

ML-7351

DESCRIPTION & RATINGS

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 \pm 10% volts |
| Current | 0.6 ampere |
| Direct Interelectrode Capacitance: | |
| Signal Electrode to All Other Electrodes | 4.5 μ f |
| 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 | 6 1/4" \pm 1/4" |
| Greatest Diameter, excluding side tip | 1.125" \pm 0.010" |
| Maximum Radius, including side tip | 0.800" |
| Bulb | T-8 |

TYPICAL OPERATING CONDITIONS

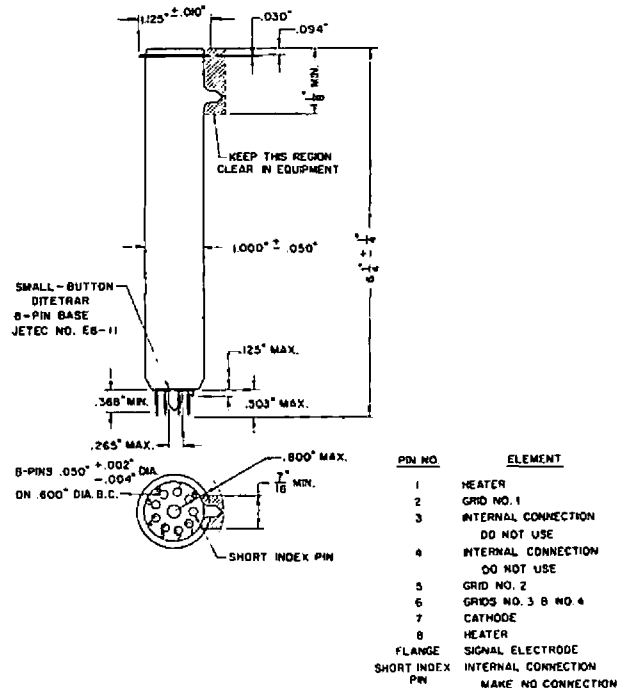
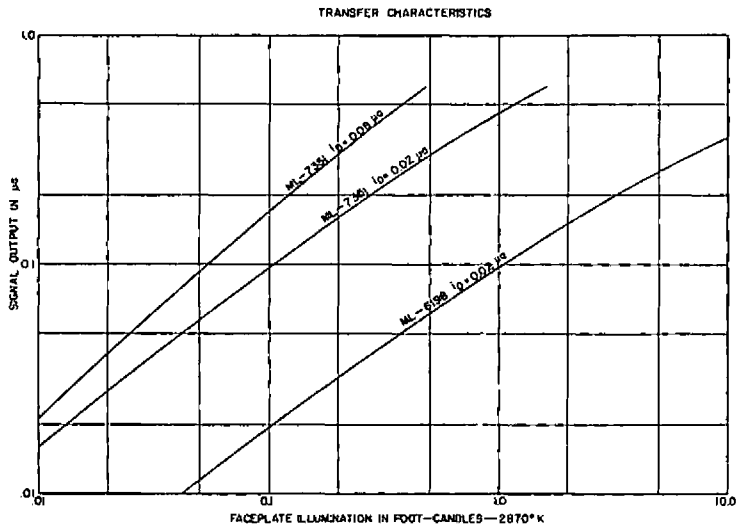
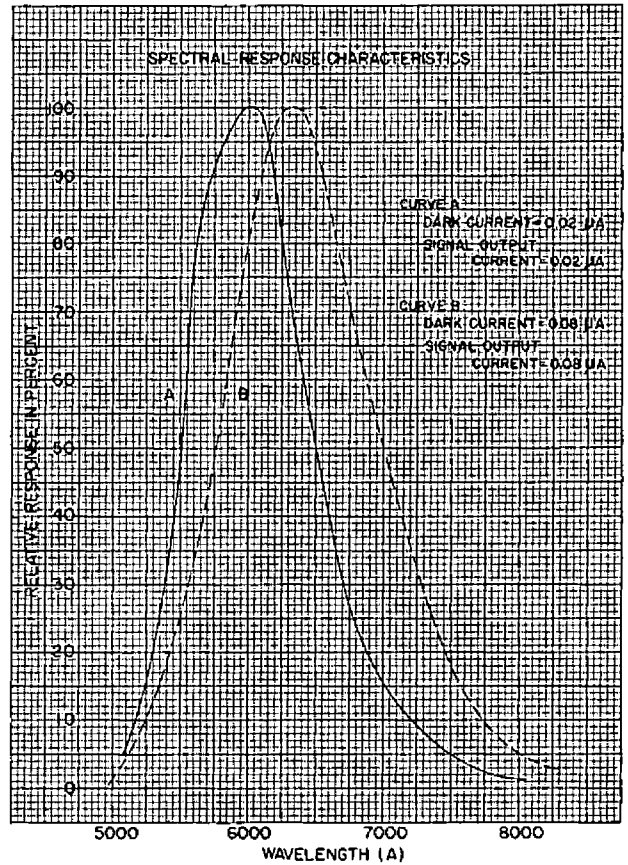
Typical Operation

| | | |
|---|-------------|---------|
| Faceplate Illumination (Highlight) | 0.3 to 0.7 | ft-c |
| Signal-Electrode Voltage | 10 to 25 | volts |
| Maximum Rating | 40 | volts |
| Grid No. 4 (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 | 0.2 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 | gausses |
| Field Strength of Adjustable Alignment Coil | 0 to 4 | gausses |

†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.



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SPRINGDALE **MACHLETT** CONNECTICUT

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