



SATICON^{*}

H8362

^{*} Trade mark

This data sheet is a revised edition of catalog No. CE-E352R.

- 1-inch diameter
- Employing SATICON target
- Magnetic focus, magnetic deflection
- For telecine color TV cameras in broadcast applications

The H8362 is a high-performance vidicon type TV pickup tube employing magnetic focus and magnetic deflection. The H8362 employs the SATICON target which is a special photoconductive film of Se-As-Te chalcogenide glass for its photoconductive layer. It features high sensitivity, excellent resolution, color reproducibility, and flare characteristics. Thus, it largely contributes to telecine color TV cameras.

FEATURES

1. High resolution

Compared with conventional telecine color TV camera which employs antimony trisulfide photoconductor vidicon, high resolution can be obtained in a camera using H8362, because of its low lag and negligible flare in addition to high resolution.

2. Good color reproduction

Good color reproduction will be obtained under the condition of wide scene illumination because of its possibility linear color encoding in the color encode matrix circuits. This feature is produced by such the characteristics as nearly unity gamma, very low dark current and negligible flare.

3. Minimum shading correction

Shading correction value is much smaller than a conventional camera which employs vidicons, because of its good signal uniformity.

Shading correction should be applied to only shading caused by an optical system.



4. High sensitivity

In a practical operation it can be obtained over 10 times higher sensitivity than that of a camera using vidicon. Especially, in an opaque camera operation, its sensitivity has a enough surplus. That is, the camera which employs H8362 can be operated with lens iris F 8 to ensure enough optical focal depth.

5. Stable registration

The misregistration value of three channels in any set is never greater than 0.3% of the picture height at the corners of the picture. These value will be obtained with easy and quick adjustment because of employing high precision electrode holding structure and high precisely formed glass bulb.

Note: The information contained herein is tentative and may be changed without prior notice. It is therefore advisable to contact Hitachi before proceeding with the design of equipment incorporating this product.

GENERAL DATA

Heater voltage	6.3V ± 10%
Heater current	0.095 A
Direct interelectrode capacitance	
Target to all other electrodes (Note 1)	4.6 pF
Spectral sensitivity characteristic	See Fig. 2
Focusing method	Magnetic
Deflection method	Magnetic
Overall length	159 ± 3 mm
Greatest diameter	28.6φ ± 0.3 mm
Operating position	Any

MAXIMUM RATINGS

(Absolute maximum values Note 2)

For scanned area of 9.5 mm x 12.7 mm	
Grid No. 4 voltage	1,500 V
Grid No. 3 voltage	1,000 V
Grid No. 2 voltage	750 V
Grid No. 1 voltage	
Negative bias value	300 V
Positive bias value	0 V
Peak heater—cathode voltage:	
Heater negative with respect to cathode	125 V
Heater positive with respect to cathode	10 V
Target voltage (signal electrode)	80 V
Faceplate temperature	50°C

TYPICAL OPERATION (Note 3)

For scanned area of 9.5 mm x 12.7 mm	
Faceplate temperature	25 ~ 35°C
Grid No. 4 voltage	900 V
Grid No. 3 voltage	720 V
Grid No. 2 voltage	300 V
Grid No. 1 voltage for picture cutoff	-45 ~ -100 V
Gamma	1
Minimum peak-to-peak blanking voltage:	
when applied to grid No. 1	75 Vp-p
when applied to cathode	20 Vp-p
Field strength at center of focusing coil	52 G
Field strength of adjustable alignment coil	0 ~ 4 G
Average sensitivity operation	
Faceplate illumination	10 lx
Target voltage (Note 4)	50 V
Dark current	0.5 nA
Signal current	0.3μA
Lag (Note 5) (Percent of initial value of signal output current)	
1/20 seconds after illumination is removed.	
.....	Less than 3%
Spectral reflectivity	Fig. 5

Note

1. This value is an effective output impedance, which increases when a tube is inserted in the yoke assembly.
2. The maximum ratings in the table are established in accordance with the following definition of the absolute maximum rating system for rating electron devices. Absolute maximum ratings are limiting values of operating and environmental conditions applicable to any electron device of a specified type as defined by its published data and should not be exceeded under the worst conditions. The device manufacturer chooses these values to provide acceptable serviceability of the device, taking no responsibility for equipment variations, environment variations and the effects of changes in operating conditions due to variations in device characteristics. The equipment manufacturer should design so that initially and throughout life no absolute maximum value for the intended service is exceeded with any device under the worst probable operating conditions with respect to supply voltage variations, equipment component variation, equipment control adjustment, load variation, environmental conditions, and variations in device characteristics.
3. For yoke assembly, use a Hitachi SATICON yoke assembly H9306 or its equivalent.
4. Set the target voltage precisely at 50V. Lower voltage will cause deterioration of photoconductor performance, and higher voltage will reduce the service life. The target voltage and current characteristic represent their saturation characteristics. Accordingly, automatic sensitivity adjustment by varying the target voltage is impossible.
5. The lag is the value when the signal current is set at 0.4μAp-p, and the beam current at 0.6μAp-p, applying bias light which is equivalent 5nA signal current.

