

GL-7038, GL-7325

VIDICONS

The GL-7038 vidicon is designed for televising live scenes and also film pick-up applications. It utilizes a uniform photoconductive surface which assures uniform dark current across the scanned area. The GL-7038 will replace the 6198 and the 6198-A vidicons.

The GL-7325 is a high-sensitivity vidicon primarily designed for televising live scenes. The high sensitivity is the result of a photoconductive surface which also provides low lag characteristics at low light levels.

Except as indicated below the ratings of these two types are identical.

General

Focusing Method—Magnetic
Deflection Method—Magnetic
Maximum Useful Diagonal of Rectangular Image
(4 x 3 Aspect Ratio).....0.625 Inch
Image Orientation—Horizontal Scan Should Be
Parallel to Plane Passing Through Axis of Tube
and Index Pin

Electrical

Heater
Voltage, AC or DC.....6.3 Volts $\pm 10\%$
Current
GL-7038, GL-7325.....0.60 Amperes $\pm 10\%$
Direct Interelectrode Capacitance
Signal Electrode to All Other
Electrodes.....4.0 μf
Spectral Response (See Fig. 2).....S-18

Mechanical

Operating Position—Any
Dimensions—See Fig. 5

MAXIMUM RATINGS

Anode Voltage.....350 Volts
Grid-No. 2 Voltage.....750 Volts
Grid-No. 1 Voltage
Negative Bias.....125 Volts
Positive Bias.....0 Volts
Peak Heater-Cathode Voltage
Filament Negative with Respect to
Cathode.....125 Volts
Filament Positive with Respect to
Cathode.....10 Volts
Faceplate
Illumination.....500 Foot-Candles
Temperature.....70 C

TYPICAL OPERATION

Scanned Area..... $\frac{1}{2} \times \frac{3}{8}$ Inches
Faceplate Temperature.....30-35 C
Signal Electrode Voltage.....10-60 Volts
Grid-No. 4 (Mesh) and Grid-No. 3
(Focus) Voltage.....250-300 Volts
Grid-No. 2 (Accelerator) Voltage.....300 Volts
Grid-No. 1 Voltage (Cutoff).....-40 to -100 Volts
Signal Output Current
GL-7038—See Fig. 3
GL-7325—See Fig. 4
Average "Gamma" of Transfer
Characteristic for Signal Output Current
Between 0.05-0.25 μa , maximum.....0.55
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 Gauss
Field Strength of Adjustable Alignment Coil.....0-4 Gauss
Lag Percentage of Initial Signal After Light
Interrupted for 1/20 Second. (At 0.02 μa
Maximum Dark Current and 0.22 μa Maxi-
mum Signal Current).....20-30 Percent
Resolution (Minimum Values)
Center.....600 Lines
Corner.....400 Lines

GENERAL  ELECTRIC

Supersedes ET-T1684 dated 3-63

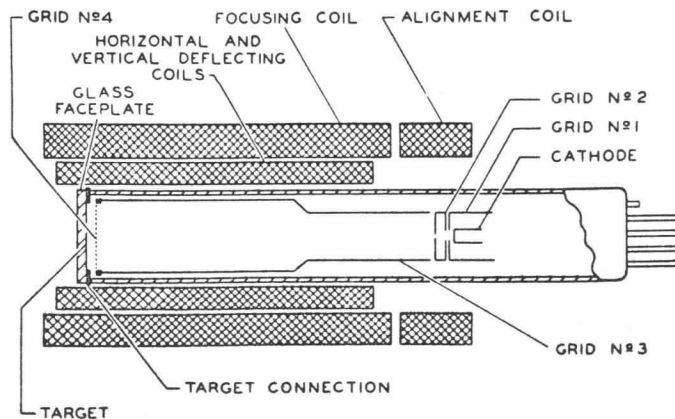


Fig. 1. Schematic Arrangement of Types GL-7038, GL-7325

SPECTRAL SENSITIVITY CHARACTERISTIC

CURVE A: FOR EQUAL VALUES OF SIGNAL-OUTPUT CURRENT AT ALL WAVELENGTHS.
SIGNAL-OUTPUT MICROAMPERES FROM SCANNED AREA OF $\frac{1}{2}'' \times \frac{3}{8}'' = 0.02$.

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.

