



TECHNICAL
INFORMATION
SERVICE

Technical Information

CK1354P11A

CATHODE RAY
TUBE

MECHANICAL DATA

BASE Small Shell Duo-
decal 6 Pin

CAP. Special - high
altitude connector

The type CK1354P11A is a 3 inch electrostatic focus and magnetic deflection cathode-ray tube suitable for radar photographic applications. A low-voltage electrostatic focus lens is employed, designed to operate at or near cathode potential to afford substantially automatic focus, independent of accelerator voltage variations. In addition, the CK1354P11A employs a high resolution electron gun. The final A designates a metallized screen for greater light output, improved contrast, and to minimize charging effects.

The tube envelope was designed to meet the stringent requirements of "rotating yoke" applications. The mechanical tolerances are therefore controlled to a greater extent than those of a standard cathode-ray tube. A unique high voltage connector is used that permits quick disconnect and meets the requirements of high altitude operation with freedom from corona.

The faceplate has an optical quality and flatness that will not limit the performance of a high quality objective lens to produce maximum resolution.

GENERAL DATA

Phosphor	#11
Fluorescence	Blue
Persistence	Short
Focusing Method	Electrostatic
Deflecting Method	Magnetic
Deflection Angle	44°

ELECTRICAL DATA

HEATER CHARACTERISTICS:

Heater Voltage	6.3 ± 10% volts
Heater Current	0.6 amps.
Peak Heater-Cathode Voltage ♦	
Heater Negative with Respect to Cathode	180 volts DC
Heater Positive with Respect to Cathode	180 volts DC

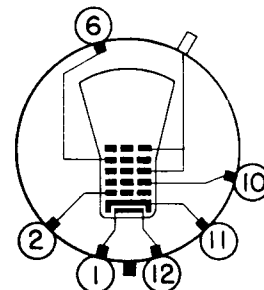
DIRECT INTERELECTRODE CAPACITANCES:

Grid #1 to all other electrodes	8.5 μμfd
Cathode to all other electrodes	5 μμfd

ABSOLUTE MAXIMUM RATINGS:

Anode Voltage ■	10,000 volts DC
Grid #4 Voltage (Focusing Electrode)	-500 to +1000 volts DC
Grid #2 Voltage	700 volts DC
Grid #1 Voltage:	
Negative - Bias Value	180 volts DC
Positive - Bias Value *	0 volts DC
Positive - Peak Value	0 volts

BASING



BOTTOM VIEW

TERMINAL CONNECTIONS:

Pin 1	Heater
Pin 2	Grid #1
Pin 6	Grid #4 (focus)
Pin 10	Grid #2
Pin 11	Cathode
Pin 12	Heater
Cap	Anode



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ELECTRICAL DATA (Cont'd.)

CHARACTERISTICS AND TYPICAL OPERATION:

Heater Voltage	6.3 volts
Anode Voltage ■	7500 volts DC
Grid #4 Voltage (Focusing Electrode) ●	0 to 300 volts DC
Grid #2 Voltage	300 volts DC
Grid #1 Voltage □	-30 to -75 volts DC
Line Width ⊕	.005 inch max.
Spot Position (undeflected) †	.25 inch max.

MAXIMUM CIRCUIT VALUES:

Grid #1 Circuit Resistance	1.5 meg. max.
Grid #2 Circuit Resistance	0.1 meg. max.

NOTES:

- * *At or near this rating, the effective resistance of the anode supply should be adequate to limit the anode input power to 6 watts.*
- *Brilliance and definition decrease with decreasing anode voltage. In general, anode voltage should not be less than 5000 volts.*
- ◆ *Cathode should be returned to one side or to the mid-tap of the heater transformer winding.*
- *With grid #1 voltage adjusted to produce a collector current of 25 μ a with the pattern adjusted for best overall focus. Measured with a 525-line interlaced and synchronized pattern.*
- *Visual extinction of focused undeflected spot.*
- ⊕ *Measured with a merging 525-line interlaced and synchronized pattern at $I_b = 25 \mu$ a.*
- † *The center of the undeflected, focused spot will fall within a circle of $\frac{1}{4}$ " radius concentric with the center of the tube face, with tube shielded.*

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