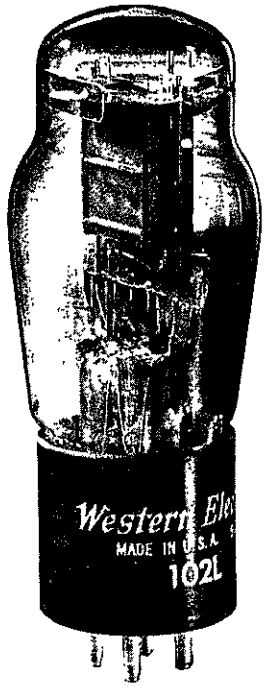


TRIODE
AUDIO-FREQUENCY AMPLIFIER

Western Electric

DESCRIPTION

The 102L is a filamentary type triode. It is designed for use as an audio-frequency voltage amplifier or modulator.

CHARACTERISTICS

Filament Current	250 milliamperes
Maximum Plate Voltage	180 volts
Amplification Factor	30

GENERAL CHARACTERISTICS

ELECTRICAL DATA

Filament Current	250 milliamperes
Filament Voltage, Nominal*	2.1 volts
Direct Interelectrode Capacitances	without external shield
Grid to Plate	5.0 uuf
Input	3.8 uuf
Output	2.4 uuf

MECHANICAL DATA

Cathode	Coated Filament
Base	Medium 4-pin type with bayonet pin
Mounting Position	Preferably vertical; if horizontal, pins #1 and #2 must lie in same vertical plane

