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DUMONT

CATHODE-RAY TUBE

TYPE 3AGP-

The Type 3AGP- is a 3-inch electrostatic focus, magnetic deflection cathode-ray tube suitable for radar applications. The tube is designed for miniaturized equipment, featuring short overall length, a small diameter neck, and a miniature base. A low current heater is employed, and in conjunction with the small diameter neck affords considerable reduction in power requirements. An aluminized screen is utilized for greater light output and to minimize screen charging effects.

GENERAL CHARACTERISTICS

Electrical Data

Focusing Method	Electrostatic	
Deflecting Method	Magnetic	
Deflecting Angle (Approximate)	70	Degrees
Direct Interelectrode Capacitances, Approximate		
Cathode to all other electrodes	3.0	μμf
Grid No. 1 to all other electrodes	6.5	μμf

Optical Data

Phosphor Number	4	7	16	19	25
Fluorescence	White	Blue	Violet	Orange	Orange
Phosphorescence	-----	Yellow	-----	Orange	Orange
Persistence	Short-to medium	Long	Extremely Short	Long	Long

Faceplate (Flat)	Clear, spherical

Mechanical Data

Overall Length (seated height)	5 3/8 ± 3/16	Inches
Greatest Diameter of Bulb	3 ± 1/16	Inches
Minimum Useful Screen Diameter	2 3/4	Inches
Bulb Contact	J1-25	
Base *	E9-37	
Basing	9HT	

* A socket with a center opening to clear the tubulation should be used. Care should be taken in handling the tube to avoid damaging the exposed tubulation and bending the base pins.

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GENERAL CHARACTERISTICS (MECHANICAL DATA) (Continued)

Bulb Contact Alignment;		
Plane of J1-25 cap passes halfway between Pins No. 1 and 9	± 10	Degrees
J1-25 cap on same side as Pins No. 1 and 9		
Weight, Approximate	6	Ounces

MAXIMUM RATINGS (ABSOLUTE MAXIMUM VALUES)

Heater Voltage	6.3	Volts
Heater Current at 6.3 Volts	0.3 ± 10%	Ampere
Accelerator Voltage	9,000	Max. Volts DC
Focusing Electrode Voltage	-550 to +1100	Max. Volts DC
Grid No. 2 Voltage	770	Max. Volts DC
Grid No. 1 Voltage:		
Negative Bias Value	180	Max. Volts DC
Positive Bias Value	0	Max. Volts DC
Positive Peak Value	0	Max. Volts
Peak Heater-Cathode Voltage		
Heater negative with respect to cathode	180	Max. Volts
Heater positive with respect to cathode	180	Max. Volts

TYPICAL OPERATING CONDITIONS

Accelerator Voltage [1]	7,000	Volts DC
Focusing Electrode Voltage [2]	-40 to +325	Volts DC
Grid No. 2 Voltage	300	Volts DC
Grid No. 1 Voltage [3]	-15 to -45	Volts DC
Line Width "A" [4]	.012	Inch Max.
Spot Position (Undeflected) [5]	3/16	Inch

MAXIMUM CIRCUIT VALUES

Grid No. 1 Circuit Resistance	1.5	Max. Megohms

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NOTES

1. Brilliance and definition decrease with decreasing accelerator voltage. In general, accelerator voltage should not be less than 6,000 volts.

2. With Grid No. 1 voltage adjusted to produce an accelerator current of 100 μA.

3. Visual extinction of undeflected, focused spot.

4. Measured in accordance with MIL-E-1 specifications at an accelerator current of 100 μA.

5. The center of the undeflected, focused spot will fall within a circle of 3/16-inch radius concentric with the center of the tube face, with the tube shielded.

6. The P16, P19 and P25 screens can be permanently damaged if current density is permitted to rise too high. To prevent burning, minimum beam current densities should be employed.

