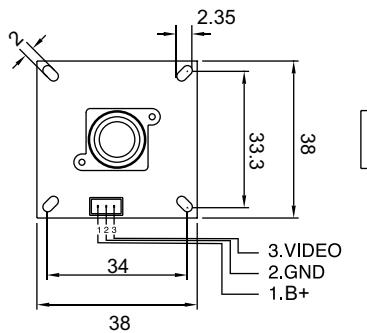
DSP Color Camera Module

CA-074N/P



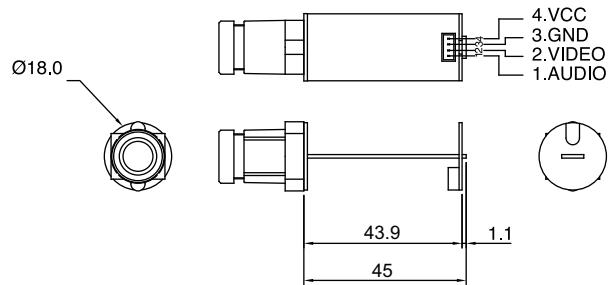
Dimension

unit: mm



Dimension

unit: mm



Specifications

	CA-273N	CA-273P
TV System	NTSC	PAL
Image sensor	1/3 inch CCD 270K pixels(SONY)	1/3 inch CCD 320K pixels(SONY)
Effective pixels	510(H)x492(V)	500(H)x582(V)
Scanning system	525 Lines 2:1 interlace	625 Lines 2:1 interlace
Scanning frequency	15.734KHz(H),59.94Hz(V)	15.625KHz(H),50Hz(V)
Sync. System	Internal	
Horizontal resolution	380TV Lines (Center)	
Min. Illumination	0.1Lx / F=1.2(AGC ON)	
S/N ratio	48dB (AGC OFF)	
Gamma	$\gamma =0.45$	
White balance	ATW	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video Output	$1.0 \pm 0.2Vp-p$, 75ohm	
BLC	ON	
Power Consumption	DC12V \pm 20%,Max. 120mA	
Operating Temp	-10 °C~60 °C	
Dimension(mm)	38(W)x38(H)	
Lens	3.6mm / F=2.0(Default) or Option	

* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole
Lens(Flat lens, Semi cone lens, Super cone lens)

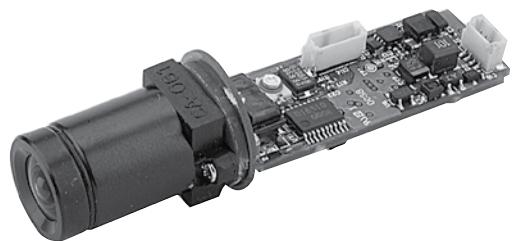
Specifications

	CA-074N	CA-074P
TV System	NTSC	PAL
Image sensor	1/4 inch CCD 270K pixels	1/4 inch CCD 320K pixels
Effective pixels	510(H)x491(V)	512(H)x581(V)
Scanning system	525 Lines 2:1 interlace	625 Lines 2:1 interlace
Scanning frequency	15.734KHz(H),59.94Hz(V)	15.625KHz(H),50Hz(V)
Sync. System	Internal Sync.	
Horizontal resolution	330TV Lines (Center)	
Min. Illumination	0.5Lx / F=1.2, (AGC ON)	
S/N ratio	45dB (AGC OFF)	
Gamma	$\gamma =0.45$	
White balance	ATW	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video output	$1.0 \pm 0.2Vp-p$, 75ohm	
BLC	ON	
Power consumption	DC12V \pm 10%,Max. 120mA	
Operating temp.	-10 °C~60 °C	
Dimension(mm)	$\varnothing 18 \times 45$ mm	

* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole
Lens(Flat lens, Semi cone lens, Super cone lens)

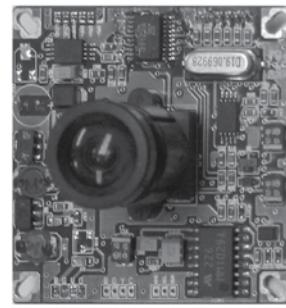
DSP Color Camera Module

CA-064N/P



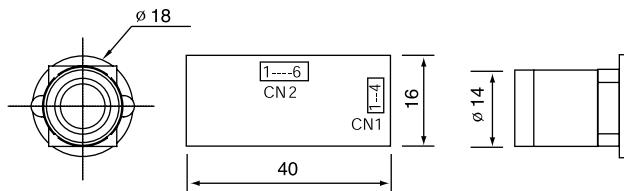
DSP Color Camera Module

CA-075N/P



Dimension

unit: mm



CN1 : 1.DC +12V 2.GND 3.VIDEO OUT 4.MIRROR
CN2 : 1.DC +3.3V 2.SDO 3.SDI 4.STB 5.SCK 6.GND

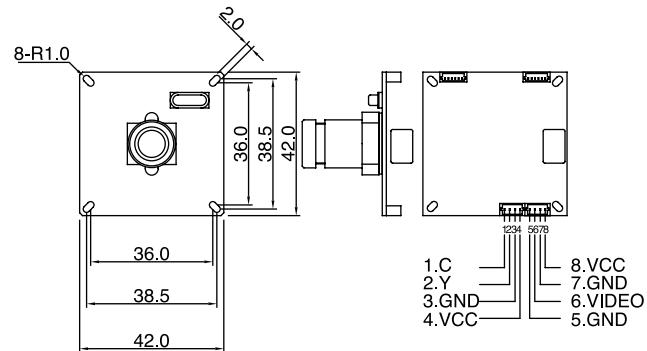
Specifications

	CA-064N	CA-064P
TV System	NTSC	PAL
Image sensor	1/4 inch CCD 410K pixels	1/4 inch CCD 480K pixels
Effective pixels	768(H)x494(V)	752(H)x582(V)
Scanning system	525 Lines 2:1 interlace	625 Lines 2:1 interlace
Scanning frequency	15.734KHz(H),59.94Hz(V)	15.625KHz(H),50Hz(V)
Sync. System	Internal	
Horizontal resolution	420TV Lines (Center), 330TV Lines(Center)	
Min. Illumination	1Lx / F=1.2(AGC ON)	
S/N ratio	48dB (AGC OFF)	
Gamma	$\gamma =0.45$	
White balance	ATW	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video Output	1.0±0.2Vp-p, 75ohm	
BLC	ON	
Power Consumption	DC12V ± 10%,Max. 110mA	
Operating Temp	-10°C~60°C	
Dimension(mm)	Ø 18x 40mm	

* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole Lens(Flat lens, Semi cone lens, Super cone lens)

