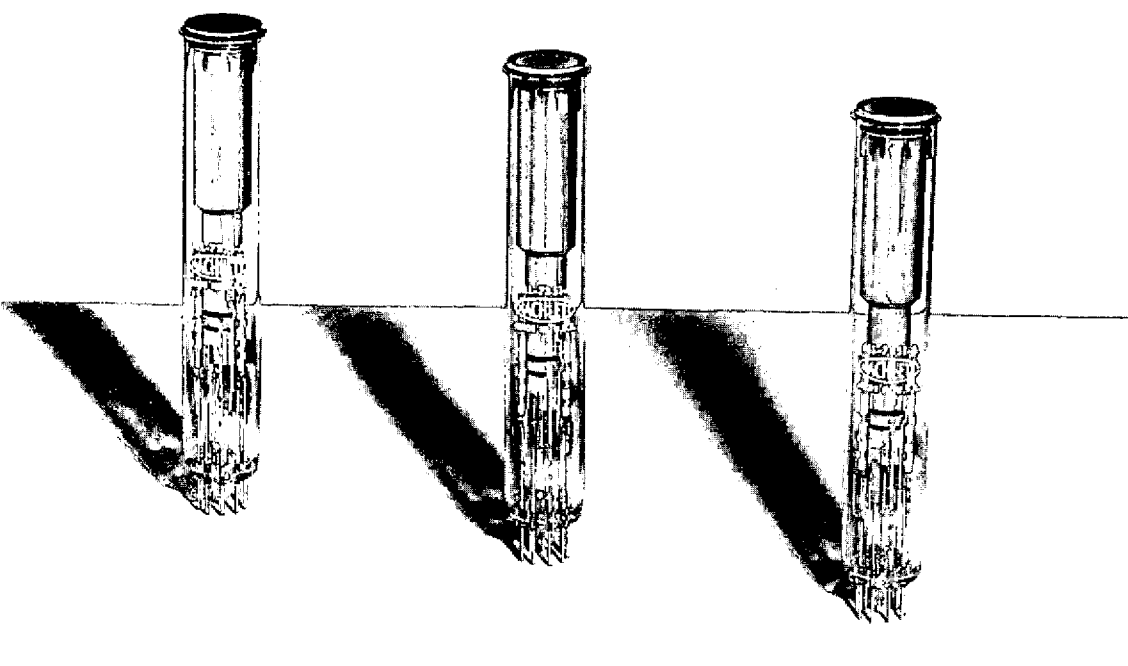




ML-7351A VIDICON

DESCRIPTION & RATINGS

DESCRIPTION

The ML-7351A is a small television camera tube designed primarily for use at low light level in industrial applications with limited subject motion. Its target storage characteristics permit operation under slow-scan conditions. Its resolution under typical operating condition is about 500 lines. Resolution can be increased to over 800 lines with elevated focusing potentials. Using a photoconductive layer as its light sensitive element, the ML-7351A has a sensitivity which permits tele-

vising scenes with about 0.05 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 of the ML-7351A is approximately half that of a standard light-sensitive vidicon.

GENERAL CHARACTERISTICS

Heater, for Unipotential Cathode:		
Voltage (AC or DC)	6.3 ± 10%	volts
Current	0.6	ampere
Direct Interelectrode 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	6¼" ± ¼"	
Greatest Diameter	1.125" ± 0.010"	
Bulb	T-8	
Base	Small-Button Dittarr 8-Pin (JEDEC No. E8-11)	
Socket	Cinch No. 54A18088, or equivalent	
Operating Position	Any	
Weight (Approx.)	2 oz.	