Scanned area: 9.5 mm x 12.7mm
 Grid No. 4 voltage: 900V
 Grid No. 3 voltage: 720V
 Signal current: 0.4 μ A p-p
 Beam current: 0.6 μ A p-p
 Target voltage: 50V
 Test chart: EIAJ B₂

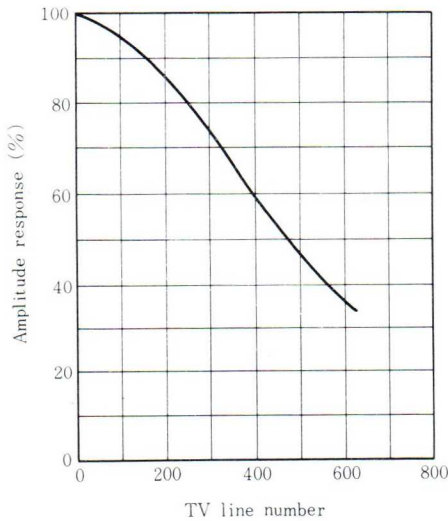


Fig. 1. Amplitude response

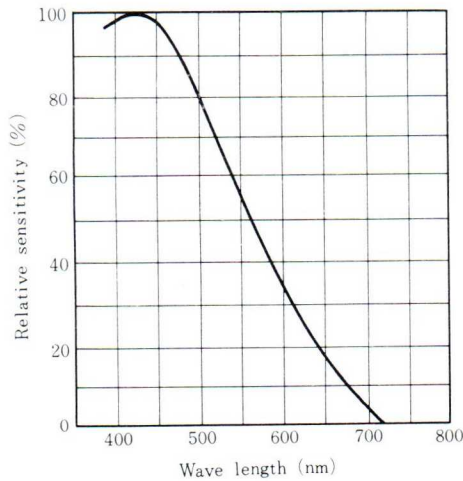


Fig. 2. Spectral sensitivity characteristic

Scanned area: 9.5 mm x 12.7 mm
 Faceplate temperature: 30°C (Approx.)
 Target voltage: 50V