Dimension

unit: mm



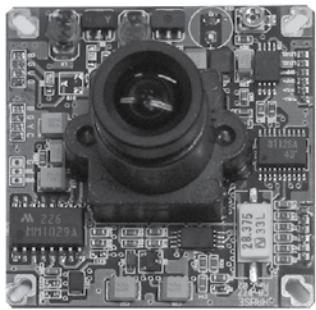
Specifications

	CA-075N	CA-075P
TV System	NTSC	PAL
Image sensor	1/4 inch CCD 270K pixels	1/4 inch CCD 320K pixels
Effective pixels	512(H)x491(V)	512(H)x581(V)
Scanning system	525 Lines 2:1 interlace	625 Lines 2:1 interlace
Scanning frequency	15.734KHz(H),59.94Hz(V)	15.625KHz(H),50Hz(V)
Sync. System	Internal Sync.	
Horizontal resolution	330TV Lines (Center)	
Min. Illumination	0.5Lx / F=1.2, (AGC ON)	
S/N ratio	45dB (AGC OFF)	
Gamma	$\gamma =0.45$	
White balance	ATW	
AGC	ON/OFF	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video output	1.0±0.2Vp-p, 75ohm	
BLC	ON	
Power consumption	DC12V ± 10%,Max. 130mA	
Operating temp.	-10°C~60°C	
Dimension(mm)	42(W)x42(H)	

* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole Lens(Flat lens, Semi cone lens, Super cone lens) Varifocal lens

DSP Color Camera Module

CA-077N/P

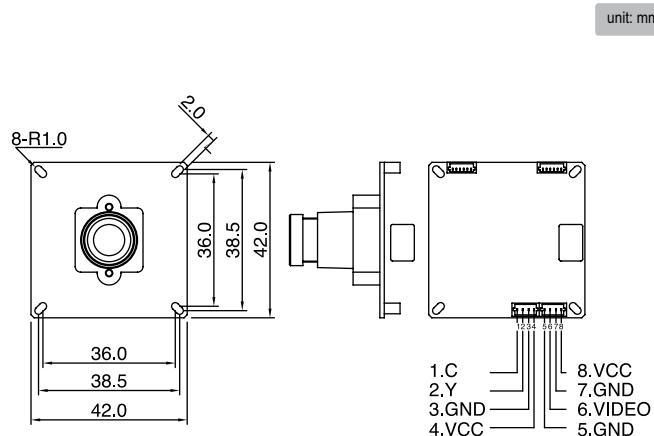


B/W Camera Module

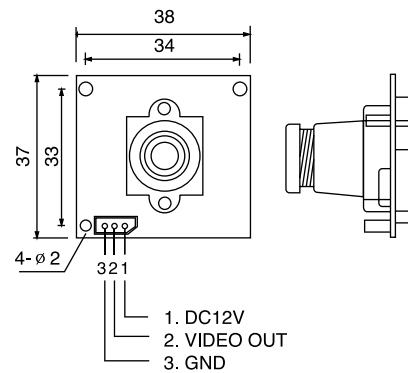
CA-22A/C



Dimensions



Dimension



Specifications

	CA-077N	CA-077P
TV System	NTSC	PAL
Image sensor	1/3 inch CCD 410K pixels	1/3 inch CCD 470K pixels
Effective pixels	771(H)x492(V)	737(H)x575(V)
Scanning system	525 Lines 2:1 interlace	625 Lines 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz(H), 50Hz(V)
Sync. System	Internal Sync.	
Horizontal resolution	480TV Lines (Center)	
Min. Illumination	0.5Lx / F=1.2, (AGC ON)	
S/N ratio	45dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
White balance	ATW	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video output	1.0 ± 0.2Vp-p, 75ohm	
BLC	ON/OFF	
Power consumption	DC12V ± 10%, Max. 130mA	
Operating temp.	-10°C~60°C	
Dimension(mm)	42(W)x42(H)	

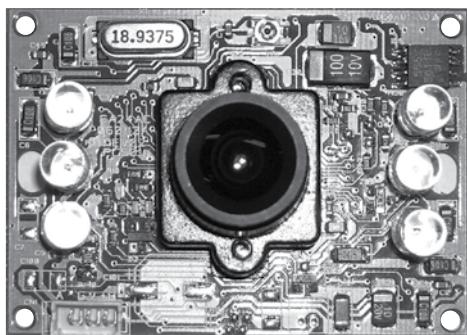
* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole
Lens(Flat lens, Semi cone lens, Super cone lens) Varifocal lens & C-Mount are optional

Specifications

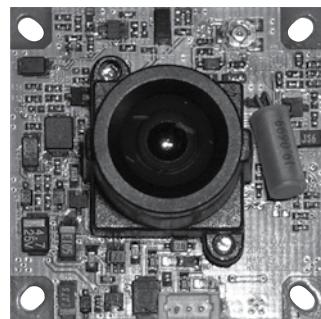
	CA-22A	CA-22C
TV System	EIA	CCIR
Image sensor	1/3 inch CCD 270K pixels	1/3 inch CCD 320K pixels
Effective pixels	510(H)x492(V)	500(H)x582(V)
Scanning system	525 Lines 2:1 interlace	625 Lines 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz(H), 50Hz(V)
Sync. System	Internal Sync.	
Horizontal resolution	380TV Lines (Center)	
Min. Illumination	0.1Lx / F=1.2, (AGC ON)	
S/N ratio	45dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/120,000 sec.	1/50~1/120,000 sec.
Video output	1.0 ± 0.2Vp-p, 75ohm	
Power consumption	DC12V ± 10%, Max. 110mA	
Operating temp.	-10°C~60°C	
Dimension(mm)	38(W)x37(H)	

* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole
Lens(Flat lens, Semi cone lens, Super cone lens) Varifocal lens & C-Mount are optional

B/W Camera Module **CA-24A/C**

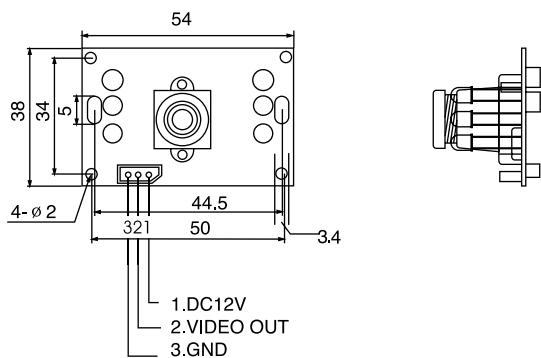


B/W Camera Module **CA-81A/C**



Dimension

unit: mm



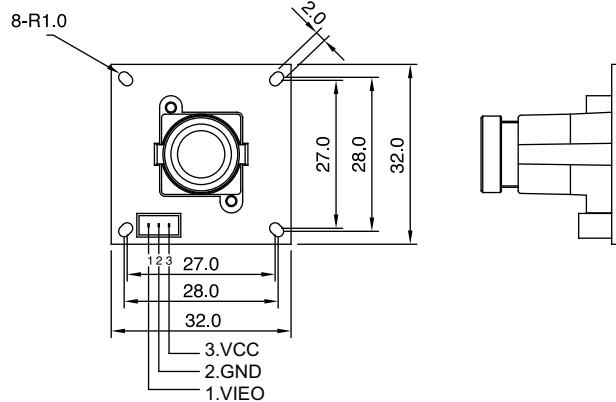
Specifications

	CA-24A	CA-24C
TV System	EIA	CCIR
Image sensor	1/3 inch CCD 270K pixels	1/3 inch CCD 320K pixels
Effective pixels	510(H)x492(V)	500(H)x582(V)
Scanning system	525 Lines 2:1 interlace	625 Lines 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz(H), 50Hz(V)
Sync. System	Internal Sync.	
Horizontal resolution	380TV Lines (Center)	
Min. Illumination	0.1Lx / F=1.2, infrared Led (Built-in 6 IR LED) ON : 0Lx	
S/N ratio	50dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/120,000 sec.	1/50~1/120,000 sec.
Video output	1.0 ± 0.2 Vp-p, 75ohm	
Power consumption	DC12V \pm 10%, Max. 180mA	
Operating temp.	-10°C~60°C	
Dimension(mm)	54(W)x38(H)	

* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole Lens(Flat lens, Semi cone lens, Super cone lens) Varifocal lens & C-Mount are optional

Dimension

unit: mm

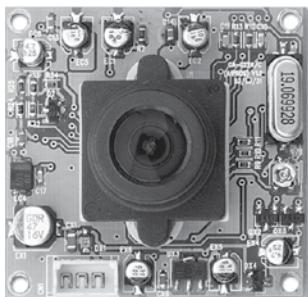


Specifications

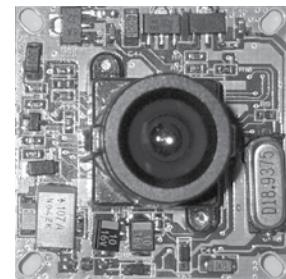
	CA-81A	CA-81C
TV System	EIA	CCIR
Image sensor	1/3 inch CCD 270K pixels	1/3 inch CCD 320K pixels
Effective pixels	510(H)x492(V)	500(H)x582(V)
Scanning system	525 Lines 2:1 interlace	625 Lines 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz(H), 50Hz(V)
Sync. System	Internal Sync.	
Horizontal resolution	420TV Lines (Center)	
Min. Illumination	0.1Lx / F=1.2, (AGC ON)	
S/N ratio	50dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video output	1.0 ± 0.2 Vp-p, 75ohm	
Power consumption	DC12V \pm 20%, Max. 100mA	
Operating temp.	-10°C~60°C	
Dimension(mm)	32(W)x32(H)	

* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole Lens(Flat lens, Semi cone lens, Super cone lens) Varifocal lens

B/W Camera Module **CA-82A/C**

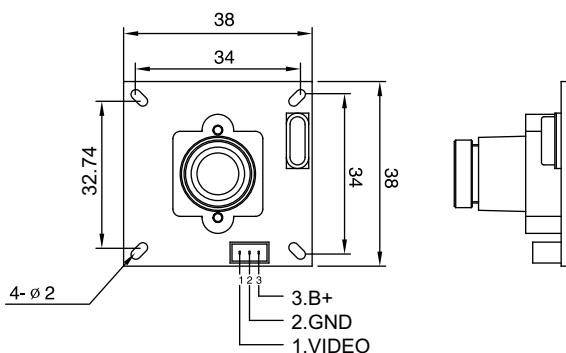


B/W Camera Module **CA-S91A/C**



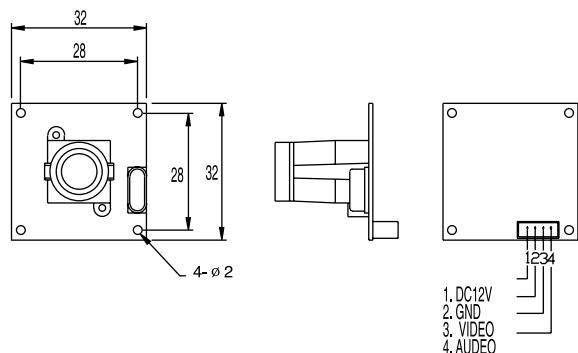
Dimension

unit: mm



Dimension

unit: mm



Specifications

	CA-82A	CA-82C
TV System	EIA	CCIR
Image sensor	1/3 inch CCD 270K pixels	1/3 inch CCD 320K pixels
Effective pixels	510(H)x492(V)	500(H)x582(V)
Scanning system	525 Lines 2:1 interlace	625 Lines 2:1 interlace
Scanning frequency	15.734KHz(H),59.94Hz(V)	15.625KHz(H),50Hz(V)
Sync. System	Internal Sync.	
Horizontal resolution	420TV Lines (Center)	
Min. Illumination	0.1Lx / F=1.2	
S/N ratio	50dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video output	1.0 ± 0.2Vp-p, 75ohm	
Power consumption	DC12V ± 20%, Max. 100mA	
Operating temp.	-10°C ~ 60°C	
Dimension(mm)	38(W)x38(H)	

* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole Lens(Flat lens, Semi cone lens, Super cone lens) Varifocal lens

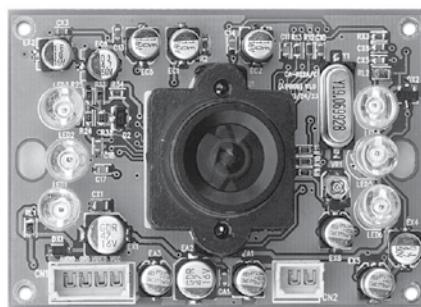
Specifications

	CA-S91A	CA-S91C
TV System	EIA	CCIR
Image sensor	1/3 inch CCD 270K pixels (SONY)	1/3 inch CCD 320K pixels (SONY)
Effective pixels	510(H)x492(V)	500(H)x582(V)
Scanning system	525 Lines 2:1 interlace	625 Lines 2:1 interlace
Scanning frequency	15.734KHz(H),59.94Hz(V)	15.625KHz(H),50Hz(V)
Sync. System	Internal Sync.	
Horizontal resolution	380TV Lines (Center)	
Min. Illumination	1Lx / F=2.0	
S/N ratio	50dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video output	1.0 ± 0.2Vp-p, 75ohm	
Power consumption	DC12V ± 10%, Max. 100mA	
Operating temp.	-10°C ~ 50°C	
Dimension(mm)	32(W)x32(H)	

* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole Lens(Flat lens, Semi cone lens, Super cone lens) Varifocal lens

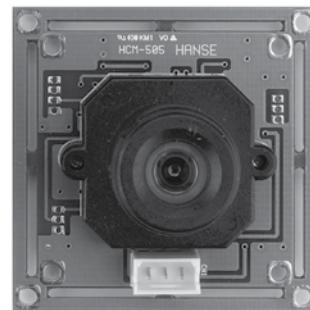
B/W Camera Module

CA-84A/C



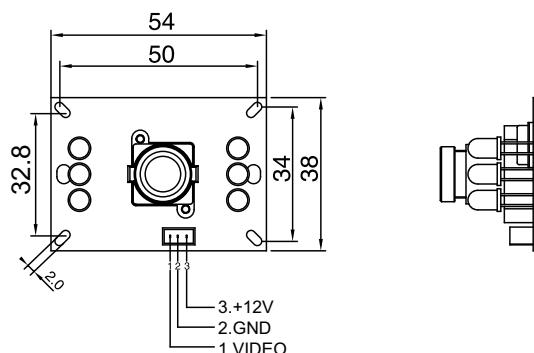
C-MOS Camera Module

CA-CM505N/P



Dimension

unit: mm



Specifications

	CA-84A	CA-84C
TV System	EIA	CCIR
Image sensor	1/3 inch CCD 270K pixels	1/3 inch CCD 320K pixels
Effective pixels	510(H)x492(V)	500(H)x582(V)
Scanning system	525 Lines 2:1 interlace	625 Lines 2:1 interlace
Scanning frequency	15.734KHz(H), 59.94Hz(V)	15.625KHz(H), 50Hz(V)
Sync. System	Internal Sync.	
Horizontal resolution	420TV Lines (Center)	
Min. Illumination	0.1Lx / F=1.2, (AGC ON), IR LED NO : 0Lx	
S/N ratio	50dB (AGC OFF)	
Gamma	$\gamma = 0.45$	
AGC	ON	
IRIS	Electrical Auto IRIS	
Shutter speed	1/60~1/100,000 sec.	1/50~1/100,000 sec.
Video output	1.0±0.2Vp-p, 75ohm	
Power consumption	DC12V±10%, Max. 130mA	
Operating temp..	-10°C~60°C	
Dimension(mm)	54(W)x38(H)	

