

PHILCO CATHODE RAY TUBE DATA SHEET

TENTATIVE

DESCRIPTION

The 5AKP tubes are magnetic focus and deflection cathode ray tubes intended primarily for use in flying spot scanner applications. These tubes particularly feature extremely small spot size. Other features include a metal backed screen for high brightness, an external conductive coating on the neck which should be grounded to prevent corona between the yoke and the neck, and an external insulating coating on the bulb cone to reduce arcing over the bulb.

ELECTRICAL DATA

Focusing Method	Magnetic
Deflecting Method	Magnetic
Deflection Angle, approximate	50 Degrees
Direct Interelectrode Capacitance, approximate	
Cathode to all	3.5 $\mu\mu\text{f}$
Grid #1 to all	4.0 $\mu\mu\text{f}$
External Coating Capacitance	100 min. $\mu\mu\text{f}$ 500 max. $\mu\mu\text{f}$

OPTICAL DATA

Phosphor Number	P15	P24
Fluorescent Color	Blue-Green	Light Green
Persistence	Very Short	Extremely Short

MECHANICAL DATA

Overall Length	12 $\frac{9}{16}$ $\pm$ $\frac{1}{4}$ Inches
Greatest Diameter of Bulb	5 $\pm$ $\frac{1}{8}$ Inches
Minimum Useful Screen Diameter (maximum assured diameter)	4 $\frac{1}{4}$ Inches
Base	B5-57
Basing	12 G
Anode Contact	J1-21
Anode Contact Aligns with Vacant Pin #3	$\pm 10^\circ$

MAXIMUM RATINGS (Design Center Values)

Heater Voltage	6.3 Volts
Heater Current at 6.3 Volts	.60 $\pm$ 10% Amperes
Anode Voltage (Note #1)	40,000 Max. Volts DC
Grid #1 Voltage	
Negative Bias Value	350 Max. Volts DC
Positive Peak Value	2 Max Volts
Positive Bias Value	0 Max. Volts DC
Peak Heater-Cathode Voltage (Note #2)	
Heater Negative with Respect to Cathode	
During Warmup Period not to exceed 15 Sec.	410 Max. Volts
After Equipment Warmup Period	180 Max. Volts
Heater Positive with Respect to Cathode	180 Max. Volts

TYPICAL OPERATING CONDITIONS

Anode Voltage	30,000 Volts
Grid #1 Voltage (Note #3)	-80 to -140 volts
Focusing Coil Current, approximate (Note #4)	250 Ma.

MAXIMUM CIRCUIT VALUES

Grid #1 Circuit Resistance	1.5 Max. Megs.
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NOTES

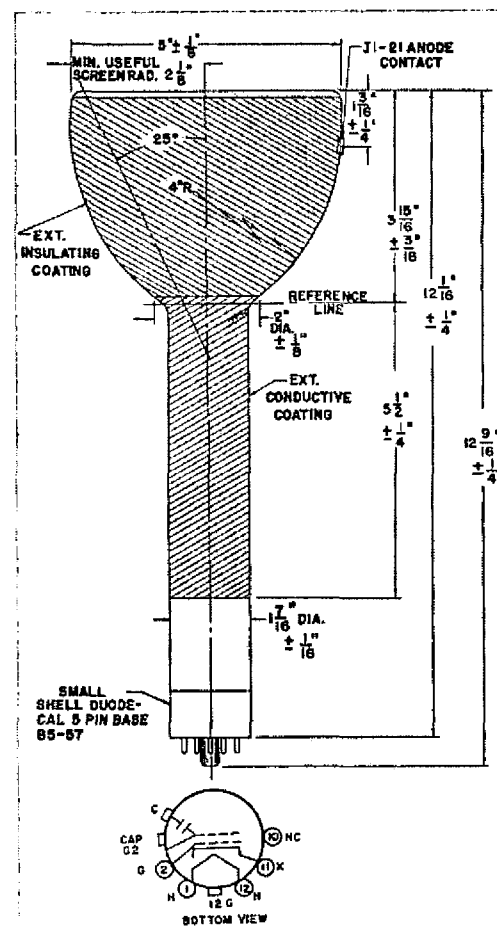
1. Anode and Grid #2 are connected together within the tube and are referred to herein as anode.
2. Cathode should be returned to one side or to the mid-tap of the heater transformer winding.
3. For visual extinction of the undeflected focused spot.
4. For standard focus coil JETEC #106 or equivalent, with the combined Grid #1 bias voltage and video signal voltage adjusted for 200 microamperes of anode current.

from JETEC release #2038, Nov. 4, 1957

5AKP15 5AKP24 FLYING SPOT SCANNER TUBES

GENERAL DESCRIPTION

5" cathode ray tubes intended as flying spot light sources. The 5AKP24 is particularly adapted for use in color film scanners.

