



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 (Undelected) | 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 |
|--|---------|---------|



