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		PAGE 7 Pages
		APPLICABLE DIVISION
	SPECIFICATION	YAO PLANT APPLIANCE SYSTEMS GROUP

SPECIFICATIONS FOR COLOR CCD CAMERA MODULE

Model No.

YH-7S10
YH-8S10

☐CUSTOMER'S APPROVAL

DATE _____

BY _____

PRESENTED
BY _____
J . Aoki
Vice President
Department General Manager
House Electronics Business Promotion Dept.
Appliance Systems Group

SHARP CORPORATION

RECORDS OF REVISION

SPEC No.	DATE	REVISED No.	SUMMARY PAGE	SUMMARY	NOTE
YH-7S10-01	Feb.27.1998	01			1st issue

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  - Communications equipment for trunk lines
  - Control equipment for the nuclear power industry
  - Medical equipment related to life support, etc.

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1. Application

This document describes the specifications of Color CCD Camera to be supplied to _____.

All figures described in this document are based on the conditions that the camera is used under *normal operating temperature, normal operating humidity.

*Normal operating temperature ; +20 ~ +25℃

*Normal operating humidity ; 65±5%RH

The monitor to be used shall be standard monitor.

Model No.	TV system	Output signal	Iris control	Lens
YH-7S10	NTSC	Composite	1/120 sec.(fixed)	○
YH-8S10	PAL		1/100 sec.(fixed)	

2. General Description

This color CCD camera modules incorporates 1/4-inch CCD with following characteristics:

1) Hunting free

2) Focus ; manual adjustable

3) Structure ; Soft base with tilt adjustment

4) Output signal ; Composite

5) TV system ;NTSC,PAL

6) White balance;Auto (TTL auto tracing white balance)

7) Built-in compact lens specially designed for the module.

