

TUNG-SOL

CATHODE RAY

THE 27MP4 IS A DIRECT-VIEW PICTURE TUBE DESIGNED FOR USE IN TELEVISION APPLICATIONS. ITS FEATURES INCLUDE:

ALUMINIZED SCREEN	UNIPOTENTIAL CATHODE
MAGNETIC FOCUS & DEFLECTION	FROSTED FILTERGLASS FACEPLATE
RECTANGULAR METAL CONSTRUCTION	EXTERNAL SINGLE FIELD ION TRAP
23 7/16" X 18 1/8" RASTER SIZE	

ELECTRICAL DATA

FOCUSING METHOD		MAGNETIC
DEFLECTING METHOD		MAGNETIC
DEFLECTION ANGLE (APPROX.):		
HORIZONTAL	85	DEGREES
VERTICAL	69	DEGREES
DIAGONAL	90	DEGREES
DIRECT INTERELECTRODE CAPACITANCES (APPROX.):		
CATHODE TO ALL OTHER ELECTRODES	5	μf
GRID #1 TO ALL OTHER ELECTRODES	6	μf

OPTICAL DATA

PHOSPHOR NUMBER	SULFIDE TYPE	NO. 4
FLUORESCENT COLOR		WHITE
PHOSPHORESCENT COLOR		WHITE
PERSISTENCE		SHORT
FACEPLATE LIGHT TRANSMISSION AT CENTER (APPROX.)	66	PERCENT

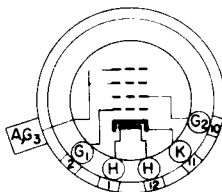
MECHANICAL DATA

OVERALL LENGTH	22 3/16	INCHES
GREATEST DIMENSIONS OF BULB:		
DIAGONAL	26 7/8 $\pm$ 1/4	INCHES
WIDTH	25 1/4 $\pm$ 3/16	INCHES
HEIGHT	19 15/16 $\pm$ 3/16	INCHES
MINIMUM USEFUL SCREEN DIMENSIONS:		
DIAGONAL	25 1/16	INCHES
WIDTH	23 7/16	INCHES
HEIGHT	18 1/8	INCHES
BULB CONTACT	METAL SHELL LIP	
BASE	SMALL SHELL DUODECAL 5 PIN	B5-57
BASING		12D
BASE ALIGNMENT		
PIN #6 ALIGNS WITH HORIZONTAL PICTURE AXIS $\pm$ 10 DEGREES		

PIN CONNECTIONS

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

PIN 12 - HEATER
 ANODE CAP:
 GRID NO. 3



BOTTOM VIEW

CONTINUED ON FOLLOWING PAGE

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RATINGS

DESIGN CENTER VALUES

HEATER VOLTAGE	6.3	VOLTS
HEATER CURRENT	0.6	AMP.
MAXIMUM DC GRID #3, COLLECTOR VOLTAGE ^A ^B	18 000	VOLTS
MAXIMUM DC GRID #2 VOLTAGE	500	VOLTS
MAXIMUM GRID #1 VOLTAGE:		
DC NEGATIVE-BIAS VALUE	125	VOLTS
DC POSITIVE-BIAS VALUE	0	VOLTS
POSITIVE-PEAK VALUE	2	VOLTS
MAXIMUM 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	180	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE	180	VOLTS

^A BRILLIANCE AND DEFINITION DECREASE WITH DECREASING COLLECTOR VOLTAGE. IN GENERAL, THE COLLECTOR VOLTAGE SHOULD NOT BE LESS THAN 16,000 VOLTS.

^B BECAUSE THE RATING OF THIS TUBE PERMITS ANODE VOLTAGES AS HIGH AS 19.8 KV, SHIELDING OF X-RAY RADIATION FROM THE TUBE MAY BE NECESSARY. THIS PRECAUTION SHOULD BE OBSERVED WHEN THE ANODE IS OPERATED IN EXCESS OF 16 KV.

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

DC COLLECTOR, GRID #3 VOLTAGE	16 000	VOLTS
DC GRID #2 VOLTAGE	300	VOLTS
DC GRID #1 VOLTAGE ^C	-37 TO -73	VOLTS
DC FOCUSING COIL CURRENT (APPROX.) ^D	110 $\pm$ 10%	MA.
ION TRAP MAGNET (RATED STRENGTH)	50	GAUSSSES

^C VISUAL EXTINCTION OF FOCUSED RASTER.

^D FOR STANDARD FOCUS COIL #109, OR EQUIVALENT, WITH THE COMBINED GRID #1 BIAS VOLTAGE AND VIDEO-SIGNAL VOLTAGE ADJUSTED TO PRODUCE A HIGHLIGHT BRIGHTNESS OF 30 FOOT LAMBERTS ON A 23 7/16" BY 18 1/8" PICTURE SIZE. DISTANCE FROM REFERENCE LINE TO CENTER OF AIR GAP ON FOCUS COIL SHALL BE 3.0 INCHES.

CIRCUIT VALUES

MAXIMUM GRID #1 CIRCUIT RESISTANCE	1.5	MEGOHMS
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