



TELEVISION PICTURE TUBE

DESCRIPTION

The 8AP4-A is a magnetic-focus and -deflection, direct-view picture tube for television applications. It provides a 5¼- by 7-inch picture. Features of this tube are a metal-cone envelope, an electron

gun designed to be used with an external ion-trap magnet, and a high-quality, neutral-density faceplate which increases picture contrast and detail under high ambient light conditions.

TECHNICAL INFORMATION

GENERAL

Electrical

Heater voltage 6.3 volts
Heater current $0.6 \pm 10\%$ ampere

Focusing method—magnetic

Deflecting method—magnetic

Deflecting angle, approximate 54 degrees

Phosphor—P4

Fluorescence—white

Persistence—medium

Faceplate—neutral density

Light transmission, approximate 76 percent

Direct interelectrode capacitances, approximate

Cathode to all other electrodes 5 uuf

Grid—No. 1 to all other electrodes 6 uuf


Electronic
TUBE

GENERAL  ELECTRIC

TECHNICAL INFORMATION (CONT'D)

Mechanical

Over-all length	14 $\frac{1}{4}$ $\pm$ $\frac{3}{8}$ inches
Greatest diameter of bulb	8 $\frac{1}{2}$ $\pm$ $\frac{3}{16}$ inches
Picture dimensions (with rounded sides)	
Width	7 inches
Height	5 $\frac{1}{4}$ inches
Anode contact—metal cone rim	
Base—small-shell duodecal 5-pin, B5-57	
Basing—12H	

MAXIMUM RATINGS Design Center Values

Anode voltage	9000 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	
During warm-up period not to exceed 15 seconds	410 max volts d-c
After equipment warm-up period	140 max volts d-c
Heater positive with respect to cathode	140 max volts d-c

RECOMMENDED OPERATING CONDITIONS

Anode voltage (average brightness = 20 foot-lamberts)	7000 volts
Grid—No. 1 voltage**	—27 to —63 volts
Focusing-coil current (RTMA coil No. 106 at 3 $\frac{1}{4}$ -inches), approximate	115 milliamperes
Ion-trap field intensity***, approximate	45 gauss

MAXIMUM CIRCUIT VALUES

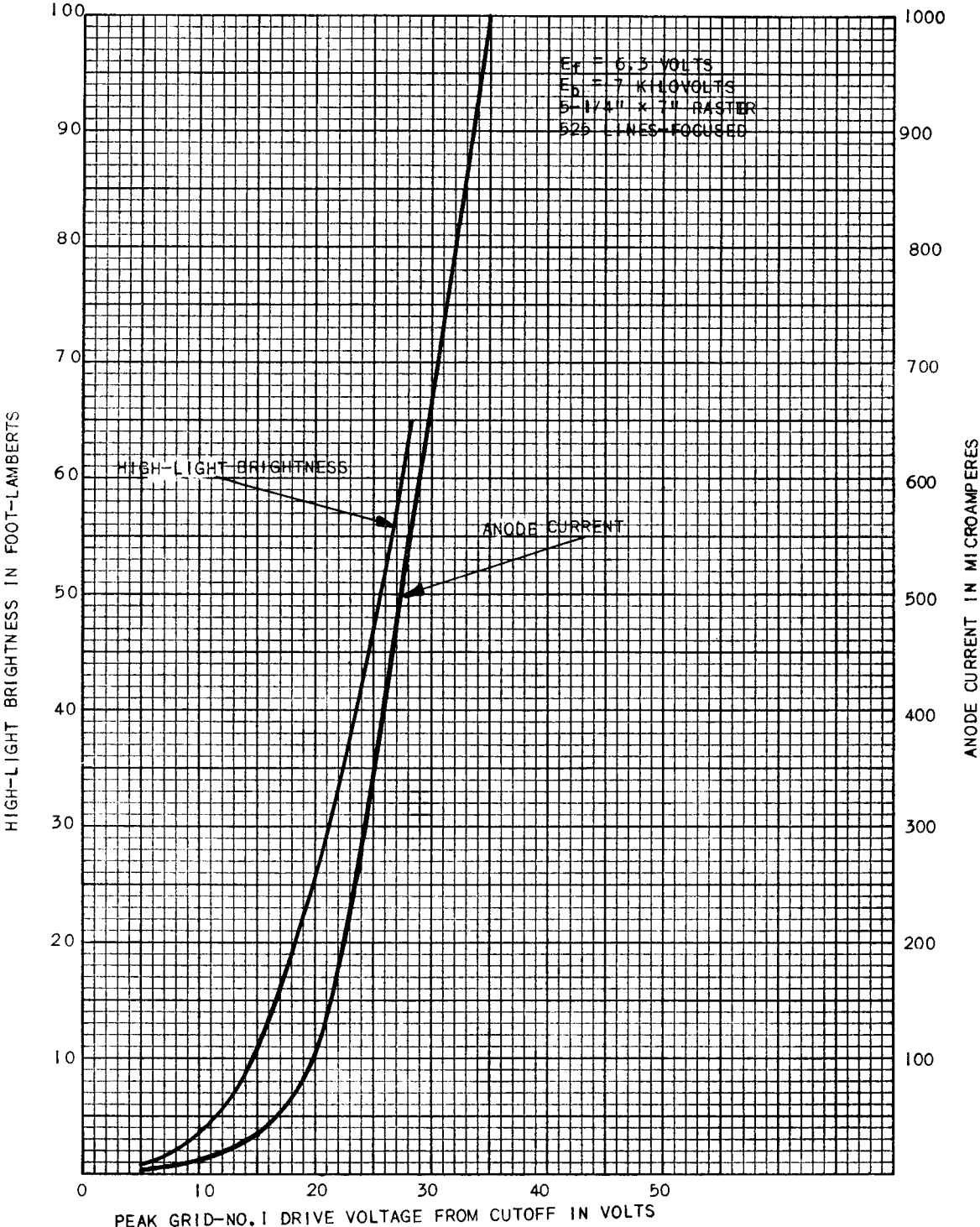
Grid—No. 1 circuit resistance	1.5 max megohms
-------------------------------	-----------------