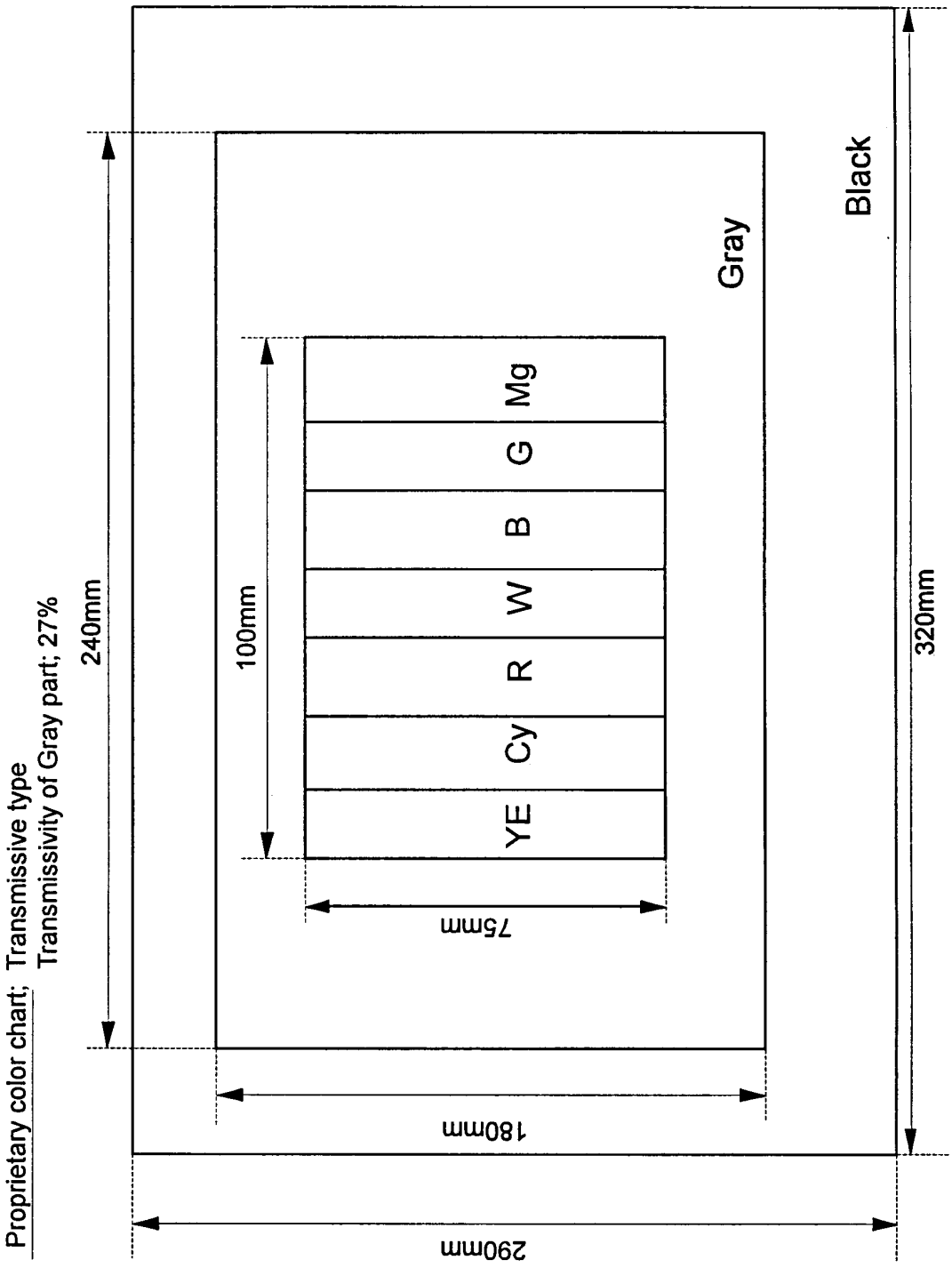
8) 5V signal operation

3. Specification

TV system	NTSC	PAL
Image sensor	1/4"Inter-line transfer CCD	
Total pixels	542(H)x492(V)(Total;270K)	542(H)x582(V)(Total;320K)
Effective pixels	512(H)x492(V)(Total;250K)	512(H)x582(V)(Total;300K)
Resolution Distance from chart to camera : 70cm	Horizontal : 300 TV lines	Horizontal : 300 TV lines
Focus	manual adjustable (30mm to infinity)	
S/N ratio	≧43dB Condition: AGC off High pass filter 10KHz Fsc trap Weighting filter on Low pass filter(NTSC;4.2MHz,PAL;5.0KHz) Light shield	
Minimum illumination	≦20 lx Condition: ITE gray scale chart(Gamma=1.0) Y signal amplitude 350mV	
White balance	TTL auto tracing white balance,Range;2,800 to 6,800 ° K	
Iris control	1/120 sec.(fixed)	1/100 sec.(fixed)
Gamma correction	approx.0.6	
Auto gain control	Auto	
Sub-carrier frequency	3.579545MHz±200Hz	4.43361875MHz±200Hz
Sync. system	Internal only	
Output video signal Composite type ・ Y signal amplitude *(Condition 1) ・ Color signal*(Condition 2) R amplitude R phase B amplitude B phase ・ Sync.amplitude ・ Burst amplitude	 1.0Vp-p/75Ω 714mV±100mV 88.25 IRE±25% 103.4 ° ±15 62.2 IRE±25% 347.1 ° ±15 286mV±80mV 286mV±90mV	 1.0Vp-p/75Ω 700mV±100mV 94.8 IRE±25% 103.4 ° ±15 67.2 IRE±25% 347.1 ° ±15 300mV±80mV 300mV±90mV
Lens focal length F number viewing angle	 approx.3.8mm(fixed) approx.2.2 Horizontal:approx.51 ° Vertical :approx.39 °	
TV distortion	approx.0.5%	
DC power supply	DC 4.5V - DC7.0V,≦1.8W	
Operating temperature	-10 to +40 ° C	
Storage temperature	-20 to +60 ° C	
Dimension	62(H) x40(V) x25.5(D)mm	

*Condition 1: ITE gray scale chart(Gamma=1.0)