* Board lens(12mm, 8mm, 6mm, 4.3mm, 2.9mm, 2.2mm), Pin-hole Lens(Flat lens, Semi cone lens, Super cone lens) Varifocal lens

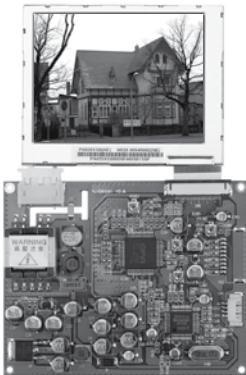
Specifications

	CA-CM505N/P
Image sensor	1/4 inch CMOS Image Sensor
Effective pixels	510(H)x482(V)
Pixel size	7.0 μm x 5.6 μm
Image area	3.63mm x 2.73mm
Horizontal resolution	310TV Lines
Scanning system	2:1 interlace
Video output	1.0±0.2Vp-p, 37.5ohm
Power consumption	DC3V~5V
Current consumption	150mA (Max)
Operating temp..	-30°C~40°C
Dimension(mm)	38(W)x38(H)

MEMO

CRT & LCD Module

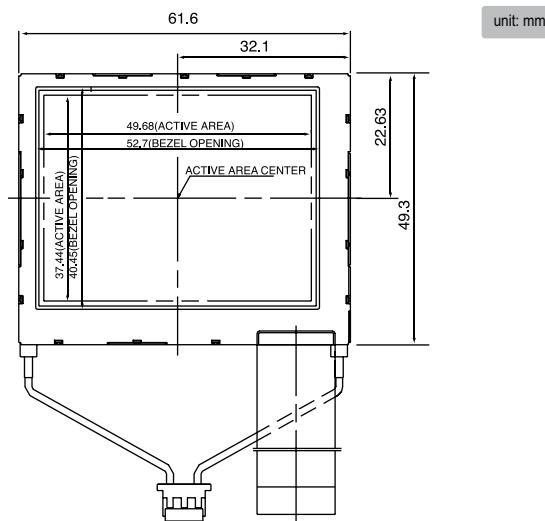
Color TFT L.C.D Module **LCD-2500F**



Color TFT L.C.D Module **LCD-3501L**



Dimension



Features

- Color Video Doorphone
- CCTV Monitor
- Low power consumption
- Best quality image

Specifications

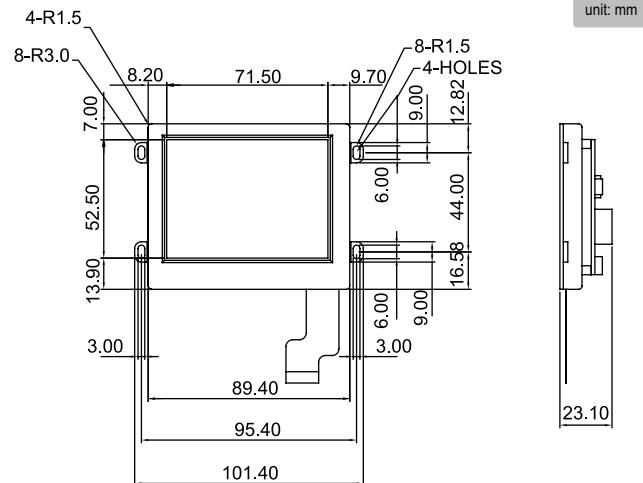
Optical Characteristics

Screen size	2.45" Diagonal
Color configuration	RGB Delta Configuration
Dot pitch	0.1035(W) x 0.160(H)mm
Resolution	480 x 234(dot)
Active Area	49.68(W) x 37.44(H)mm
View angle	(CR. \geq 10) Horizontal $\pm 45^\circ$ Vertical 30° , 10°
Contrast Ratio	350
Brightness	250cd/m ²

Electrical Characteristics

TV system	NTSC/PAL available
Input signal	Composite video signal 1Vp-p, 75ohm
Operating Voltage	11V~13V
Power consumption	DC 12V 200mA, 2.7W

Dimension



Features

- Color Video Doorphone
- CCTV Monitor
- Low power consumption
- Best quality image

Specifications

Optical Characteristics

Screen size	3.5" Diagonal
Color configuration	RGB Delta Configuration
Dot pitch	0.0745(W) x 0.225(H)mm
Resolution	960 x 234(dot)
Active Area	71.60(W) x 52.65(H)mm
View angle	(CR. \geq 10) Horizontal $\pm 45^\circ$ Vertical 30° , 10°
Contrast Ratio	350
Brightness	250cd/m ²

Electrical Characteristics

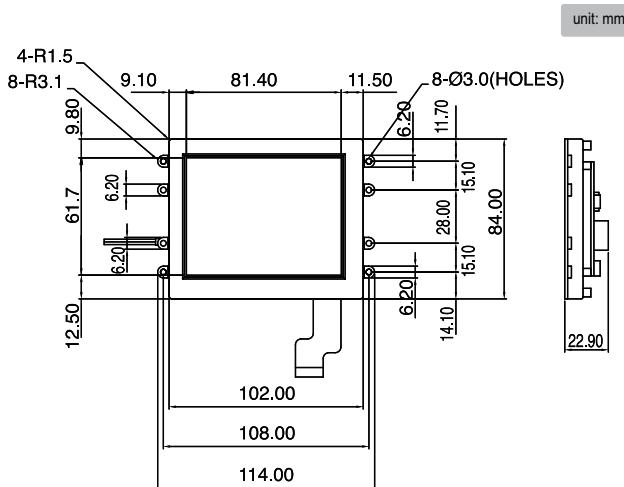
TV system	NTSC/PAL available
Input signal	Composite video signal 1Vp-p, 75ohm
Operating Voltage	11V~13V
Power consumption	DC 12V 120mA, 1.5W

Color TFT L.C.D Module

LCD-4002L



Dimension



Features

- Color Video Doorphone
- Low power consumption
- Best quality image
- CCTV Monitor

Specifications

Optical Characteristics

Screen size	4" Diagonal
Color configuration	RGB Delta Configuration
Dot pitch	0.171(W) x 0.264(H)mm
Resolution	480 x 234(dot)
Active Area	82.12(W) x 52.65(H)mm
View angle	(CR.≥10) Horizontal ±45° Vertical 30°, 10°
Contrast Ratio	150
Brightness	250cd/ m ²