*Cathode should be returned to one side or to the midtap of the heater transformer winding.

**For visual extinction of undeflected focused spot.

***Single-field ion-trap magnet adjusted to optimum position.

8AP4-A
AVERAGE CHARACTERISTICS

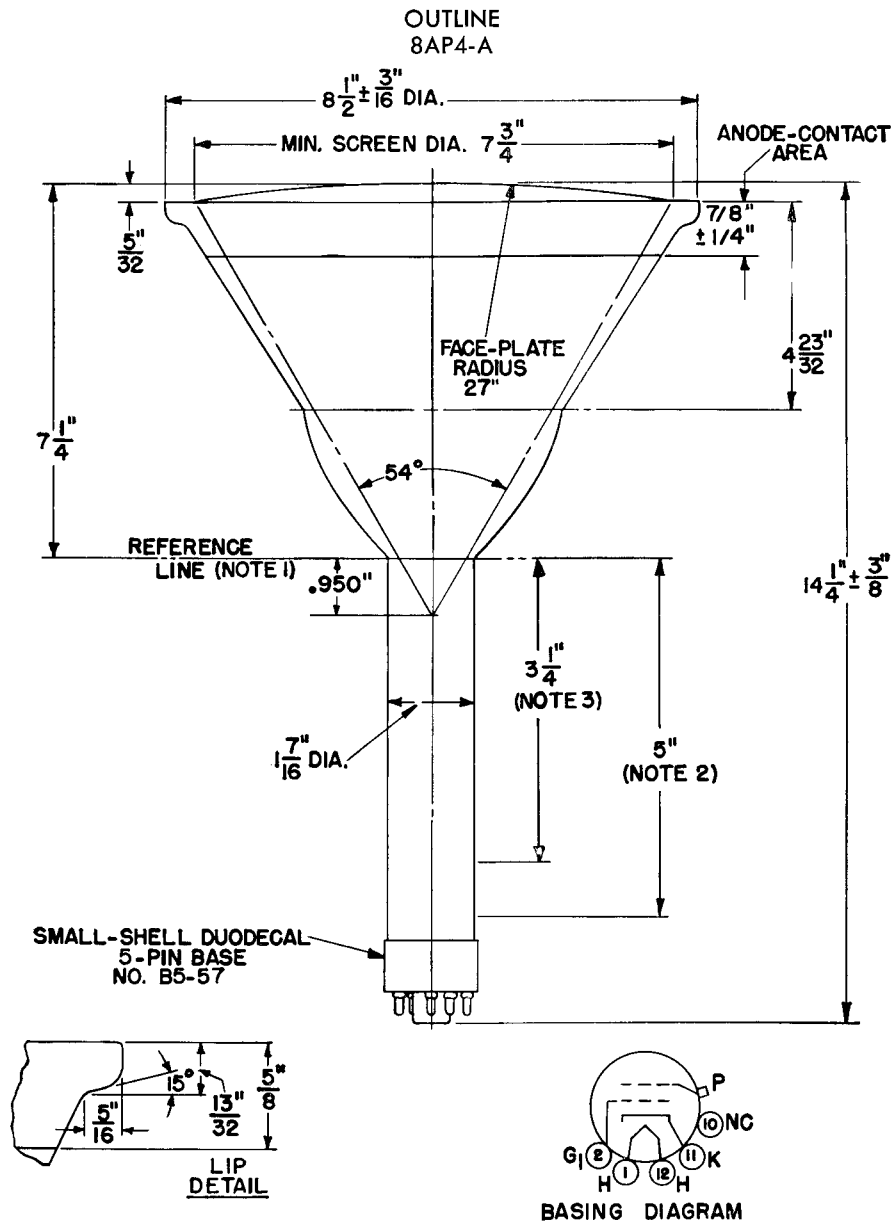


8AP4-A

ETR-109

PAGE 4

5-51



NOTES:

1. REFERENCE LINE IS DETERMINED BY THE PLANE OF THE UPPER EDGE OF THE REFERENCE-LINE GAGE (RTMA NO. 112) WHEN THE GAGE IS RESTING ON THE GLASS CONE.
2. NOMINAL POSITION OF ION-TRAP MAGNET.
3. RECOMMENDED POSITION FOR CENTER OF FOCUSING FIELD.

N15130AZ

3-22-50

Tube Divisions, Electronics Department

GENERAL ELECTRIC

Schenectady, N. Y.