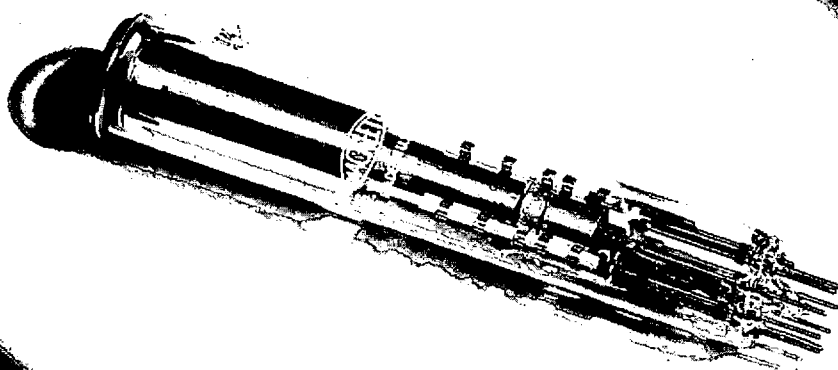




ML-7291 VIDICON

DESCRIPTION & RATINGS



DESCRIPTION

The ML-7291 is a small television camera tube designed primarily for use in television broadcasting for film pick-up. It will retain a minimum center resolution of 600 lines at 0.4 microamperes signal current from a standard RETMA

test pattern chart. The tube will function with considerable over-beaming without picture distortion. The photoconductive layer is characterized by a spectral response approaching that of the human eye.

GENERAL CHARACTERISTICS

Heater, for Unipotential Cathode:	6.3 $\pm$ 10%	volts
Voltage (AC or DC)	0.6	ampere
Current		
Direct Interelectrode Capacitance:	4.5	$\mu\mu\text{f}$
Signal Electrode to All Other Electrodes	See Curve	
Spectral Response		
Photoconductive Layer:	0.62	inch
Maximum Useful Diagonal of Rectangular Image (4 $\times$ 3 Aspect Ratio)		
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 $\frac{1}{4}$ " $\pm$ $\frac{1}{4}$ "	
Greatest Diameter, excluding side tip	1.125" $\pm$ 0.010"	
Maximum Radius, including side tip	0.800"	
Bulb	T-8	
Operating Position	Approx. Horizontal or faceplate up	

MAXIMUM RATINGS

Maximum Ratings, Absolute Values

Signal-Electrode Voltage	75 volts
Grid No. 4 & Grid No. 3 Voltage	350 volts
Grid No. 2 Voltage	350 volts
Grid No. 1 Voltage	
Negative bias value	125 volts
Positive bias value	0 volts
Peak Heater-Cathode Voltage:	
Heater negative with respect to cathode	125 volts
Heater positive with respect to cathode	10 volts
Faceplate Temperature	60 °C

TYPICAL OPERATING CONDITIONS

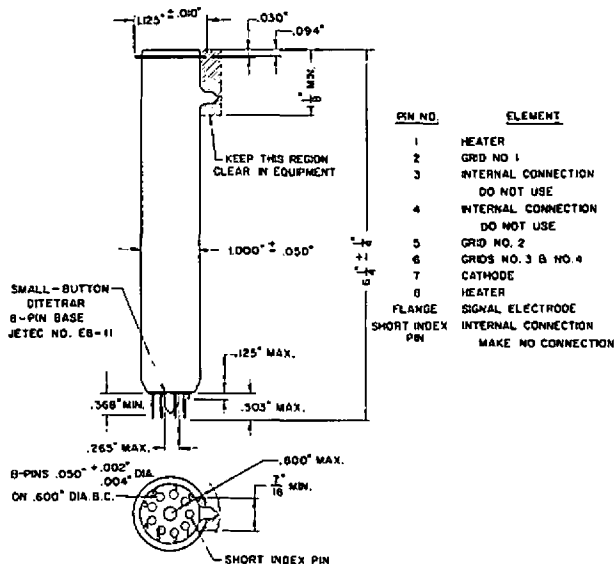
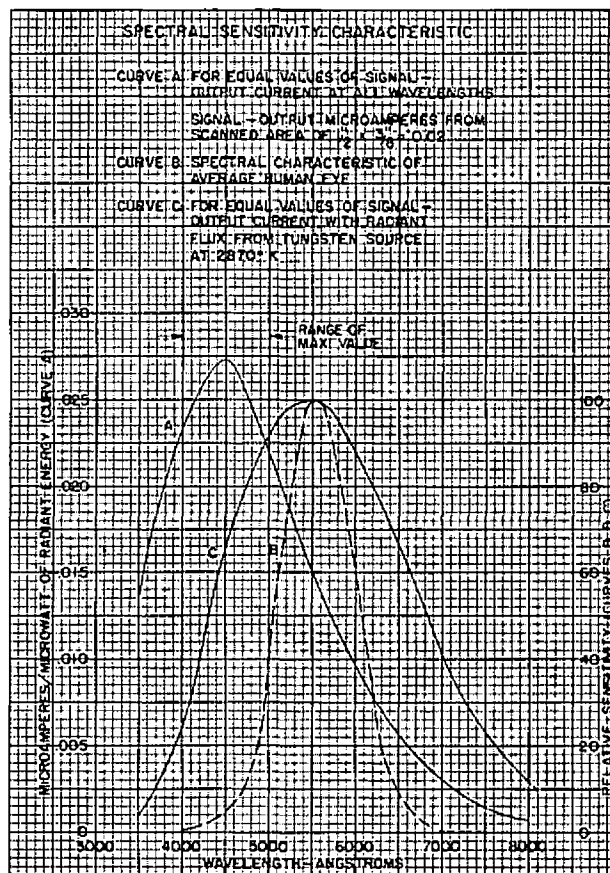
Typical Operation

Signal-Electrode Voltage	15 to 35 volts
Grid No. 4 (Decelerator) & Grid No. 3 (Beam Focus) Voltage	200† 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 0.35 μ amp
Maximum Dark Current	0.02 μ amp
Minimum Signal Output Current with 0.6 ft-C of uniform 2870 °K illumination on tube face (at 0.02 μ amp dark current)	0.05 μ amp
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 gauss
Field Strength of Adjustable Alignment Coil	0 to 4 gauss

†Definition, focus uniformity, and picture quality decrease with decreasing grid No. 3 and No. 4 voltage. In general, grid No. 3 and grid No. 4 should not be operated below 200 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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