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FORM 609 M1 3-59 BH

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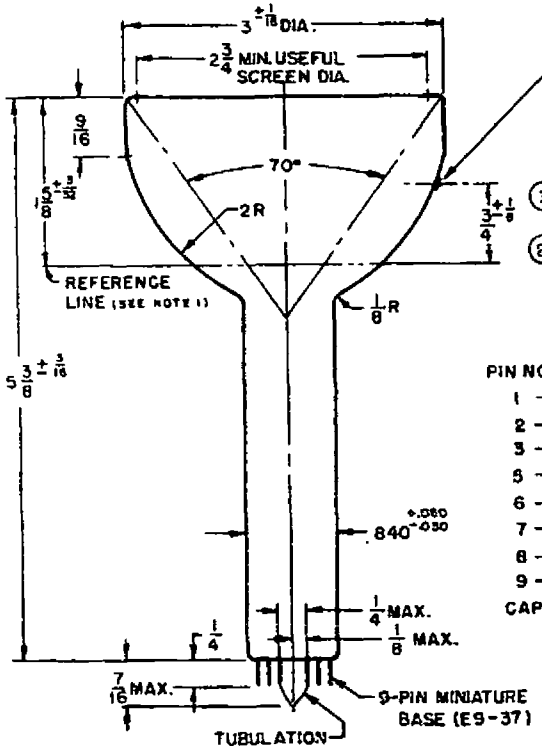
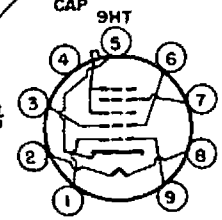
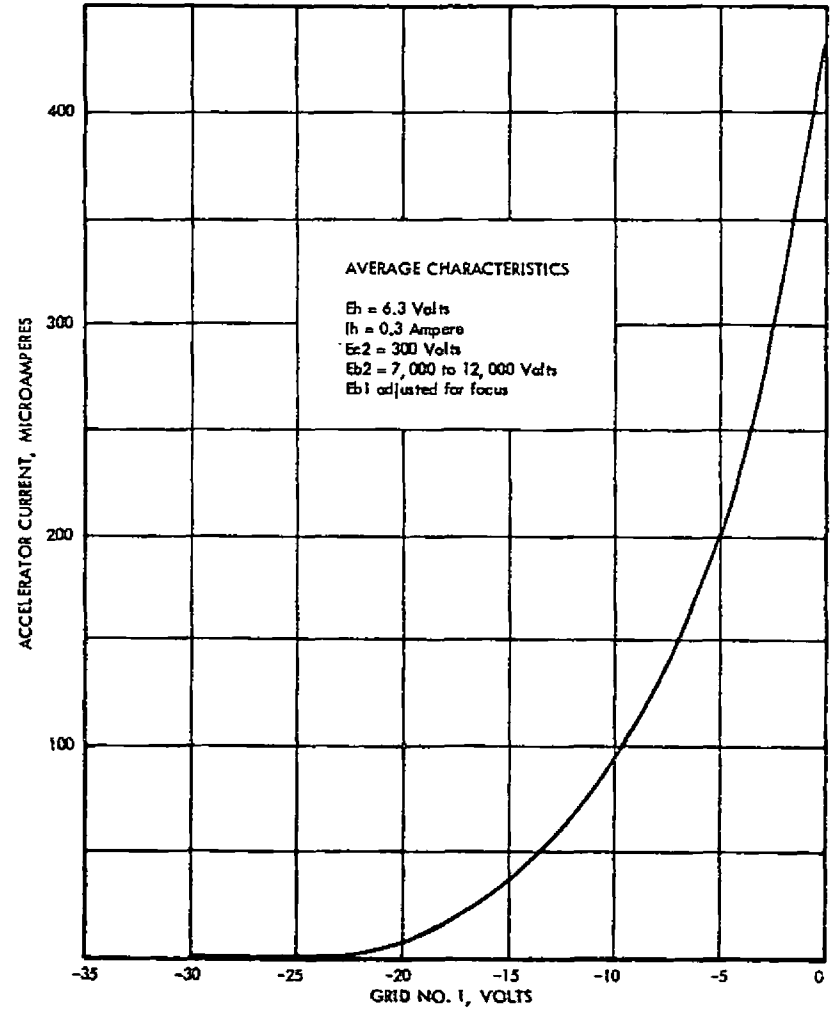




BOTTOM VIEW

PIN NO.	ELEMENT
1	GRID NO. 1
2	HEATER
3	GRID NO. 2
5	CATHODE
6	GRID NO. 2
7	FOCUSING ELECTRODE
8	HEATER
9	GRID NO. 1
CAP	ACCELERATOR

NOTE
1- REFERENCE LINE IS DETERMINED BY THE POINT WHERE LEADING EDGE OF JEDEC G-123 REFERENCE LINE GAUGE WILL STOP.



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