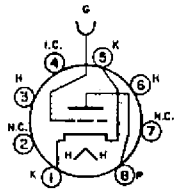
AMPEREX TUBE TYPE 8254/EC1000

TENTATIVE DATA

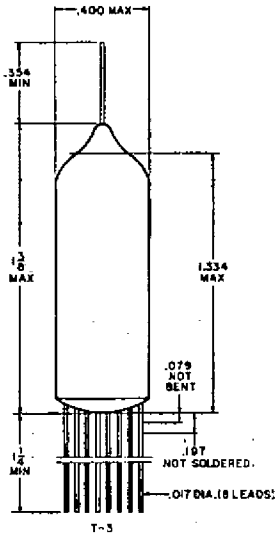
The Amperex 8254/EC1000 is a Premium Quality, subminiature, frame grid Triode designed for use as a high-frequency probe tube. It features a transconductance of 14,500 μmhos at 14 ma, and a maximum grid current of only .01 microampere. The tube has a resonant frequency of 400 mc, while the input impedance at 250 mc is 450 ohms. The input grid is brought out through the top.



PIN CONNECTIONS
1. CATHODE
2. NO CONNECTION
3. HEATER
4. INTERNAL CONNECTION
5. CATHODE
6. HEATER
7. NO CONNECTION
8. PLATE
G - GRID (TOP OF TUBE)

SUBMINIATURE
E8-10

8LW



GENERAL CHARACTERISTICS

MECHANICAL	
Bulb	Subminiature, T-3
Base	See outline drawing, E8-10
Dimensions	See outline drawing
Mounting Position	Any
ELECTRICAL	
Cathode	Indirectly heated
Heater Arrangement	Parallel supply
Heater Voltage (AC or DC)	6.3 volts
Heater Current	185 ma

Interelectrode Capacitance (Without External Shield)

	Symbol	Avg. Values
Grid to Cathode	C_{gk}	3.5 pf
Grid to Plate	C_{gp}	1.9 pf
Grid to Filament	C_{gf}	0.05 pf
Plate to Cathode	C_{pk}	0.5 pf
Plate to Heater	C_{pn}	0.3 pf

8254/EC1000

MAXIMUM RATINGS, ABSOLUTE VALUES

	Symbol	Value
Plate Voltage, Zero Plate Current	E_{bb}	275 volts
Plate Voltage	E_b	110 volts
Plate Dissipation	P_p	1.5 watts
Grid Voltage	e_c	−55 volts
Cathode Current	I_k	22 ma
Voltage Between Heater and Cathode	E_{hk}	55 volts
Bulb Temperature		170°C
Grid Resistance		See note 4

OPERATING CHARACTERISTICS

Parameter	Operating Conditions				Values				Comment
	E_f volts	E_b volts	E_c volts	I_{bo} volts	Avg.	Min.	Max.	Units	
Filament Current, I_f	6.3	–	–	–	185	–	–	ma	–
Plate Current, I_b	6.3	80	−2	–	14	–	–	ma	–
Transconductance, G_m	6.3	80	–	14	14500	–	–	μmhos	–
Amplification Factor, μ	6.3	80	–	14	24	–	–	–	–
High Frequency Input Impedance	6.3	80	−2	–	450	–	–	ohms	at 250 mc
Grid Current, I_g	6.3	80	−2	–	–	–	-10^{-8}	amp	See Note 3
Input Resonant Frequency	6.3	80	−2	–	400	–	–	mc	
Hum	6.3	–	–	–	–	–	1	mv	See Notes 1 and 2
Noise (Flat response filter 0 to 10,000 cps)	6.3	80	−2	–	–	–	1	mv	See Note 2[1]
Microphonics (Acceleration; peak value 4 g, 50 cps)	6.3	80	−2	–	–	–	1	mv	See Note 2

[1] R_g = 500 K ohms, R_k = 100 ohms at 60 cps. The heater is grounded at its center. Frequency of heater supply = 60 cps + 3%. 500 cps flat response low pass filter.

[2] The noise voltage refers to the equivalent RMS value at grid.

[3] Maximum value at 1000 hours.

[4] The grid resistance, R_g, should be restricted to a value which will not permit maximum ratings to be exceeded at a grid current of -10^{-8} ampere. To calculate the maximum permissible value of R_g, the DC feedback of the operating circuit may be taken into account. In practice the maximum value of R_g will also be defined by the required current stability and the permissible hum level.