Electrical Characteristics

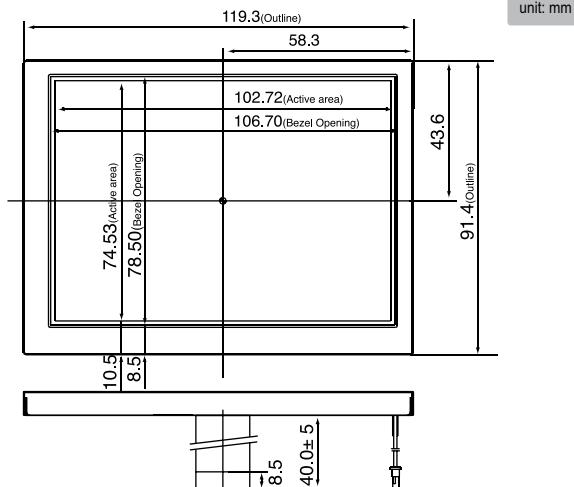
TV system	NTSC/PAL available
Input signal	Composite video signal 1Vp-p, 75ohm
Operating Voltage	11V~13V
Power consumption	DC 12V 150mA, 1.8W

Color TFT L.C.D Module

LCD-5000F



Dimension



Features

- Color Video Doorphone
- Low power consumption
- Best quality image
- CCTV Monitor

Specifications

Optical Characteristics

Screen size	5" Diagonal
Color configuration	RGB Stripe Configuration
Dot pitch	0.107(W) x 0.319(H)mm
Resolution	960 x 234(dot)
Active Area	102.72(M) x 74.53(V)mm
View angle	(CR.≥10) Horizontal ±45° Vertical 30°, 10°
Contrast Ratio	150
Brightness	400cd/ m ²

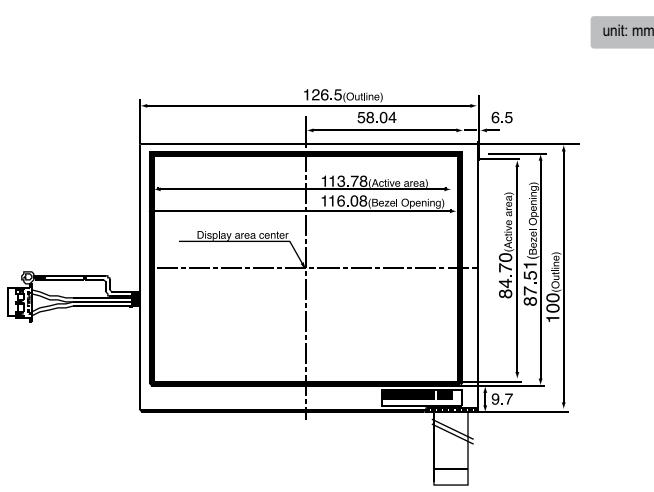
Electrical Characteristics

TV system	NTSC/PAL available
Input signal	Composite video signal 1Vp-p, 75ohm
Operating Voltage	11V~13V
Power consumption	DC 12V 390mA, 4.7W

Color TFT L.C.D Module **LCD-5600F**



Dimension



Features

- Color Video Doorphone
- Low power consumption
- Best quality image
- CCTV Monitor

Specifications

Optical Characteristics

Screen size	5.6" Diagonal
Color configuration	RGB Stripe Configuration
Dot pitch	0.118(W) x 0.362(H)mm
Resolution	960 x 234(dot)
Active Area	113.78(W) x 84.70(H)mm
View angle	Top : 10, Lower : 30, Left : 45, Right : 45
Contrast Ratio	150
Brightness	300cd/m ²

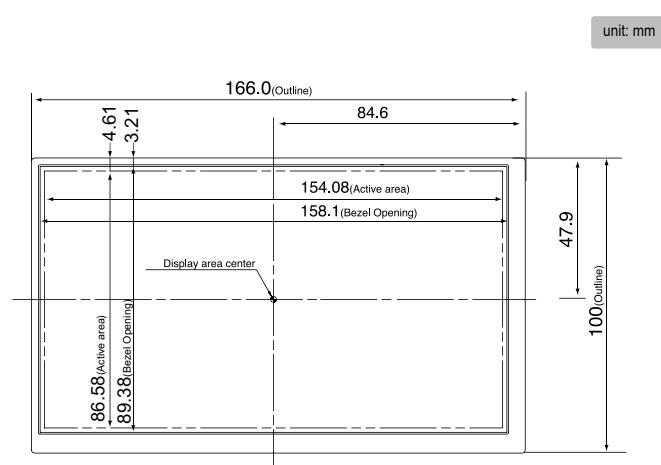
Electrical Characteristics

TV system	NTSC/PAL available
Input signal	Composite video signal 1Vp-p, 75ohm
Operating Voltage	11V~13V
Power consumption	DC 12V 480mA, 5.8W

Color TFT L.C.D Module **LCD-7001F**



Dimension



Features

- Color Video Doorphone
- Low power consumption
- Best quality image
- CCTV Monitor

Specifications

Optical Characteristics

Screen size	7" Diagonal
Color configuration	RGB Stripe Configuration
Dot pitch	0.107(W) x 0.370(H)mm
Resolution	1440 x 234(dot)
Active Area	154.08(H) x 86.58(v)mm
View angle	(CR.≥10) Horizontal ±55° Vertical 35°, 15°
Contrast Ratio	150
Brightness	350cd/m ²

Electrical Characteristics

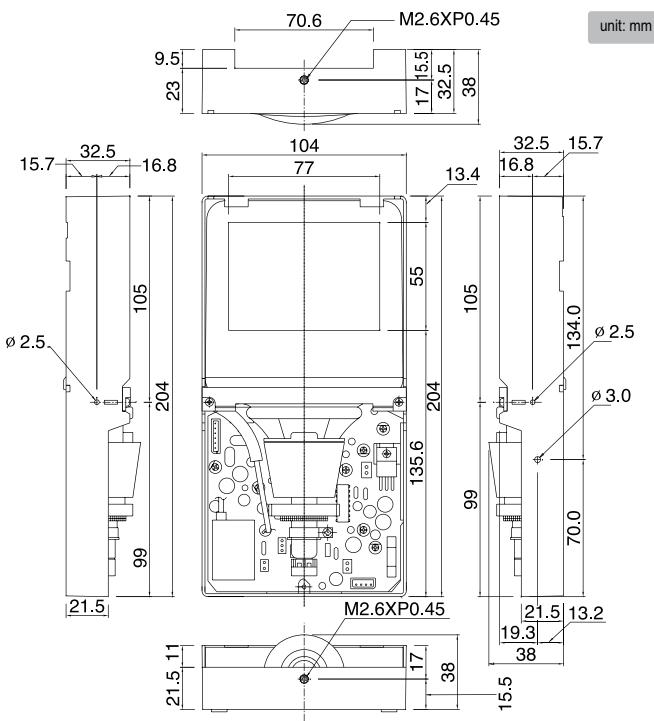
TV system	NTSC/PAL available
Input signal	Composite video signal 1Vp-p, 75ohm
Operating Voltage	11V~13V
Power consumption	DC 12V 540mA, 6.5W

4" B/W Flat Monitor

510F CRT



Dimension



Specifications

PRINCIPAL SPECIFICATIONS OF THE 4-INCH FLAT CRT DISPLAY UNIT

CRT	4-inch flat CRT
Screen size	81(W) x 59(H), Diagonal 101mm
Horizontal	resolution 450TV Lines
Frequency	CCIR 15.625Khz(H), 50Hz(V) EIA 15.735Khz(H), 60Hz(V)
Input Signal	Composite video signal 1Vp-p, 75ohm
Input Terminal	Signal/Power consumption: 4Pin Connector
Operating Voltage	DC 11V~13V
Power Consumption	DC 12V, 370± 10mA, 4.5W
External Control	Contrast and brightness
Weight / Dimension	650g/ 104(W)x204(H)x38(D)