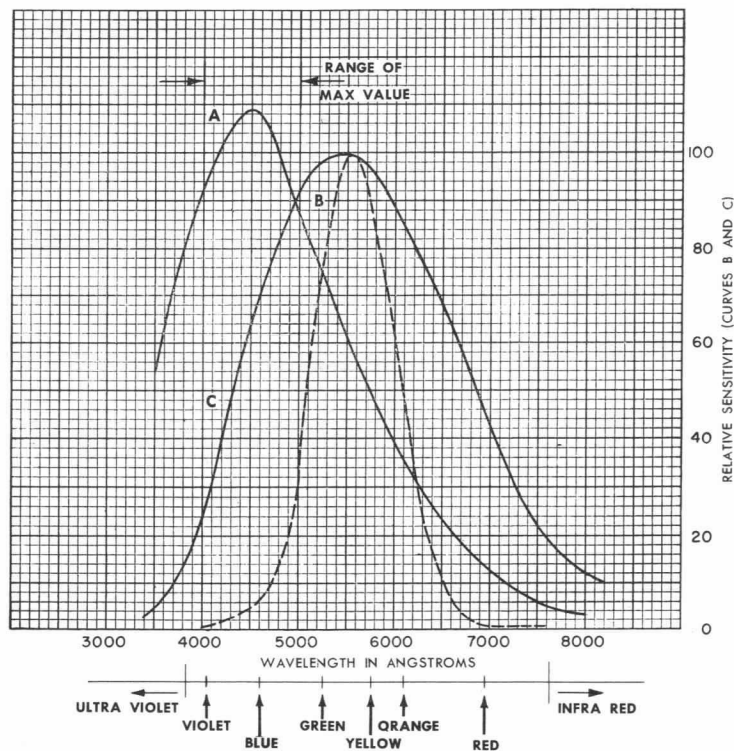


Fig. 2

TYPICAL LIGHT TRANSFER CHARACTERISTICS

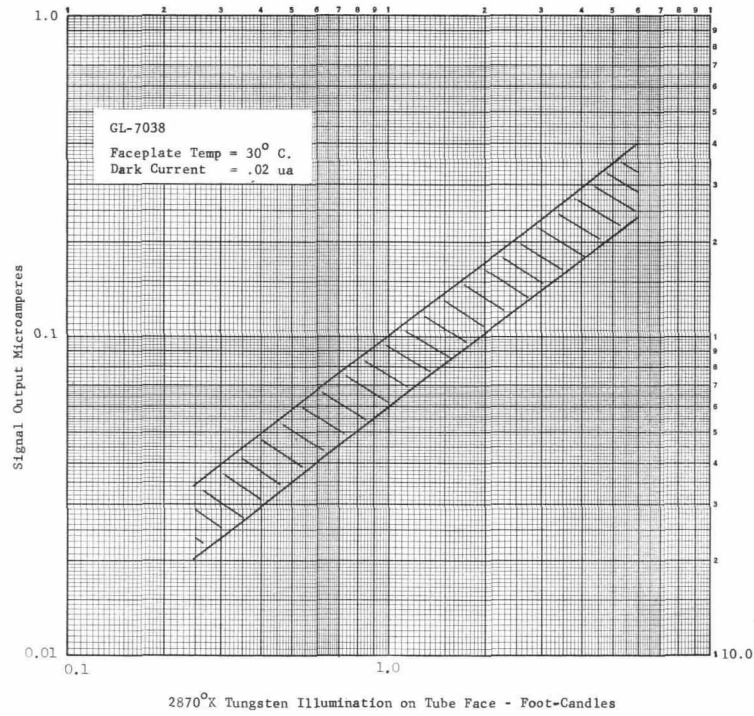


Fig. 3

TYPICAL LIGHT TRANSFER CHARACTERISTICS

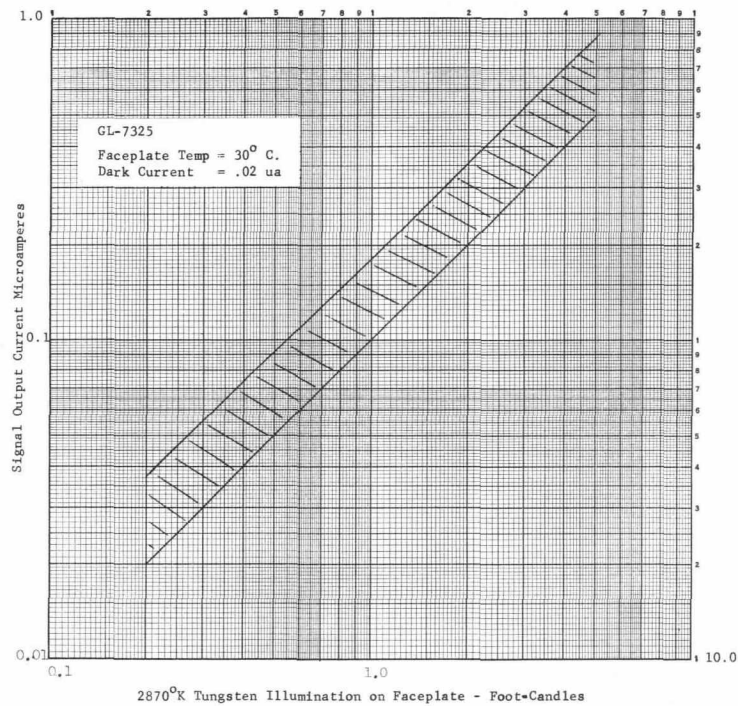
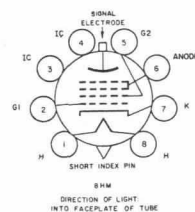
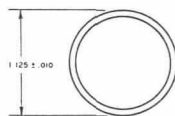
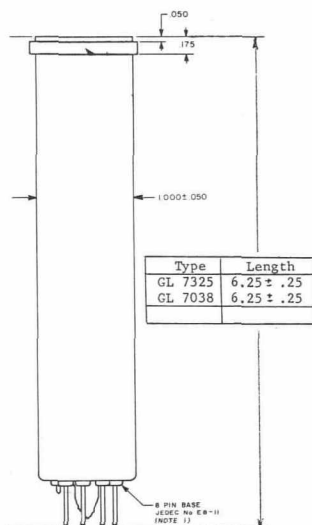


Fig. 4



- PIN 1: HEATER
- PIN 2: GRID No. 1
- PIN 3: INTERNAL CONNECTION--DO NOT USE
- PIN 4: INTERNAL CONNECTION--DO NOT USE
- PIN 5: GRID No. 2
- PIN 6: ANODE
- PIN 7: CATHODE
- PIN 8: HEATER
- FLANGE: SIGNAL ELECTRODE
- SHORT INDEX PIN: INTERNAL CONNECTION--DO NOT USE



NOTES

- Base-pin positions fit 0.25 inch thick, 10-hole flat-plate gage with holes located as follows: 9 holes, 0.0550 (± 0.0005) inch diameter equally spaced, 0.2052 (± 0.0005) inch apart on a circle, 0.6000 (± 0.0005) inch diameter, plus a center hole, 0.300 (± 0.001) in. diameter, concentric with 9-hole circle.
- All dimensions are shown in inches.

Fig. 5