Dimensions and pin connections shown in outline drawing on Page 5

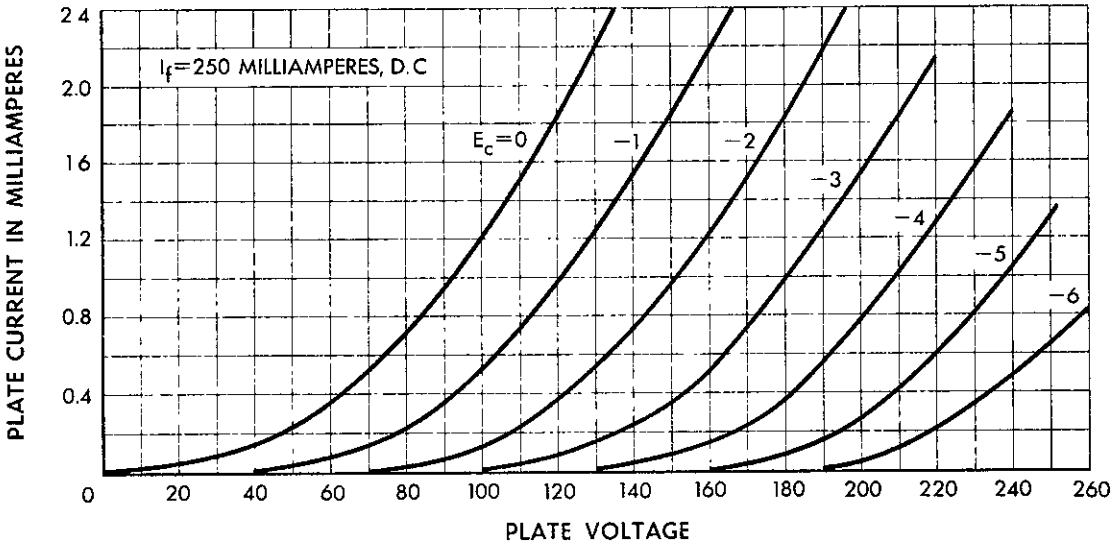
MAXIMUM RATINGS, Design-Center Values

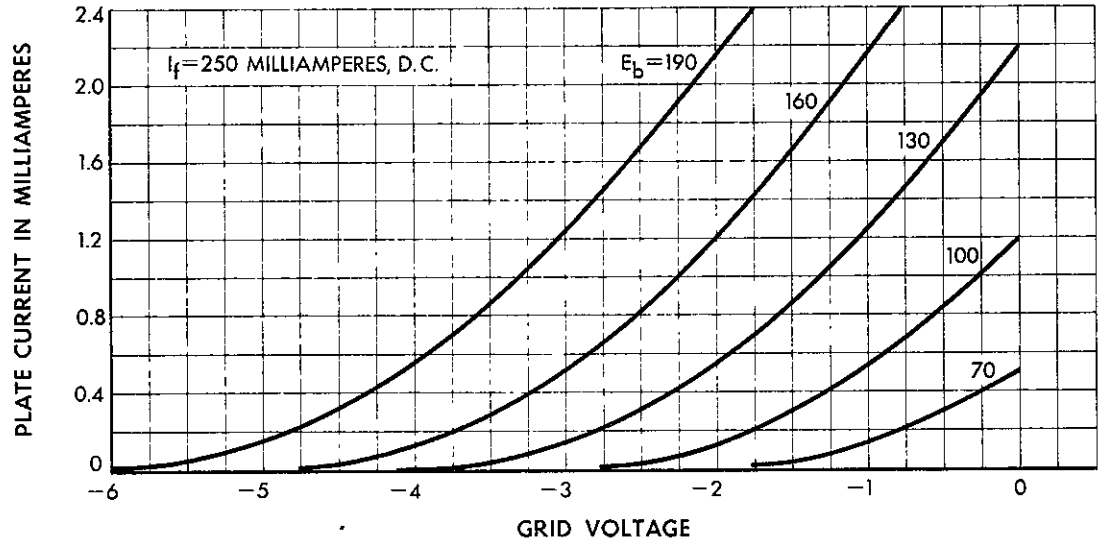
Plate Voltage	180 volts
Plate Dissipation	0.5 watt
Plate Current	7.5 milliamperes

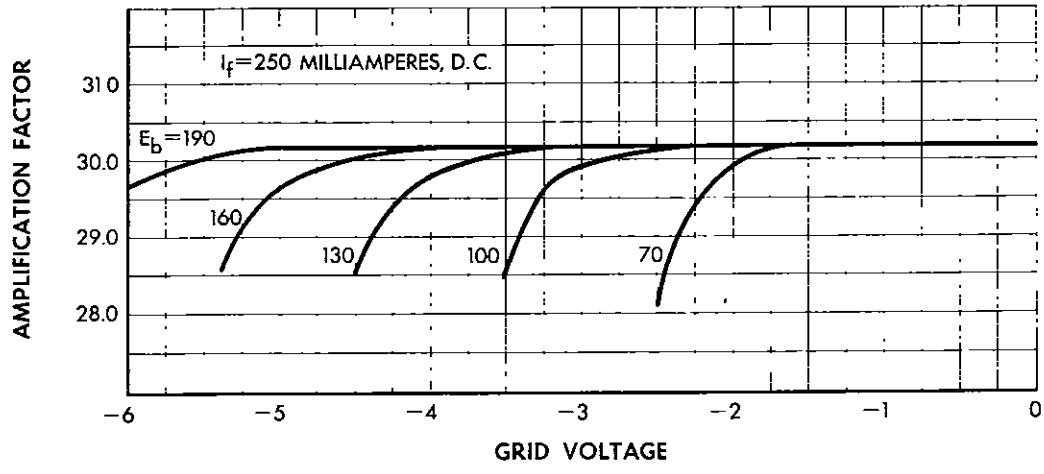
TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS – CLASS A_1 AMPLIFIER