TYPICAL OPERATING CONDITIONS

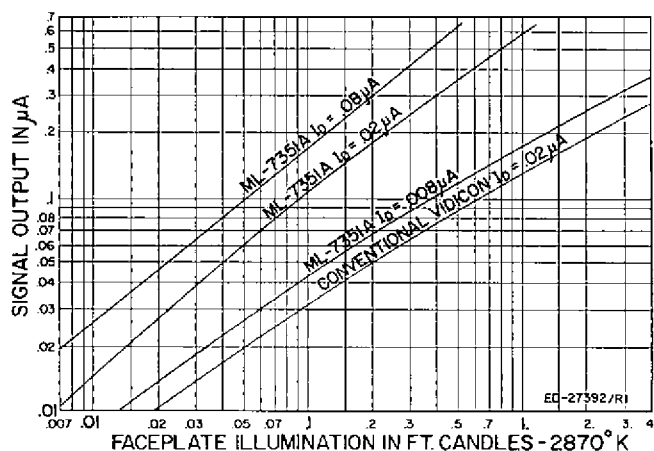
Typical Operation

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 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 Focusing Device	40	gausses
Field Strength of Adjustable Alignment Coil	0 to 4	gausses

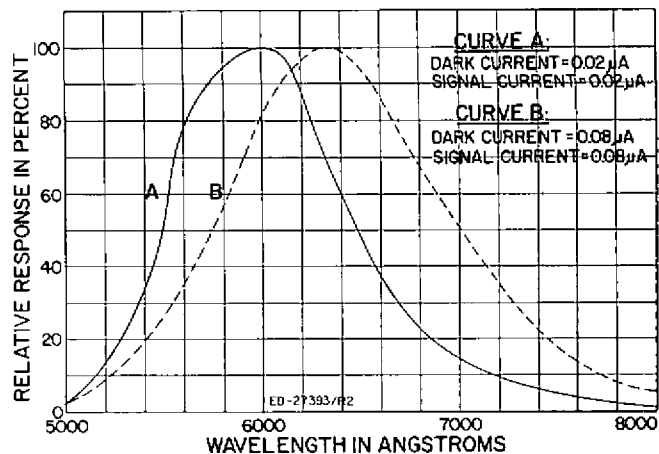
†Definition, focus uniformity, and picture quality decrease with decreasing grid No. 3 and grid No. 4 voltage. In general, grid No. 3 and grid No. 4 should not be operated below 250 volts.

‡With no blanking voltage on grid No. 1.

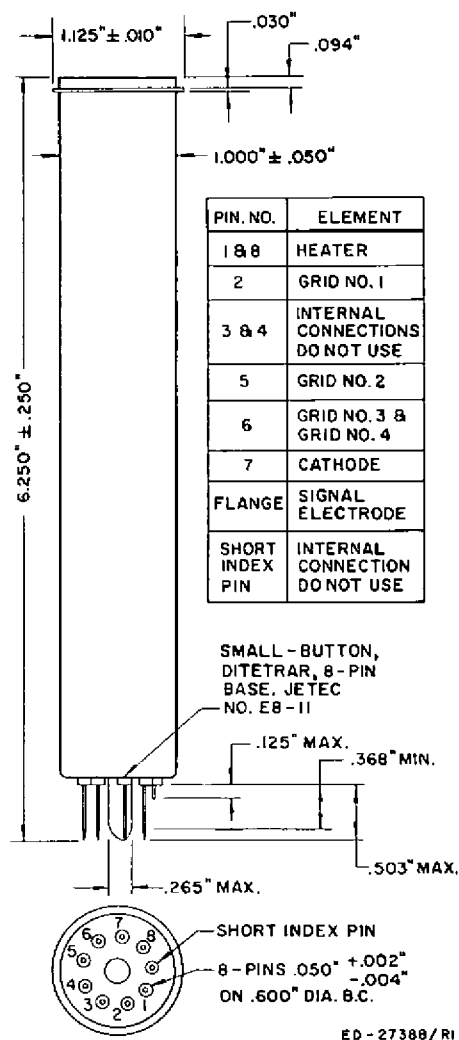
*Measured with a high-gain, low-noise, cascode-input amplifier having bandwidth of 5 Mc.



ML-7351A TRANSFER CHARACTERISTICS



ML-7351A SPECTRAL RESPONSE CHARACTERISTICS



DIMENSIONS — ML-7351A

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