

## TUNG-SOL

## CATHODE RAY

THE 16FP4 IS A DIRECT-VIEW PICTURE TUBE DESIGNED FOR USE IN TELEVISION APPLICATIONS. ITS FEATURES INCLUDE:

|                               |                                |
|-------------------------------|--------------------------------|
| UNIPOTENTIAL CATHODE          | ROUND GLASS CONSTRUCTION       |
| MAGNETIC FOCUS & DEFLECTION   | EXTERNAL SINGLE FIELD ION TRAP |
| 10 1/4" X 13 1/2" RASTER SIZE |                                |

## ELECTRICAL DATA

|                                               |    |                                 |
|-----------------------------------------------|----|---------------------------------|
| FOCUSING METHOD                               |    |                                 |
| DEFLECTING METHOD                             |    |                                 |
| DEFLECTION ANGLE (APPROX.)                    | 62 | MAGNETIC<br>MAGNETIC<br>DEGREES |
| DIRECT INTERELECTRODE CAPACITANCES (APPROX.): |    |                                 |
| CATHODE TO ALL OTHER ELECTRODES               | 5  | $\mu\text{f}$                   |
| GRID #1 TO ALL OTHER ELECTRODES               | 7  | $\mu\text{f}$                   |

## OPTICAL DATA

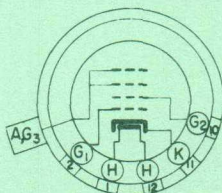
|                      |        |
|----------------------|--------|
| PHOSPHOR NUMBER      | NO. 4  |
| FLUORESCENT COLOR    | WHITE  |
| PHOSPHORESCENT COLOR | WHITE  |
| PERSISTENCE          | MEDIUM |

## MECHANICAL DATA

|                                                            |                            |        |
|------------------------------------------------------------|----------------------------|--------|
| OVERALL LENGTH                                             | 20 1/4 $\pm$ 3/8           | INCHES |
| GREATEST DIAMETER OF BULB                                  | 16 1/8 $\pm$ 1/4           | INCHES |
| MINIMUM USEFUL SCREEN DIAMETER                             | 15                         | INCHES |
| MINIMUM USEFUL SCREEN DIMENSIONS                           |                            |        |
| WIDTH                                                      | 13 1/2                     | INCHES |
| HEIGHT                                                     | 10 1/4                     | INCHES |
| BULB CONTACT                                               | RECESSED SMALL BALL CAP    | J1-22  |
| BASE                                                       | SMALL SHELL DUODECAL 5 PIN | 85-57  |
| BASING                                                     |                            | 120    |
| BULB CONTACT ALIGNMENT                                     |                            |        |
| J1-22 CONTACT ALIGNS WITH PIN POSITION #3 $\pm$ 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 ANODE, GRID #3 VOLTAGE              | 16 000 | 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                 | 140    | VOLTS |
| HEATER POSITIVE WITH RESPECT TO CATHODE        | 140    | VOLTS |

## TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

|                                                  |            |       |
|--------------------------------------------------|------------|-------|
| DC ANODE, GRID #3 VOLTAGE                        | 13 000     | VOLTS |
| DC GRID #2 VOLTAGE                               | 250        | VOLTS |
| DC GRID #1 VOLTAGE <sup>A</sup>                  | -27 TO -63 | VOLTS |
| DC FOCUSING COIL CURRENT (APPROX.) <sup>B</sup>  | 146        | MA.   |
| DC ION TRAP CURRENT STANDARD COIL #111 (APPROX.) | 105        | MA.   |

<sup>A</sup> VISUAL EXTINCTION OF UNDEFLECTED FOCUSED SPOT.<sup>B</sup> FOR STANDARD FOCUS COIL #106, OR EQUIVALENT, WITH THE COMBINED GRID #1 BIAS VOLTAGE AND VIDEO SIGNAL VOLTAGE ADJUSTED TO PRODUCE A HIGHLIGHT BRIGHTNESS OF 35 FOOT LAMBERTS ON A 10 1/4" BY 13 1/2" 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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