*Condition 2: Exclusive color chart (YH-7S10-01-3)
Line select ; 141 lines (NTSC),166lines(PAL)
Y (white) amplitude ; 714mV (NTSC),700mV(PAL)
Color temp ; 5,100° K


Proprietary color chart; Transmissive type
Transmissivity of Gray part; 27%
240mm
100mm
75mm
180mm
290mm
320mm
Gray
Black
YE
Cy
R
W
B
G
Mg

4.Connector (CN101)

1) Power input , Signal Output

2) Pin assignment

No.	Name
1	Power input
2	GND
3	NC
4	Composite video signal
5	GND
6	GND
7	NC

3)Connector used in the module Molex 53398-0790

5 Reliability Tests

Unless otherwise stated, the following reliability tests are conducted (sampling base) to confirm the reliability of the module in the testing room kept in normal temp. and humidity.

1) Low temp. storage test

To prove that the module shows no abnormal operation and function after it is stored at ambient temp. of -20℃ for 24H and then left at room temp. for 2H min.

2) Low temp. operation test

To prove that the module normally operates for continuously 5H at the ambient temp. of -10℃.

3) High temp. storage test

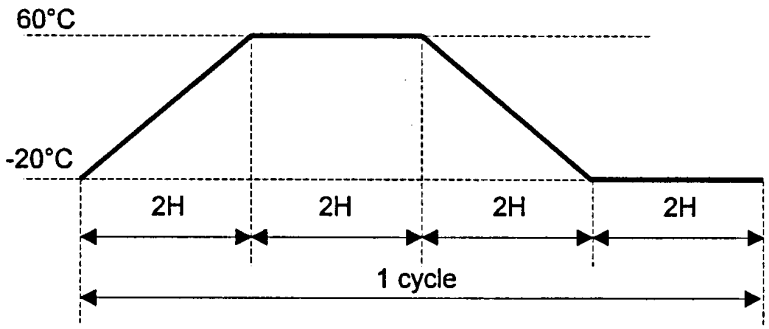
To prove that the module shows no abnormal operation and function after it is stored at ambient temp. of 60℃ for 24H and then left at room temp. for 2H min.

4) High temp. operation test

To prove that the module normally operates for continuously 5H at the ambient temp. of 40℃.

5) Temp. cycle test

To prove that the module shows no abnormal operation and function during 5 cycles as stipulated in the following pattern and, then 2H storage at room temp.



6) High humidity test

To prove that the module shows no abnormal operation and function after the module has been operated for 24H at ambient temp. of 30℃ and relative humidity of 90%RH, and take out from test chamber with water drop removed.

7) Vibration test

To prove that the module shows no abnormal operation and function after vibration test under the condition of 10~55~10Hz/min. at acceleration speed 3.6G and up/down for 4H and left/right for 2H and back/forward for 2H.

8) Shock test

Three successive shocks shall be applied in both direction of 3 mutually perpendicular axes (a total of 18 shocks).

Peak acceleration : 50G , Duration of pulse : 10msec

6. Pixel Defect

Number of defective pixels not more than 10

Condition:	Temperature 25℃
	Shield the light
	AGC off
	Standard monitor (NTSC/PAL)

*10 pixels in both horizontal edges and 9 pixels in both vertical edges shall be disregarded as a void area.

7. Operating manual; Not included

8. Precautions & Notes

1) Do not shoot at direct sunlight.
The display picture disappears in case of shooting at direct sunlight.

2) Care shall be used not to damage the components during installation or removed of the extension cable.

3) These products are made specifically for indoor use.
(Office and ordinary home-use environment.)

4) Since EMI and CE vary depending on various systems,these agency approvals need to be taken at customer side.

5) Any agency approval for safety is not applicable to these components.

6) An earth band or conductive mat shall be used to avoid the generation of static electricity that easily damages the CCD sensors.

Please note that Sharp cannot guarantee the performance and quality under any use other than the conditions stated above, such as circumstances where vibrations are constant as in a moving vehicle, where shocks may occur as in a moving vehicle or where shocks exceed ordinary house-hold or office use.

7) Don't touch lens.