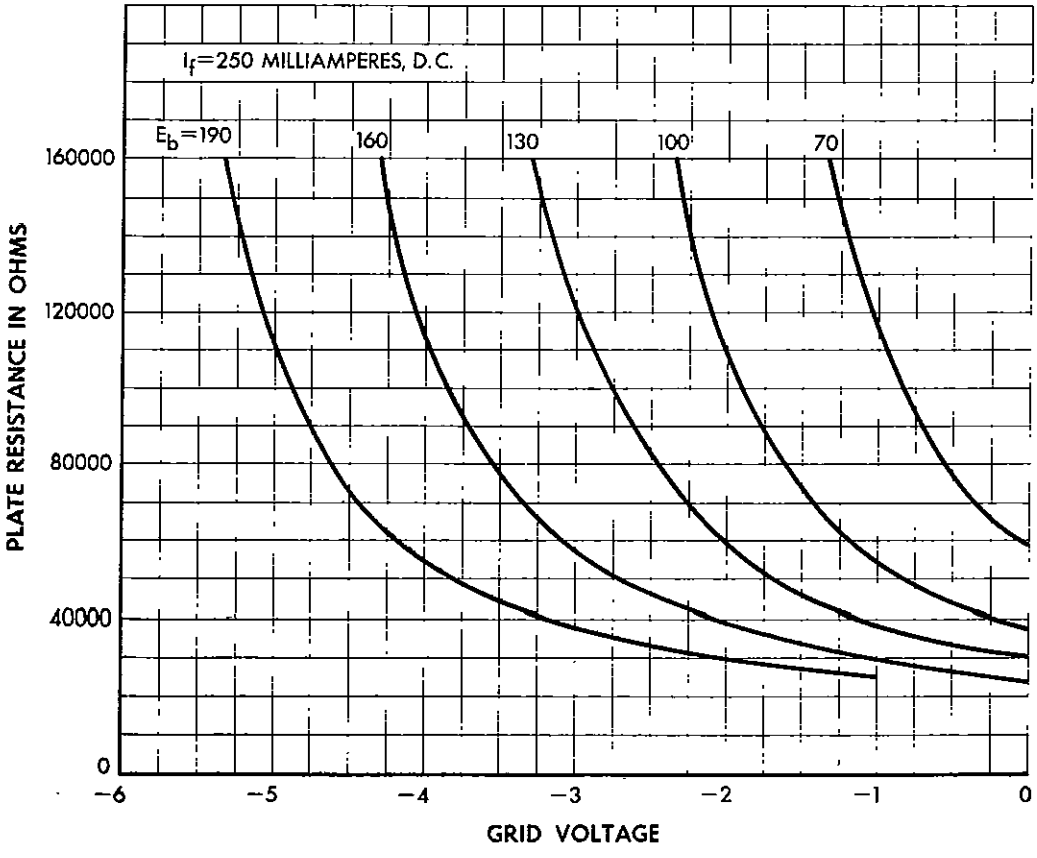
Filament Current, D-C	250	250	milliamperes
Plate Voltage	130	160	volts
Grid Voltage	−1.5	−2.0	volts
Peak A-F Grid Voltage	1.5	2.0	volts
Plate Current	0.85	1.2	milliamperes
Transconductance	650	800	micromhos
Amplification Factor	30.2	30.2	
Plate Resistance	46000	39000	ohms
Load Resistance	300000	300000	ohms
Maximum-Signal Voltage Output	34	44	peak volts
Total Harmonic Distortion Less Than	1.0	1.0	per cent

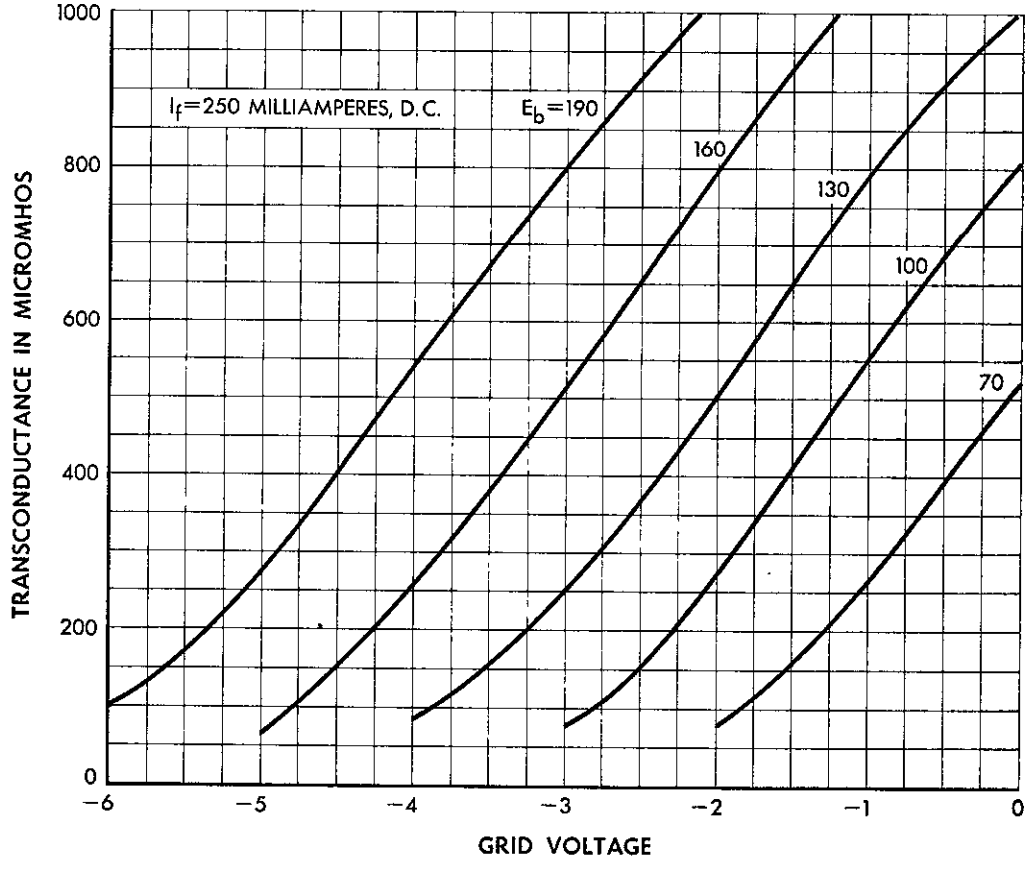
* The filament resistance of this tube increases slightly during the first year of operating life. The voltage given above is the nominal value after the filament resistance has stabilized.