PRINCIPAL SPECIFICATIONS OF THE 4-INCH FLAT CRT

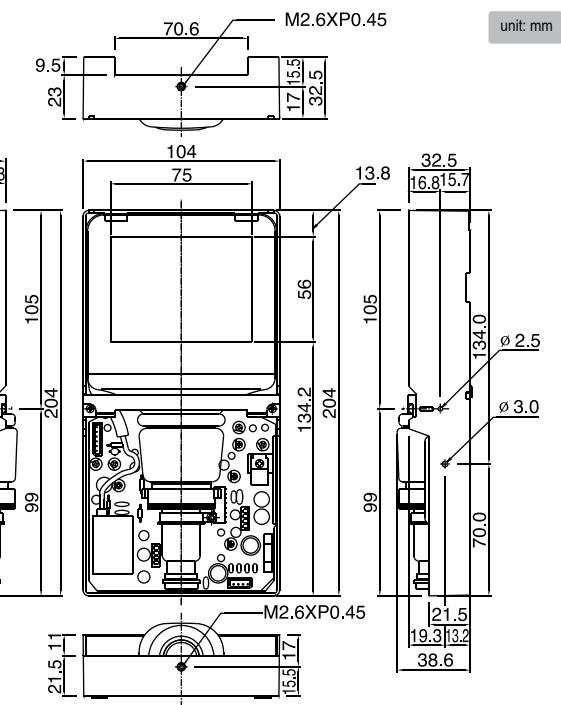
Neck Diameter	13Ø
Effective Screen Area	81(W) x 59(H), Diagonal 101mm
Brightness	Over 100nits
Resolution	450TV Lines
Deflection System	Electromagnetic
Fluorescent Material	P45 white
Use	Portable TV, TV door phon, etc.
Features	Thin, low power consumption and high resolution

4" B/W Flat Monitor

520F CRT



Dimension



Specifications

PRINCIPAL SPECIFICATIONS OF THE 4-INCH FLAT CRT DISPLAY UNIT

CRT	4-inch flat CRT
Screen size	81(W) x 59(H), Diagonal 101mm
Horizontal	resolution 450TV Lines
Frequency	CCIR 15.625Khz(H), 50Hz(V) EIA 15.735Khz(H), 60Hz(V)
Input Signal	Composite video signal 1Vp-p, 75ohm
Input Terminal	Signal/Power consumption: 4Pin Connector
Operating Voltage	DC 11V~13V
Power Consumption	DC 12V, 320± 10mA, 4W
External Control	Contrast and brightness
Weight / Dimension	650g/ 104(W)x204(H)x38.6(D)

PRINCIPAL SPECIFICATIONS OF THE 4-INCH FLAT CRT

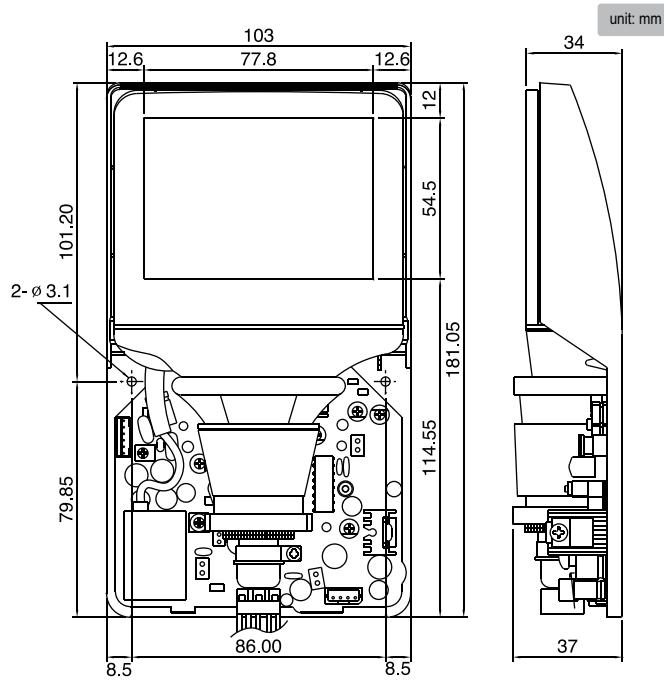
Neck Diameter	20Ø
Effective Screen Area	81(W) x 59(H), Diagonal 101mm
Brightness	600cd/m²
Resolution	450TV Lines
Deflection System	Electromagnetic
Fluorescent Material	P45 white
Use	Portable TV, TV door phon, etc.
Features	Thin, low power consumption and high resolution

4" B/W Flat Monitor

530F CRT



Dimension



Specifications

PRINCIPAL SPECIFICATIONS OF THE 4-INCH FLAT CRT DISPLAY UNIT

CRT	4-inch flat CRT
Screen size	76(W) x 68(H), Diagonal 101mm
Horizontal	resolution 450TV Lines
Frequency	CCIR 15.625Khz(H), 50Hz(V) EIA 15.735Khz(H), 60Hz(V)
Input Signal	Composite video signal 1Vp-p, 75ohm
Input Terminal	Signal/Power consumption: 4Pin Connector
Operating Voltage	DC 11V-13V
Power Consumption	DC 12V, 370± 10mA, 4W
External Control	Contrast and brightness
Weight / Dimension	480g/ 103(W)x181.05(H)x37(D)

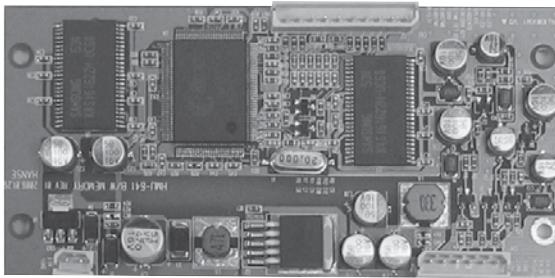
PRINCIPAL SPECIFICATIONS OF THE 4-INCH FLAT CRT

Neck Diameter	13Ø
Effective Screen Area	76(W) x 58(H), Diagonal 101mm
Brightness	Over 100nits
Resolution	450TV Lines
Deflection System	Electromagnetic
Fluorescent Material	P45 white
Use	Portable TV, TV door phon, etc.
Features	Thin, low power consumption and high resolution