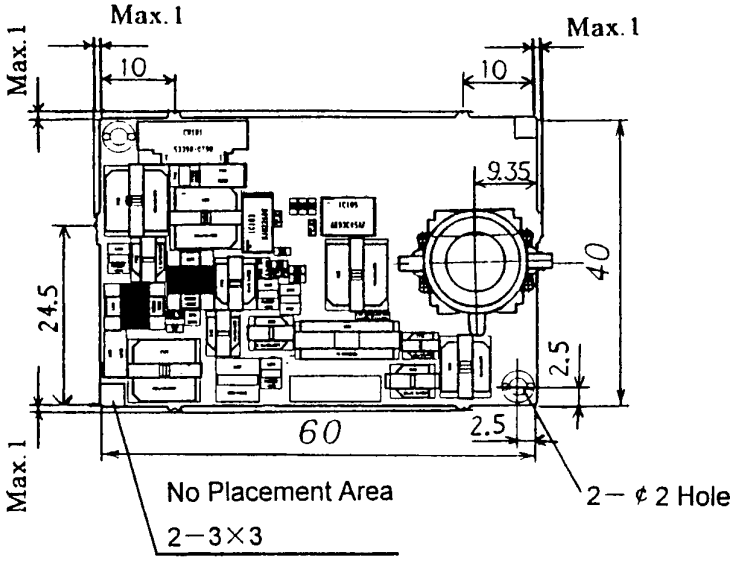
Keep lens away from dirt and dust.
Please don't touch lens. Cause it's made from plastic, it's scratched easily.
In case of dust sticking, please blow it off in blower and never touch lens.
As lens is spoiled, use of the solvent such as alcohol is strict prohibition.

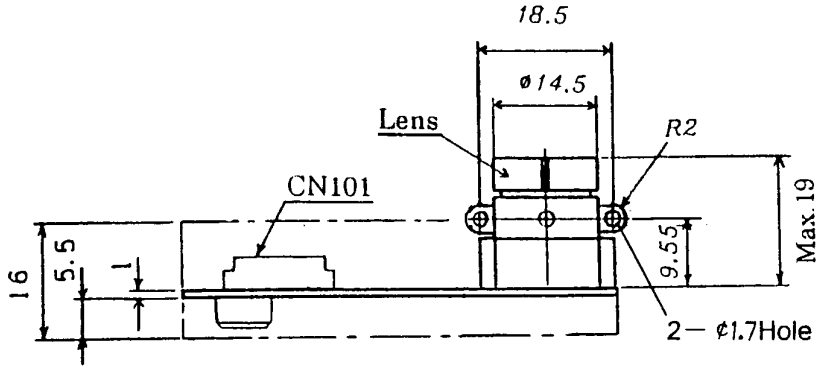
SHARP

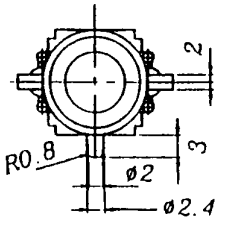
発行日付 19 。 。

YH-7S10-01-7

共用金型	発主品番		共用金型工程	設計通報，連絡書 号による	新設 変更 置換
	部品名称		共用型（後加工・コア入れ換え）押出型・外形抜き・穴明・折曲抜り・その他	実施 一次試作，量産試作，量産 から	
	部品コード				







NO.	部品コード PARTS CODE	加工経路 PROCESS	個数 PIECES	材質 MATERIAL	仕上 FINISH	部品名称 NAME
	YH-7S10	—	1	—		Color CCD Camera Module

年月日 DATE	設通番号 NO.	訂正記事 REVISE

原図尺度 SCALE　単位 UNIT　コピーサイズ A1 A2 A4 (size)　3角法

承認 APPROVE	検図 CHECK	設計 DESIGN	製図 DRAW	担当 CHARGE
K. Minami	Y. Kumagai		M. Suga	

作成日付 DATE 1997.9.12

H E Business Promotion Dept. 発行

設通番号 ASSIGN NO

図番 DRAWING NO.

配布先　枚数

CCD, Module, NTSC, PAL, YH7S10, YH8S10