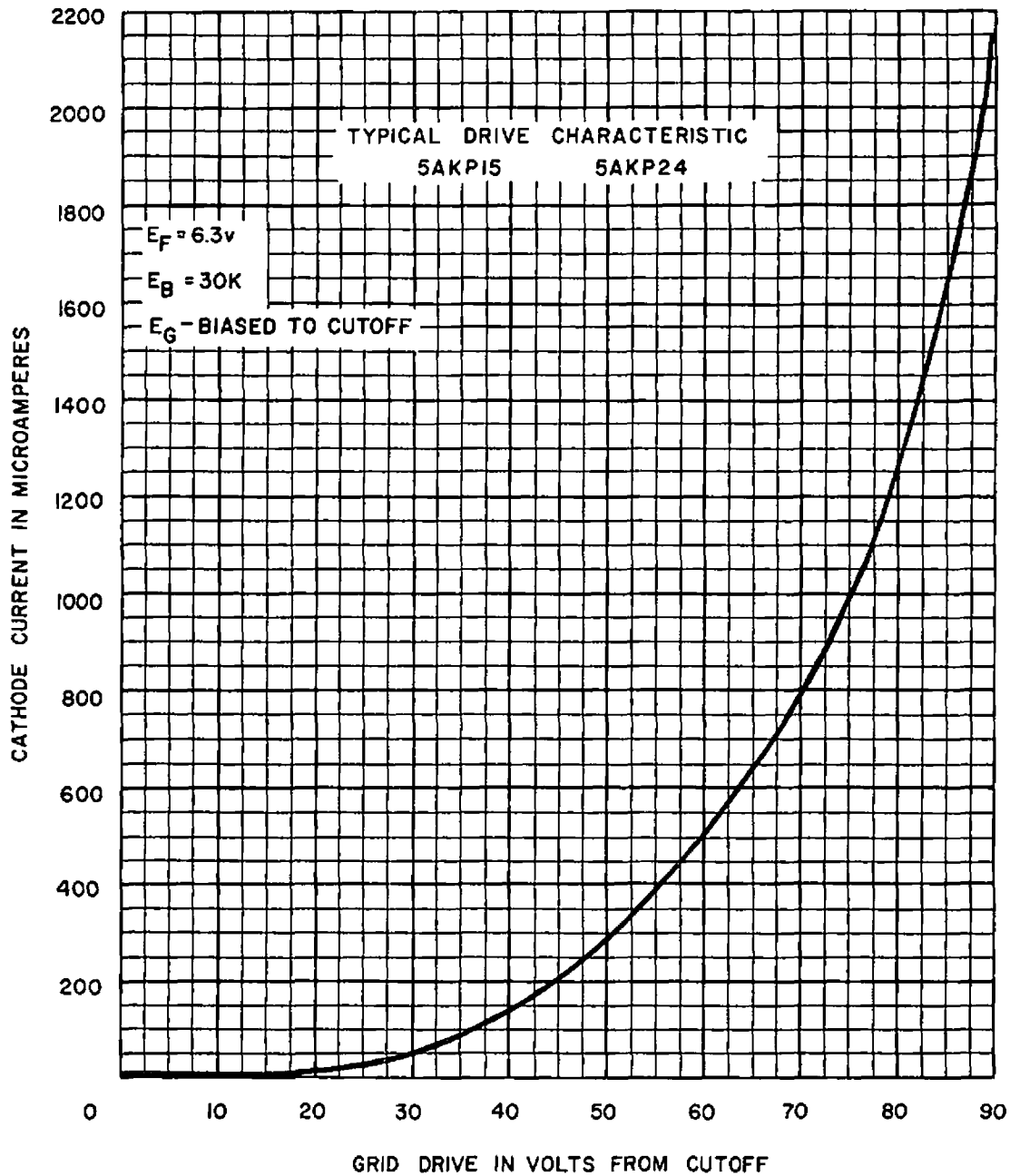


MECHANICAL NOTES

1. The reference line is determined by the position where reference line gauge JETEC #112 rests against the funnel.
2. The anode contact aligns with vacant pin position #3 $\pm 10^\circ$.
3. External conductive coating must be grounded.
4. Center line of bulb will not deviate more than 2° in any direction from the perpendicular erected at the center of the bottom of the base.

APPLICATION NOTE

At or near maximum anode potential suitable precautions should be taken to prevent arcing between the anode button and the deflection yoke during high humidity conditions. A corona shield such as Lansdale #007-9174 affixed to the bulb around the button will prevent any arcing along the outside of the bulb.



WARNING

X-ray radiation shielding may be necessary to protect against possible danger of personal injury from prolonged exposure at close range when this tube is operated at recommended anode voltages.