6I98 VIDEICON
600-LINE RESOLUTION
For use in industrial applications

DATA

General:
Heater, for Unipotential Cathode:
Voltage: 6.3 ± 10% ac or dc volts
Current: 0.6 amp
Direct Interelectrode Capacitance:
Target (Signal Electrode) to all other electrodes: 4.5 µf
Spectral Response: See Curves
Photoconductive Layer:
Maximum useful diagonal of rectangular image (4 x 3 aspect ratio): 0.62"
Orientation of quality rectangle—Proper orientation is obtained when the horizontal scan is essentially parallel to the plane passing through the tube axis and short index pin.
Focusing Method: Magnetic
Deflection Method: Magnetic
Overall Length: 6.25" ± 0.25"
Greatest Diameter (Excluding side tip): 1.125" ± 0.010"
Maximum Radius (Including side tip): 0.805"
Weight (Approx.): 2 oz
Operating Position: Approx. horizontal, or faceplate up
Bulb: T8
Base Connector: Cinch No. 54A18088, or equivalent
Base: Small-Button Ditetra 8-Pin (JETEC No.E8-11)
Basing Designation for BOTTOM VIEW: 8HM

Pin 1—Heater
Pin 2—Grid No.1
Pin 3—Internal Connection—Do Not Use
Pin 4—Same as Pin 3
Pin 5—Grid No.2
Pin 6—Grid No.4, Grid No.3
Pin 7—Cathode
Pin 8—Heater (Signal Electrode)
Flange—Target
Short Index Pin—Same as Pin 3

Maximum Ratings, Absolute Values:
TARGET (SIGNAL-ELECTRODE) VOLTAGE: 100 max. volts
GRID-No.4 & GRID-No.3 VOLTAGE: 350 max. volts
GRID-No.2 VOLTAGE: 350 max. volts
GRID-No.1 VOLTAGE:
Negative-bias value: 125 max. volts
Positive-bias value: 0 max. volts
PEAK HEATER-CATHODE VOLTAGE:
Heater negative with respect to cathode: 125 max. volts
Heater positive with respect to cathode: 10 max. volts

See next page. Indicates a change.
FACEPLATE:

<table>
<thead>
<tr>
<th>Illumination</th>
<th>1000 max. ft-c</th>
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<tbody>
<tr>
<td>Temperature</td>
<td>60 max. °C</td>
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Typical Operation and Characteristics:

For scanned area of 1/8" x 3/8"

- Faceplate Illumination (Highlight). 10 to 20 ft-c
- Target (Signal-Electrode) Voltage. 10 to 70 volts
- Grid-No.4 (Decelerator) & Grid-No.3 (Beam-Focus) Voltage. 250 to 300 volts
- Grid-No.2 (Accelerator) Voltage. 300 volts
- Grid-No.1 Voltage for picture cutoff. 45 to 100 volts
- Highlight Signal-Output Current*. 0.1 to 0.2 μA
- Maximum Dark Current. 0.02 μA
- Uniform 2870° K Tungsten Illumination on Tube Face to Produce Signal-Output Current of 0.1 to 0.2 μA. 3 to 10 ft-c
- Average "Gamma" of Transfer Characteristic for Signal-Output Current between 0.02 and 0.2 μA. 0.65
- Visual Equivalent Signal-to-Noise Ratio (Approx.)*. 300:1
- Minimum Peak-to-Peak Blanking Voltage:
  - When applied to grid No.1. 40 volts
  - When applied to cathode. 10 volts
- Field Strength at Center of Focusing Device. 40 gausses
- Field Strength of Adjustable Alignment Coil. 0 to 4 gausses

* Defined as the component of the target current after the dark-current component has been subtracted.

** Definition, focus uniformity, and picture quality decrease with decreasing grid-No.3 and grid-No.4 voltage. In general, grid No.3 and grid No.4 should not be operated below 250 volts.

† With no blanking voltage on grid No.1.

* Measured with a high-gain, low-noise, cascode-input-type amplifier having bandwidth of 5 Mc.

▲ This capacitance, which effectively is the output impedance of the 6198, is increased when the tube is mounted in the deflection yoke and focusing-coil assembly. The resistive component of the output impedance is in the order of 100 megohms.

< indicates a change.
TYPICAL SIGNAL OUTPUT

ILLUMINATION: UNIFORM OVER PHOTO-
CONDUCTIVE LAYER.
SCANNED AREA OF PHOTOCOUDUCTIVE
LAYER = 1/2" x 3/8"

PERSISTENCE CHARACTERISTIC

SCANNED AREA OF PHOTOCOUDUCTIVE LAYER = 1/2" x 3/8"
INITIAL VALUE = 0.2 MICROAMPERE

RELATIVE SIGNAL-OUTPUT CURRENT -
PER CENT OF INITIAL VALUE

TIME AFTER ILLUMINATION IS REMOVED—MILLISECONDS

ELECTRON TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY
CURVE A: FOR EQUAL VALUES OF SIGNAL-OUTPUT CURRENT AT ALL WAVELENGTHS.

SIGNAL-OUTPUT MICROAMPERES FROM SCANNED AREA OF $\frac{1}{2}'' \times \frac{3}{8}'' = 0.02$

DARK CURRENT (MICROAMPERES) = 0.02

CURVE B: SPECTRAL CHARACTERISTIC OF AVERAGE HUMAN EYE.

CURVE C: FOR EQUAL VALUES OF SIGNAL-OUTPUT CURRENT WITH RADIANT FLUX FROM TUNGSTEN SOURCE AT 2870° K.

RANGE OF MAX VALUE

MICROAMPERES/MICROWATT OF RADIANT ENERGY (CURVE A)

WAVELENGTH—ANGSTROMS

ULTRA VIOLET VIOLET BLUE GREEN YELLOW RED INFRA RED

RELATIVE SENSITIVITY (CURVES B & C)
TYPICAL CHARACTERISTICS

CURVE A: WITH 8 FT-C OF 2870°K TUNGSTEN ILLUMINATION INCIDENT ON TUBE FACE.
CURVE B: WITH NO ILLUMINATION INCIDENT ON TUBE FACE.
CURVE C = CURVE A MINUS CURVE B
SCANNED AREA OF PHOTOCONDUCTIVE LAYER = 1/2" x 3/8"

CURRENT—MICROAMPERES

TARGET VOLTS

ELECTRON TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-7818RI