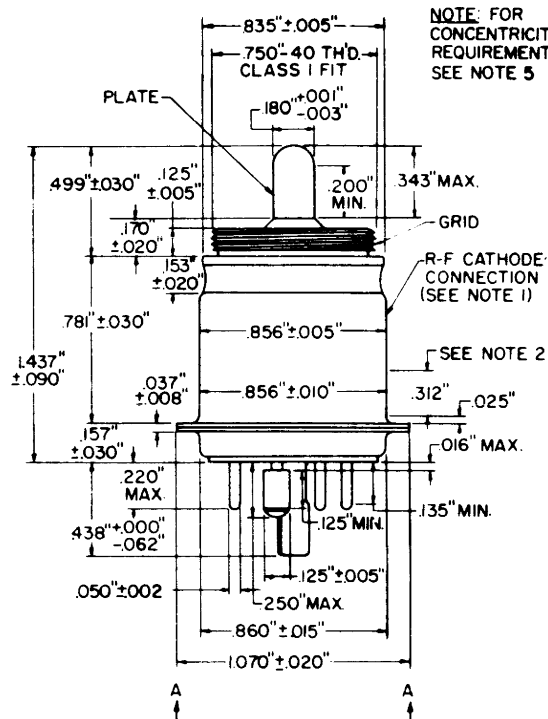


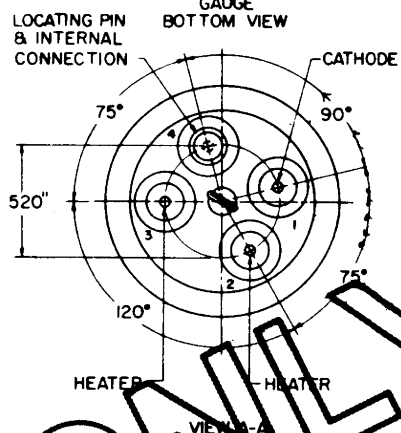
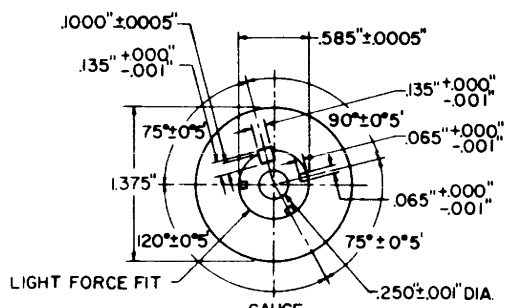
ADVANCE ELECTRON TUBE DATA SHEET

WESTERN ELECTRIC 416B ELECTRON TUBE



NOTE: FOR CONCENTRICITY REQUIREMENTS SEE NOTE 5

BASE SHALL BE CAPABLE OF BEING INSERTED FREELY INTO A 7/16" THICKNESS GAUGE WITH 5 HOLES DISPOSED AS SHOWN



NOTE 1 - SURFACES OF R-F CATHODE, GRID AND ANODE CONNECTIONS ARE PLATED
 NOTE 2 - 856 ±.010" DIMENSION APPLIES ONLY OVER THE .312" LENGTH

ONLY

DESCRIPTION

The 416B is a planar type triode designed for use as an amplifier or frequency multiplier at frequencies in the order of 4000 megacycles.

CHARACTERISTICS

Heater Voltage	6.3 volts
Plate Voltage	200 volts
Frequency	4000 megacycles
Gain (50 milliwatts output)	9 decibels
Bandwidth (3 db down)	100 megacycles

GENERAL CHARACTERISTICSELECTRICAL DATA

	<u>Min.</u>	<u>Bogey</u>	<u>Max.</u>	
Heater Voltage ⁽³⁾	---	6.3	---	volts
Heater Current	---	1.18	---	amperes
Amplification Factor	---	200	---	
Transconductance ($I_b = 30$ ma)	---	50000	---	micromhos
<u>Direct Interelectrode Capacitances</u>				
Grid to Plate	1.25	1.45	1.60	uuf
Grid to Shell ⁽⁴⁾	8.5	11.2	17.0	uuf
Grid to Shell ⁽⁴⁾ Hot ($E_f = 6.1$ v; $E_b = 0$ v)	7.6	8.7	10.3	uuf
Plate to Shell ⁽⁴⁾	---	.019	.050	uuf
Cathode to Shell	30	42.5	57	uuf

MECHANICAL DATA

Cathode	Unipotential
Mounting Position	Any
Weight, Approximate	1 ounce
Socket	(Equivalent to or) KS14134

MAXIMUM RATINGS, ABSOLUTE VALUES

Plate Voltage	270 volts
Grid Voltage	{ +1.5 volts -15.0 volts
Plate Current	33 milliamperes
Grid Current	15 milliamperes
Plate Dissipation	7.5 watts
Plate Seal Temperature	150° Centigrade
Grid Seal Temperature	100° Centigrade
Heater-Cathode Voltage	45 volts

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

Plate Voltage	200 volts
Plate Current	30 milliamperes
<u>Bias Circuit</u>	
Cathode Bias Resistor	260 ohms
Grid Supply Voltage	8 volts
Frequency	4000 megacycles
Gain (50 Milliwatts Output)	9 decibels
Gain (500 Milliwatts Output)	5 decibels
Band Width (3 db Down)	100 megacycles

Note (3): For optimum life, heater may be supplied from a source of 10.8 ± 0.2 volts through a circuit resistance of 4.16 ohms.

Note (4): Cathode connected to shell through cathode to shell capacitance.

Note (5): With the .750"-40 thread screwed into a guage having a thread with a .750"-40 class 1 fit, the .856", 1.070" and .180" diameters must fit in cylinders concentric with the .750"-40 thread and having diameters of .895" x .720" long; 1.135" x .157" long; and .210" x .375" long. Allowances for these tolerances must be made in any circuit design.