

## TUNG-SOL

## CATHODE RAY

THE 19QP4 IS A DIRECT VIEW PICTURE TUBE DESIGNED FOR USE IN TELEVISION APPLICATIONS. ITS FEATURES INCLUDE:

MAGNETIC DEFLECTION	UNIPOTENTIAL CATHODE
GREY FILTER FACEPLATE	12" X 16" RASTER SIZE
EXTERNAL CONDUCTIVE COATING	EXTERNAL SINGLE FIELD ION TRAP
RECTANGULAR GLASS CONSTRUCTION	LOW VOLTAGE ELECTROSTATIC FOCUS

## ELECTRICAL DATA

FOCUSING METHOD		ELECTROSTATIC
DEFLECTING METHOD		MAGNETIC
DEFLECTION ANGLE (APPROX.)		
HORIZONTAL	66	DEGREES
DIAGONAL	70	DEGREES
DIRECT INTERELECTRODE CAPACITANCES (APPROX.)		
CATHODE TO ALL OTHER ELECTRODES	5	$\mu\text{mf}$
GRID #1 TO ALL OTHER ELECTRODES	6	$\mu\text{mf}$
MAXIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	750	$\mu\text{mf}$
MINIMUM EXTERNAL CONDUCTIVE COATING TO ANODE	500	$\mu\text{mf}$

## OPTICAL DATA

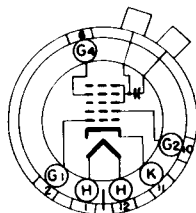
PHOSPHOR NUMBER	NO. 4
FLUORESCENT COLOR	WHITE
PHOSPHORESCENT COLOR	WHITE
PERSISTENCE	MEDIUM

## MECHANICAL DATA

OVERALL LENGTH	21 1/8 $\pm$ 3/8	INCHES
GREATEST DIMENSIONS OF BULB		
DIAGONAL	18 5/8 $\pm$ 1/8	INCHES
WIDTH	17 1/16 $\pm$ 1/8	INCHES
MINIMUM USEFUL SCREEN DIMENSIONS		
DIAGONAL	17 21/32	INCHES
WIDTH	16	INCHES
HEIGHT	12	INCHES
BULB CONTACT	RECESSED SMALL CAVITY CAP	J1-21
BASE	SMALL SHELL DUODECAL 6 PIN	B6-63
BASING		12L
BULB CONTACT ALIGNMENT		
	J1-21 CONTACT ALIGNS WITH PIN POSITION #6 $\pm$ 10 DEGREES	

## PIN CONNECTIONS

PIN 1 - HEATER  
 PIN 2 - GRID NO. 1  
 PIN 6 - GRID NO. 4  
 PIN 10 - GRID NO. 2  
 PIN 11 - CATHODE



PIN 12 - HEATER  
 ANODE CAP:  
 GRID NO. 3

BOTTOM VIEW

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## RATINGS

DESIGN CENTER VALUES

HEATER VOLTAGE	6.3	VOLTS
HEATER CURRENT	0.6	AMP.
MAXIMUM DC ANODE VOLTAGE	18 000	VOLTS
MAXIMUM DC GRID #4 VOLTAGE	500	VOLTS
MAXIMUM DC GRID #2 VOLTAGE	410	VOLTS
MAXIMUM GRID #1 VOLTAGE		
DC NEGATIVE-BIAS VALUE	125	VOLTS
DC POSITIVE-BIAS VALUE	0	VOLTS
POSITIVE-PEAK VALUE	2	VOLTS
MAXIMUM DC PEAK HEATER-CATHODE VOLTAGE		
HEATER NEGATIVE WITH RESPECT TO CATHODE		
DURING WARM-UP PERIOD NOT TO EXCEED 15 SECONDS	410	VOLTS
AFTER EQUIPMENT WARM-UP PERIOD	150	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE	150	VOLTS

## TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

DC ANODE VOLTAGE	12 000	VOLTS
DC GRID #4 VOLTAGE <sup>A</sup>	-50 TO +350	VOLTS
DC GRID #2 VOLTAGE	300	VOLTS
DC GRID #1 VOLTAGE <sup>B</sup>	-33 TO -77	VOLTS
DC ION TRAP CURRENT STANDARD COIL #111 (APPROX.)	75 ± 50%	MA.

<sup>A</sup><sub>b</sub> SET FOR 100 UAMP.<sup>B</sup> VISUAL EXTINGUISHION OF UNDEFLECTED FOCUSED SPOT.

## CIRCUIT VALUES

MAXIMUM GRID #1 CIRCUIT RESISTANCE	1.5	MEGOHMS
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