CATHODE-RAY TUBE

12KP4

Description and Rating

TELEVISION PICTURE TUBE

The 12KP4 is a magnetic focus and deflection direct-view picture tube for television applications. It provides a 7½ x 10-inch picture. Other features of this tube are a reflective metal-backed screen which prevents ion-spot blemishes and gives improved brightness, picture contrast, and detail, and an outside conductive coating which, when grounded, serves as a filter capacitor.

GENERAL CHARACTERISTICS

ELECTRICAL:

Heater Voltage	6.3 ± 10%	Volts
Heater Current	0.6 ± 10%	Ampere
Focusing Method	Magnetic	
Deflecting Method	Magnetic	
Deflecting Angle, Approximate	54	Degrees
Phosphor - P4		
Fluorescence	White	
Persistence	Medium	
Direct Interelectrode Capacitances, Approximate		
Cathode to All Other Electrodes	5	μμf
Grid No.1 to All Other Electrodes	6.5	μμf
External Conductive Coating to Anode Capacitance	2500 Max.	μμf
	500 Min.	μμf

MECHANICAL:

Overall Length	17 5/8 ± 3/8	Inches
Greatest Diameter of Bulb	12 7/16 ± 1/8	Inches
Minimum Useful Screen Diameter	11	Inches
Bulb Contact	J1-21 Recessed Small-Cavity Cap	
Base	Small-Shell Duodecal 7-Pin	
Basing	12D	
Bulb Contact Alignment	Anode Contact Aligns with Pin No.3 ± 10 Degrees	

MAXIMUM RATINGS

DESIGN CENTER VALUES:

Anode Voltage	12000 Max	Volts D-C
Grid No.2 Voltage	410 Max	Volts D-C
Grid No.1 Voltage		
Negative-Bias Value	125 Max	Volts D-C
Positive-Bias Value	0 Max	Volts D-C
Positive-Peak Value	2 Max	Volts
Peak Heater-Cathode Voltage *		
Heater Negative with Respect to Cathode	140 Max	Volts D-C
Heater Positive with Respect to Cathode	140 Max	Volts D-C

** Cathode should be returned to one side or to the mid-tap of the heater transformer winding.*

TYPICAL OPERATING CONDITIONS

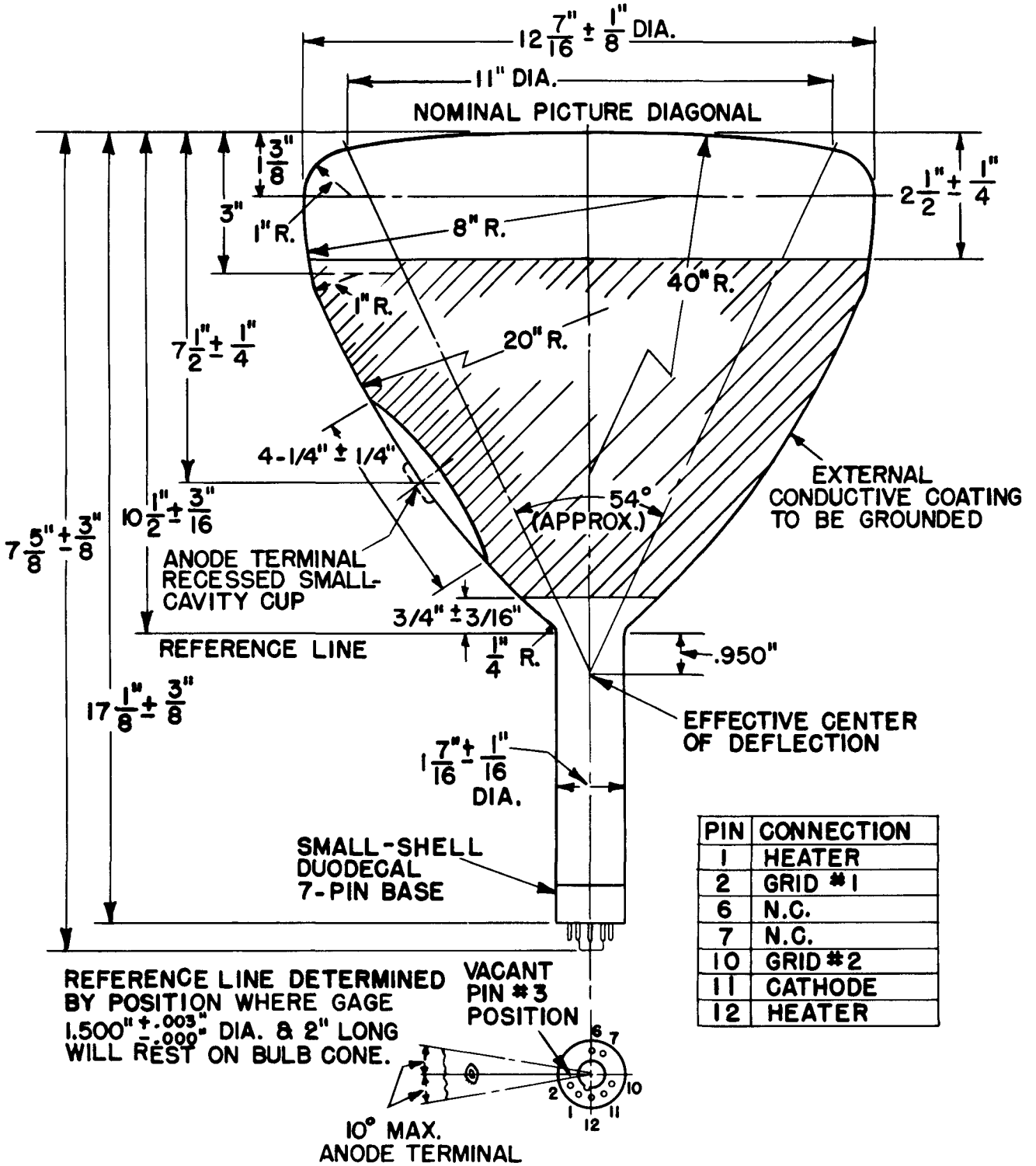
Anode Voltage	10000	Volts D-C
Grid No.2 Voltage	250	Volts D-C
Grid No.1 Voltage **	-27 to -63	Volts D-C
Focusing Coil Current #	135 Approx.	Milliamperes D-C
Spot Position (Undeflected)	20 Max	Millimeters

*** Visual extinction of undeflected focused spot.*

 # For standard focus coil or equivalent, with the combined grid No.1-bias voltage and video-signal voltage adjusted to produce a high-light brightness of 20 foot-lamberts on a 7½ x 10-inch picture area. Distance (D), reference line to center of air-gap, shall be 3 1/4 inches.

MAXIMUM CIRCUIT VALUES

Grid No.1 Circuit Resistance	1.5 Max	Megohms



PIN	CONNECTION
1	HEATER
2	GRID #1
6	N.C.
7	N.C.
10	GRID #2
11	CATHODE
12	HEATER

OUTLINE
12KP4

Electronics Department

GENERAL ELECTRIC

Schenectady, N. Y.

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