product of the pioneer

DU MONT

from JEDEC release #2641, Nov. 23, 1959

INDUSTRIAL CATHODE-RAY TUBES

TYPES: 7AQP4, 7AQP7, 7AQP16, 7AQP19, 7AQP25

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 ..... Clear, spherical

MECHANICAL DATA

Overall Length (seated height)	$8\frac{1}{16} \pm \frac{5}{16}$ Inches
Greatest Diameter of Bulb	$7 \pm \frac{1}{8}$ Inches
Minimum Useful Screen Diameter	6 Inches
Bulb Contact	J1-22
Base[1]	E9-37
Basing	9HT
Bulb Contact Alignment:	
Plane of J1-22 cap passes halfway between Pins No. 1 and 9	±10 Degrees
J1-22 cap on same side as Pins No. 1 and 9	
Weight, Approximate	2¼ Pounds

MAXIMUM RATINGS
(Absolute Maximum Values)

Heater Voltage	6.3 Volts
Heater Current at 6.3 Volts	0.3 ± 10% Ampere
Accelerator Voltage	12,000 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[2]	10,000 Volts DC
Focusing Electrode Voltage[3]	−50 to +350 Volts DC
Grid No. 2 Voltage	300 Volts DC
Grid No. 1 Voltage[4]	−15 to −45 Volts DC
Line Width[5]	.015 Inch Max.
Spot Position (Undeflected)[6]	⅜ Inch

MAXIMUM CIRCUIT VALUES

Grid No. 1 Circuit Resistance	1.5 Max. Megohms

NOTES

1. 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.
2. Brilliance and definition decrease with decreasing accelerator voltage. In general, accelerator voltage should not be less than 7,000 volts.
3. With Grid No. 1 voltage adjusted to produce an accelerator current of 100 μA.
4. Visual extinction of undeflected, focused spot.
5. Measured in accordance with ML-E-1 specifications at an accelerator current of 100 μA.
6. The center of the undeflected, focused spot will fall within a circle of ⅜-inch radius concentric with the center of the tube face, with the tube shielded.

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.

FEATURES

- Space Saving Tube for Miniaturized Equipments
- Light Weight
- Short Overall Length
- Small Neck Diameter
- Miniature Base
- Low Heater Current
- Low Deflection Power Requirements
- Metallized Screen for High Light Output
- Other Phosphors Available

APPLICATIONS

- Air-Borne Radar
- Radar
- Monitor
- Slave Display Unit

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ELECTRONIC TUBES/INDUSTRIAL TV/MILITARY ELECTRONICS/MOBILE COMMUNICATIONS/SCIENTIFIC INSTRUMENTS/AUTOMOTIVE TEST EQUIPMENT

ELECTRONIC TUBE SALES DEPARTMENT

Allen B. Du Mont

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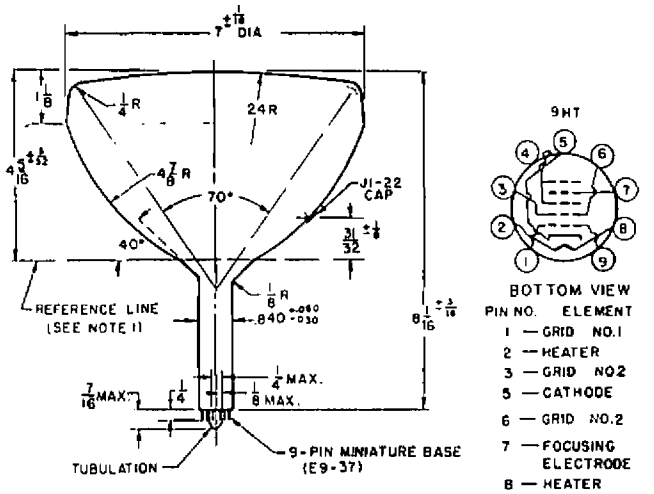
OUTLINE DRAWING TYPE 7AQP—



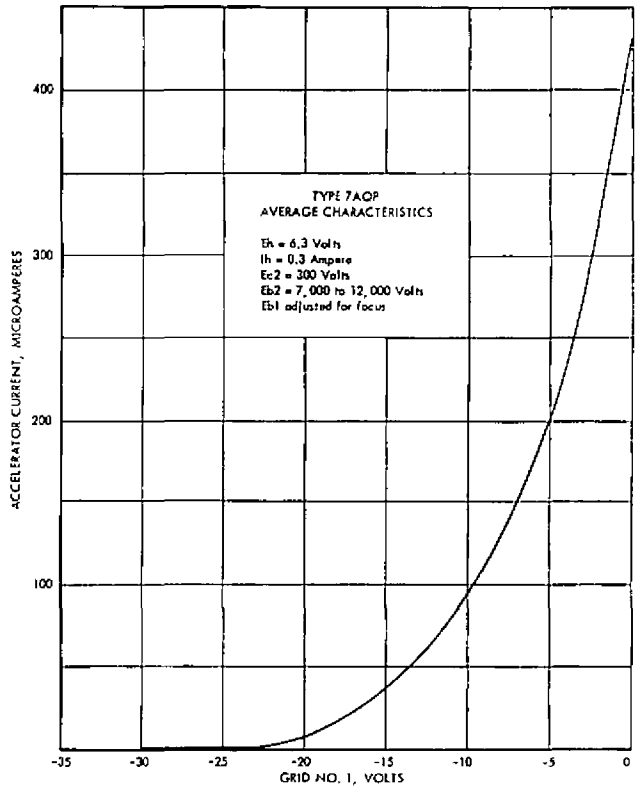
BOTTOM VIEW

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

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

AVERAGE CHARACTERISTICS TYPE 7AQP—



ACCESSORIES

Base Socket Du Mont P/N 34003170S and 1 (one) Connector Du Mont P/N 36000500.