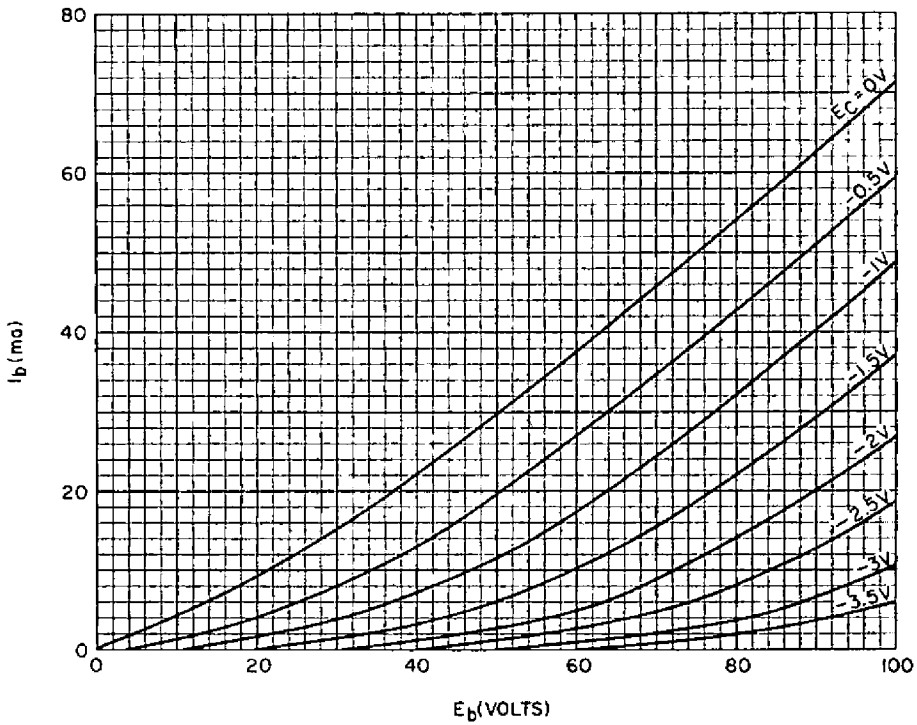
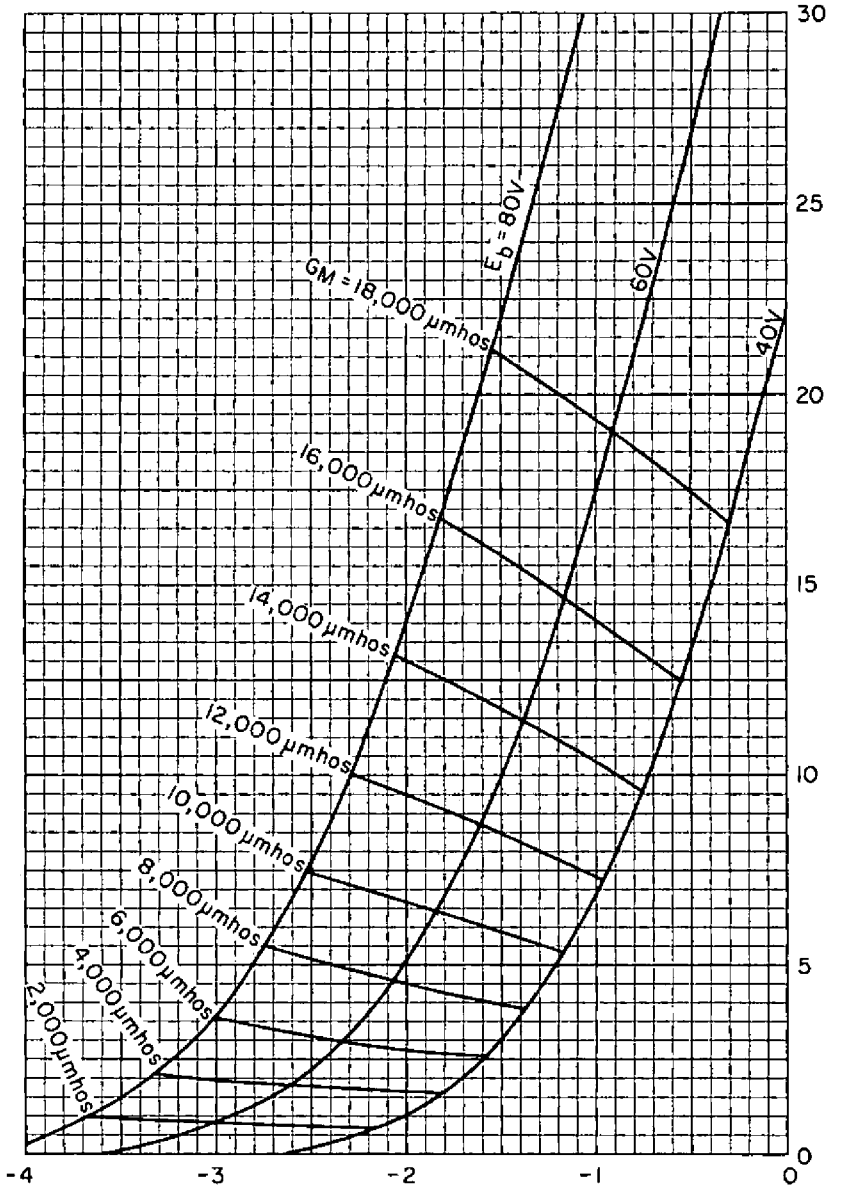


PLATE CHARACTERISTICS

FIGURE 1

8254/EC1000



TRANSFER CHARACTERISTICS

FIGURE 2