DESCRIPTION

The ML-7351 is a small television camera tube designed primarily for use at low light level in industrial applications with limited subject motion. Its resolution capability is about 500 lines. Using a photoconductive layer as its light sensitive element, the ML-7351 has a sensitivity which permits televising scenes with about 0.1 foot-candles illumination on the faceplate of the tube. For average scenes, this corresponds to approximately 5 foot-candles illumination on the scene when using an f/2 lens. The spectral response characteristic of the photoconductive layer exhibits a peak in the red and is somewhat dependent on dark current. The signal decay rate or lag of the ML-7351 is approximately twice that of the ML-6198.

GENERAL CHARACTERISTICS

Heater, for Unipotential Cathode:
Voltage (AC or DC) .................................................. 6.3 ± 10% volts
Current ................................................................. 0.6 ampere

Direct Inter electrode Capacitance:
Signal Electrode to All Other Electrodes ........................................ 4.5 μF
Spectral Response .......................................................... See Curve

Photoconductive Layer:
Maximum Useful Diagonal of Rectangular Image (4 x 3 Aspect Ratio) .... 0.62 inch
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 ........................................................................ 6½" ± ½"
Greatest Diameter, excluding side tip ........................................... 1.125" ± 0.010"
Maximum Radius, including side tip .............................................. 0.800"
Bulb .............................................................................. T-8

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**TYPICAL OPERATING CONDITIONS**

Typical Operation

- Faceplate Illumination (Highlight) ............ 0.3 to 0.7 ft·c
- Signal-Electrode Voltage ......................... 10 to 25 volts
- Maximum Rating .................................. 40 volts
- Grid No. 4 (Accelerator) & 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 ............ 0.2 to 0.4 μamps
- Maximum Dark Current ............................. 0.08 μamp

Uniform 2870°K Tungsten Illumination on Tube Face to Produce Signal-Output Current of 0.1 to 0.2 μamp ................................................................. 0.1 to 0.3 ft·c

- "Gamma" of Transfer Characteristic .............. 0.6 to 0.7
- Visual Equipment Signal-to-Noise Ratio (Approx.) * .......................... 300:1

Maximum Peak-to-Peak Blanking Voltage:
- When applied to grid No. 1 .................. 40 volts
- When applied to cathode ....................... 10 volts
- Field Strength at Center Focusing Device .... 40 gauss
- Field Strength of Adjustable Alignment Coil 0 to 4 gauss

†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 amplifier having bandwidth of 5 Mc.