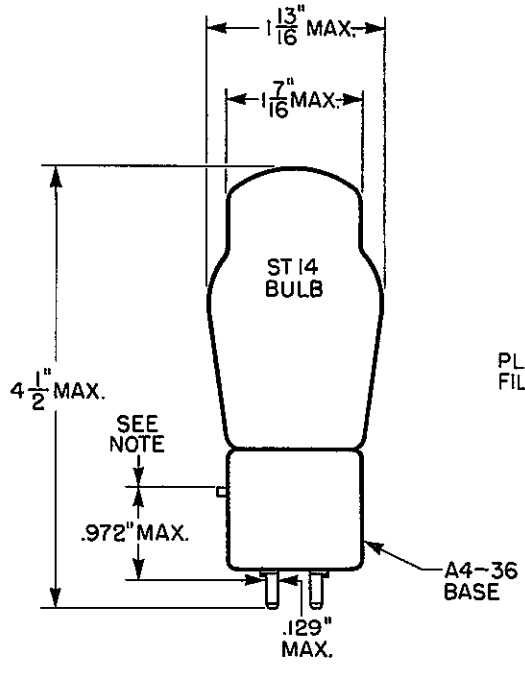

I_f=250 MILLIAMPERES, D.C
E_c=0
−1
−2
−3
−4
−5
−6
PLATE CURRENT IN MILLIAMPERES
2.4
2.0
1.6
1.2
0.8
0.4
0
20
40
60
80
100
120
140
160
180
200
220
240
260
PLATE VOLTAGE

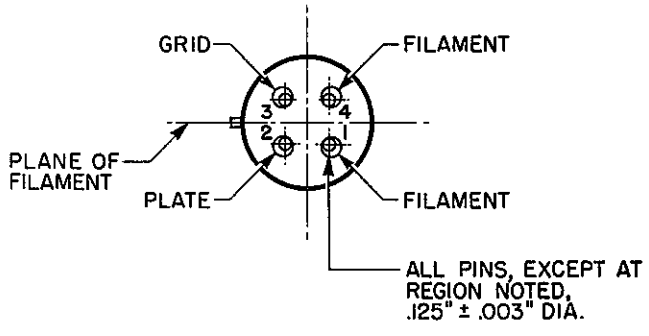

I_f=250 MILLIAMPERES, D.C.
E_b=190
160
130
100
70
PLATE CURRENT IN MILLIAMPERES
2.4
2.0
1.6
1.2
0.8
0.4
0
−6
−5
−4
−3
−2
−1
0
GRID VOLTAGE


I_f=250 MILLIAMPERES, D.C.
E_b=190
160
130
100
70
AMPLIFICATION FACTOR
31.0
30.0
29.0
28.0
−6
−5
−4
−3
−2
−1
0
GRID VOLTAGE


I_f=250 MILLIAMPERES, D.C.
E_b=190
160
130
100
70
PLATE RESISTANCE IN OHMS
160000
120000
80000
40000
0
−6
−5
−4
−3
−2
−1
0
GRID VOLTAGE







NOTE:
THIS DIMENSION APPLIES FROM THE TOP OF THE BAYONET PIN, TO A POINT ON THE STUD WHERE THE DIAMETER OF THE STUD PLUS SOLDER DOES NOT EXCEED .129 MAX.

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