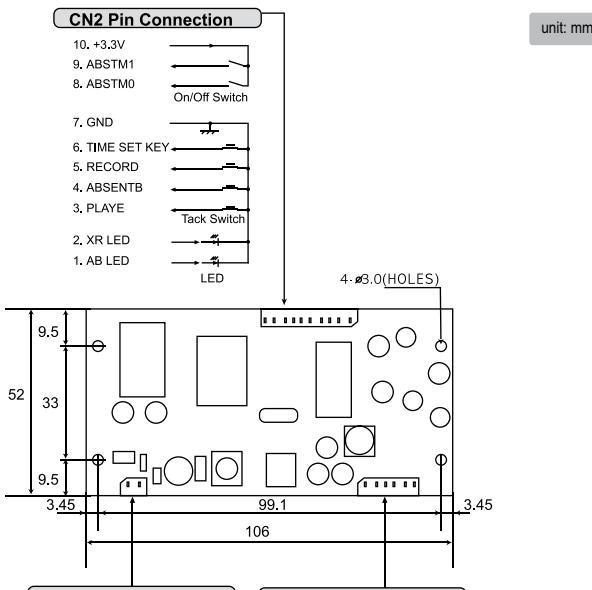


Others

B/W Video Memory Module **HMU-641**



Dimension



Features

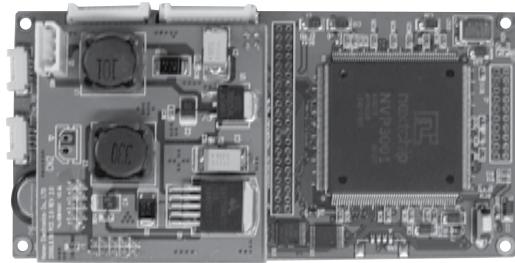
- This video memory unit can be easily connected to any CCTV system.
- Stores 32 images in it's memory bank.
- OSD function for Y/M/D/T memory image
- Memory backup battery tmpt
- Can be adjusted Memory interval time

Specifications

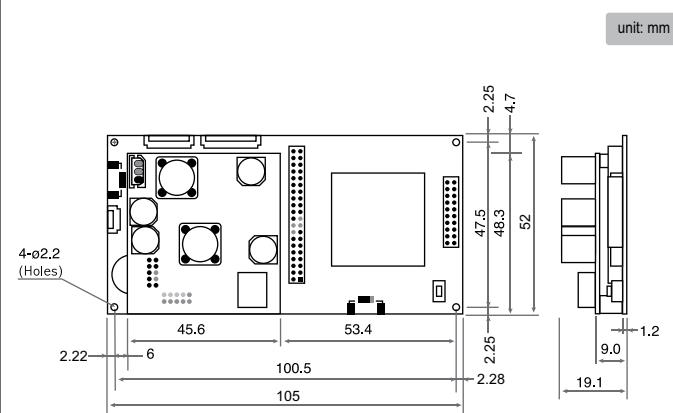
	HMU-641A	HMU-641C
Video system	EIA	CCIR
Power supply	DC+12V±1V (Constant Voltage Adaptor)	
Power consumption	0.7 Watt (at + 12V)	
Number of memories	EIA : 64 CUT image	CCIR : 64 CUT image
Effective pixels	256(H)x240(H)8bit-EIA	256(H)x256(H)8bit-CCIR
Image Output	Composite Video 1Vpp/75ohm input, 1Vpp±100mV Output	
Operating temp.	0°C~50°C	
Storage temp.	-10°C~70°C	
Dimension(mm)	106(W) x 52(H) x 11.8(D)mm	

Color Video Memory Module

HMU-840



Dimension



Features

- 720x240 high resolution digital pixel images to display monitor
- It can record up to 44 cut images.(256MB)
- Full real time display on live image.
- It can compare with recorded image and current image by freezing the current image.
- Digital 2x zoom, zoom area Module
- It can select the recording/playback ways between user manual motion record
- User can select the recording/playback g interval from 1 sec to 60sec on auto record/playback.
- Simple menu and easy operation.
- This product is implemented ASIC technology

Specifications

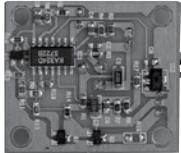
HMU-840N/P	
Internal storage device	Built-In Flash Memory:256 MB(Up to 2GB)
Extensive storage device & data Backup	USB Memory Stick (Option)
Image quality	16 / 32 / 64 / 128 kbyte
Image in/out	Single Channel Input/Output
Resolution	720 x 240 / 360 x 240
Recording speed	Max 30 eld (NTSC 720 x 240) Max 25 eld (PAL 720 x 288)
Recording	Motion / Manual
Motion detection	Digital Image Processing
Monitoring	60-fps @720x240 / 50-fps @720x288
Zoom	Digital 2x Zoom, Zoom Area movable
Freeze	Freeze
Date type	ASIA / US / EUROPE
Source of power	DC 12V / 1.5A
Operating temp.erature	0°C~50°C Humidity : under 80%

PIR Sensor Module

SE-10



• FRONT SIDE

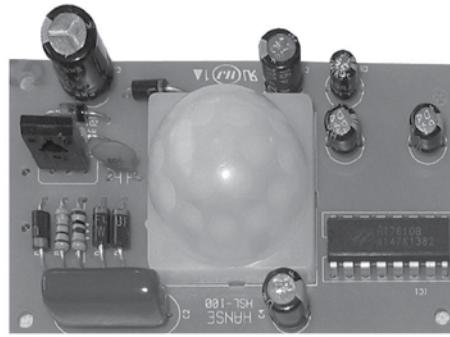


• BACK SIDE

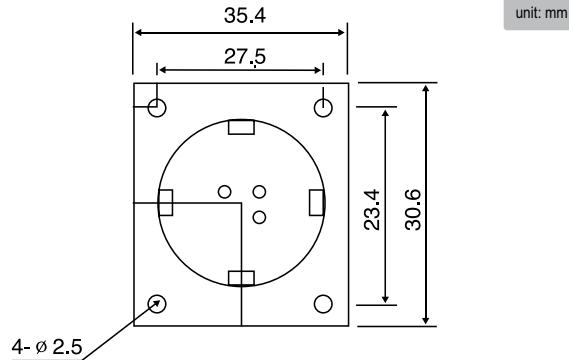
ALARM(AL)
GND
DC 12V(+B)

PIR Sensor Module (AC Power controller)

SE-20



Dimension



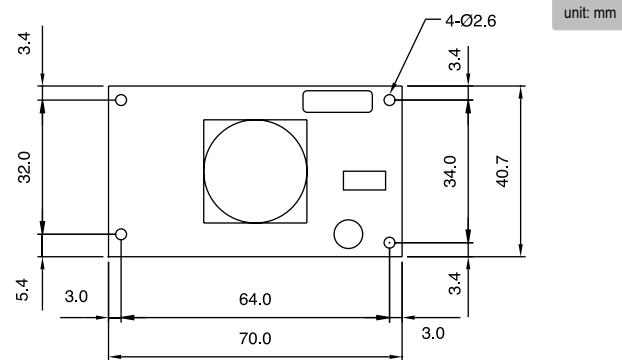
Features

- Small size
- Low power consumption.
- High sensitivity.
- Wide angle detection.

Specifications

ITEM		Specification	Condition
Sensor type		Dual element	
Housing		TO 5	
Element size		2x1mm	
Spacing		1mm	
Responsivity	Min	3.2xv/w	7...14mm, 1Hz,100°C
	Typ	4.0	(One element cover)
Match	Max	<10%	7...14mm, 1Hz,100°C
			(One element cover)
Noise	Typ	20µVp-p	25°C, 0.4...10Hz
	Max	50V	
Effect voltage	Min	0.2	Re=47XO
	Max	1.5	
Window material		Silicon, coated	
Spectral range	Transmission	T>30 average%	7...14mm
	Blocking	T<0.1	<5mm
Operating voltage		DC12± 10%V	
Operating temperature		-10~40°C	
Storage temperature		-40~80°C	

Dimension



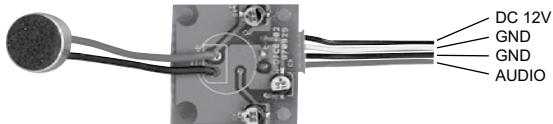
Features

- Low power consumption.
- High sensitivity.
- Wide angle detection.