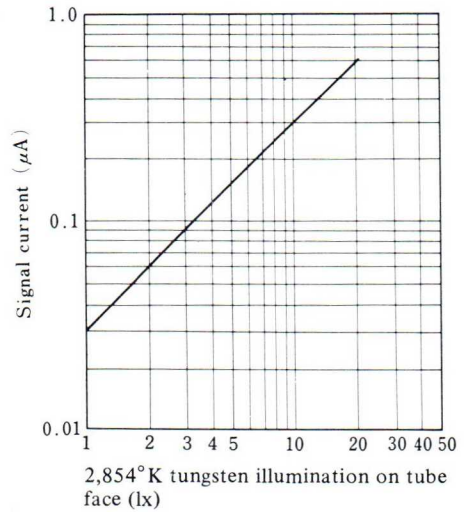


Fig. 3. Light transfer characteristic

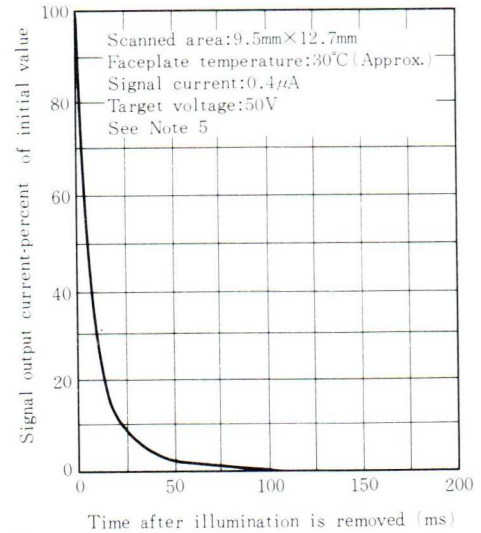


Fig. 4. Typical persistence characteristic

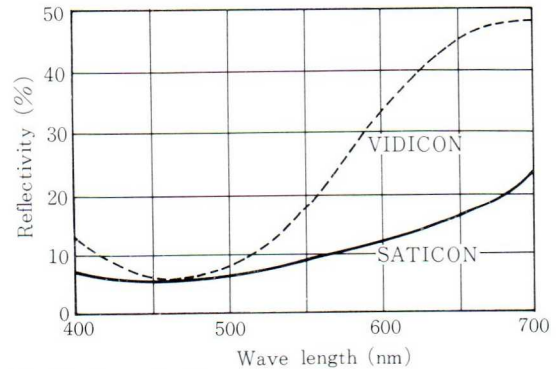
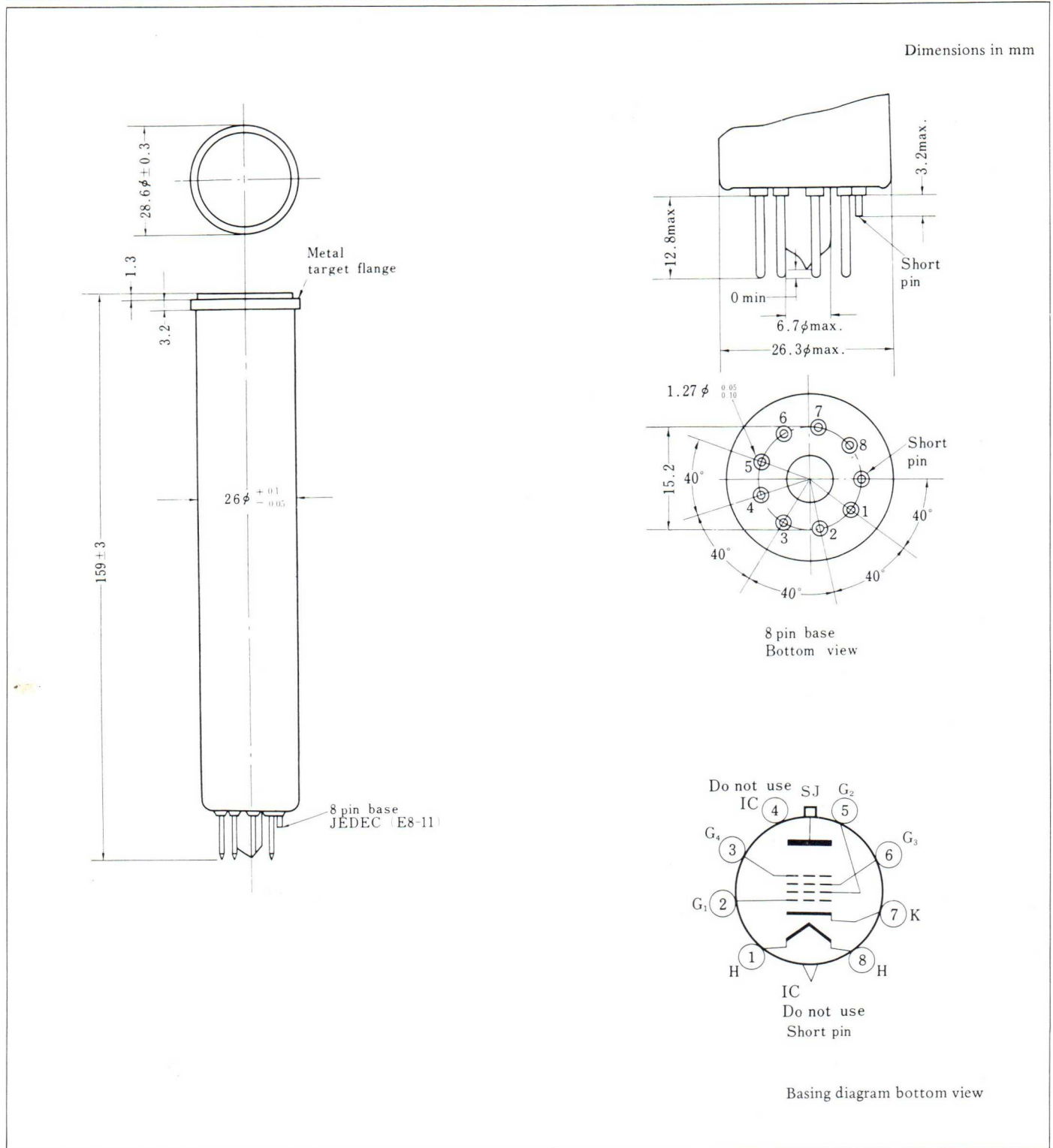


Fig. 5. Spectral reflectivity

DIMENSIONAL OUTLINE AND BASE CONNECTION



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