Specifications

ITEM		Specification	Condition
Sensor type		Dual element	
Housing		TO 5	
Element size		2x1mm	
Spacing		1mm	
Responsivity	Min	3.2xv/w	7...14mm, 1Hz,100°C
	Typ	4.0	(One element cover)
Match	Max	<10%	7...14mm, 1Hz,100°C
			(One element cover)
Noise	Typ	20µVp-p	25°C, 0.4...10Hz
	Max	50V	
Effect voltage	Min	0.2	Re=47XO
	Max	1.5	
Window material		Silicon, coated	
Spectral range	Transmission	T>30 average%	7...14mm
	Blocking	T<0.1	<5mm
Operating voltage		AC220± 10%V, 3A	
Operating temperature		-10~40°C	
Storage temperature		-40~80°C	

Audio Module **AU-10**



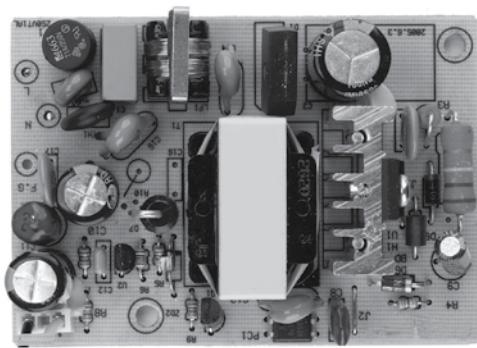
Features

- CCTV camera audio
- Video doophone audio
- PC cemera audio

Specifications

AU-10	
Operating voltage	DC 12V ± 10%
Power consumption	30mA
Out power	0.36W
Impedance	600ohm
Weight	3g
Dimension(mm)	20(W) x 14(H)

SMPS (Switching mode power supplyer) **HSP-16V1A, HSP-12V1A**



Specifications

HSP-16V1A

Input	
Operating Voltage	85~264Vac
Power Consumption	100V/0.4rms, 220v/0.2Ams
External Control	Contrast and brightness
inputt pin hole	OK
Output	
Output condition	Wire color Wire gauge
DC 16V/1a	Yellow UL AWM 1007#20 150mm
GND	Black UL AWM 1007#20 150mm
Dimension(mm)	80(W) x 56.3(H) x 24(D)

HSP-12V1A

Input	
Operating Voltage	85~264Vac
Power Consumption	100V/0.4rms, 220v/0.2Ams
External Control	Contrast and brightness
inputt pin hole	1.8(Ø)x3
Output	
Output condition	Wire color Wire gauge
DC 12V/1a	Yellow UL AWM 1007#20 150mm
GND	Black UL AWM 1007#20 150mm
Dimension(mm)	80(W) x 56.3(H) x 24(D)

Lens

Board lens

Category	board lens						
Item No.	216250K	296200K	364200K	404200K	603200K	803250K	1203200K
Focal Length	2.1MM	2.9MM	3.6MM	4.0MM	6.0MM	8.0MM	12MM
Sensing area	1/3" &(1/4")	1/3" &(1/4")	1/3" &(1/4")	1/3" &(1/4")	1/3" &(1/4")	1/3" &(1/4")	1/3" &(1/4")
Flange back	4.8	5.2	4.7	5.6	4.3	5.8	12
Iris	FIXED						
Lens construction	6/6	6/6	4/4	4/4	3/3	3/3	3/3
F Number	F2.5	F2.0	F2.0	F2.0	F2.0	F2.5	2.0
Angular field of view	150° &(114°)	120° &(90°)	92.6° &(70°)	81° &(61°)	54° &(41°)	38.6° &(29°)	26° &(19.7°)
Object distance	40CM-∞	40CM-∞	40CM-∞	40CM-∞	10CM-∞	80CM-∞	80CM-∞
Total length							
Weight (g)	6.5	6.2	5.5	6.3	3	3.4	3.2

C-Mount lens

Category	C-Mount lens						
Item No.	435200CC	605200CC	804200CC	604200JC	404250C	806130C	806130MI
Focal Length	4.3MM	6.0MM	8.0MM	6.0MM	4.0MM	8.0MM	8.0MM
Sensing area	1/3" &(1/4")	1/3" &(1/4")	1/3" &(1/4")	1/3" &(1/4")	1/3" &(1/4")	1/3" &(1/2")	2/3", 1/2", 1/3"
Flange back	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Iris	FIXED						
Lens construction	5/5	5/5	4/4	4/4	4/4	6/6	6/6
F Number	F2.0	F2.0	F2.0	F2.0	F2.5	F1.3	F1.3
Angular field of view	78° &(59°)	54° &(40.5°)	38.6° &(29°)	54° &(40.5°)	81° &(61°)	76° &(57°)	76°, 57°, 38°
Object distance	0.1M-∞	0.1M-∞	0.1M-∞	0.1M-∞	0.1M-∞	0.2M-∞	0.2M-∞
Total length							
Weight (g)	21	19	25	30	29	28	50.5
Application	B/W	B/W & COLOR					
Mount type	"c"						

Mono focal lens(D/C Iris)

Vari focal lens(D/C Iris)



Category	Mono Focal Lenses (D/C Iris)	Mono Focal Lenses (D/C Iris)	Mono Focal Lenses (D/C Iris)
Item No.	DC1204180	VZ35814DCS	VZ40820DB
Focal Length	12MM	3.5-8MM	4-8.0MM
Sensing area	1/3" &(1/4")	1/3" &(1/2")	1/3" &(1/4")
Flange back	Flange Back	12.5	BOARD
Iris	FIXED	D/C	D/C
Lens construction	4/4	7/9	7/7
F Number	F1.8	F1.4	F2.0-2.8
Angular field of view	28° & 21.5°	43° - 90°	89.2° - 44.2° & 65.5
Object distance	0.4M-∞	0.5M-∞	0.5M-∞
Total length			
Weight (g)	15	125	36
Application		B/W & COLOR	B/W & COLOR
Mount type		"CS"	BOARD M12 x P0.5

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www.hanseelec.com

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Hanse
Hanse Electronics Co., Ltd.

■ Seoul Office

■ Homepage

■ Head Office (Factory)

■ E-mail

■ ZHUHAI HANSE ELECTRONICS CO.,LTD

: Tel: +82-2-6675-2500 Fax: +82-2-6675-2501

260-7, YOUMCHANG-DONG, GANGSEO-GU, SEOUL 157-040, KOREA

: <http://www.hanseelec.co.kr> <http://www.hanseelec.com>

: Tel: +82-32-818-9280 Fax:+82-32-818-4474

53B 4L, NAMDONG-INDUSTRIAL ZONE, NAMDONG-GU, INCHEON 405-849, KOREA

: hanse@hanseelec.co.kr

: Tel: +86-756-8699007~8 Fax:+86-756-8699009

3F., NO.8, PINGDONG 1st Rd., NAMPING HI-TECH INDUSTRIAL ZONE ZHUHAI,
GUANGDONG, 519060, CHINA