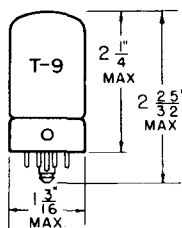


## TUNG-SOL

## BEAM PENTODE



GLASS BULB

## COATED FILAMENT

## SERIES FILAMENT

$E_f$  APPLIED BETWEEN  
PINS 1 & 8  
 $E_{g1}$  REFERRED TO PIN 8

2.8 VOLTS  
50 MA.

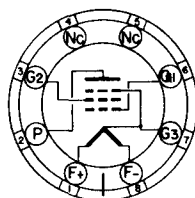
## PARALLEL FILAMENT

$E_f$  APPLIED BETWEEN  
PIN 7 AND PINS  
1 & 8 TIED TO-  
GETHER.  
 $E_{g1}$  REFERRED TO PIN 7

1.4 VOLTS  
100 MA.

DC

A SHUNTING RESISTOR MUST BE CONNECTED BETWEEN PINS 7 AND 8 FOR SERIES-FILAMENT OPERATION. ITS VALUE SHOULD BE SUCH THAT THE VOLTAGE ACROSS THE SHUNTED SECTION IS EQUAL TO THE VOLTAGE BETWEEN PINS 1 AND 7. AN ADDITIONAL SHUNTING RESISTOR MAY BE NECESSARY BETWEEN PINS 1 AND 8 IF OTHER TUBES USED IN SERIES-FILAMENT ARRANGEMENT CONTRIBUTE TO THE FILAMENT CURRENT OF THE 3LF4.



BOTTOM VIEW

LOCK-IN  
8 PIN BASE  
6BB

## ANY MOUNTING POSITION

THE 3LF4 IS A FILAMENTARY TYPE BEAM POWER AMPLIFIER USING THE LOCK-IN CONSTRUCTION. IT IS CHARACTERIZED BY A LOW CURRENT DRAIN FILAMENT AND IS DESIGNED FOR SERVICE IN THE OUTPUT STAGE OF THREE-WAY PORTABLE RECEIVERS.

## RATINGS

INTERPRETED ACCORDING TO RMA STANDARD M8-210

|                                       | SERIES<br>FILAMENT | PARALLEL<br>FILAMENT |        |
|---------------------------------------|--------------------|----------------------|--------|
| MAXIMUM FILAMENT VOLTAGE              | 2.8                | 1.4                  | VOLTS  |
| MAXIMUM PLATE VOLTAGE                 | 110                | 110                  | VOLTS  |
| MAXIMUM GRID #2 VOLTAGE               | 110                | 110                  | VOLTS  |
| MAXIMUM CATHODE CURRENT (ZERO SIGNAL) | 6 <sup>A</sup>     | 12                   | MA.    |
| MAXIMUM GRID #1 CIRCUIT RESISTANCE    | 1                  | 1                    | MEGOHM |

<sup>A</sup> EACH 1.4 VOLT FILAMENT SECTION

## TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A<sub>1</sub> AMPLIFIER

|                                     | SERIES FILAMENT |       |         |
|-------------------------------------|-----------------|-------|---------|
| FILAMENT VOLTAGE                    | 2.8             | 2.8   | VOLTS   |
| FILAMENT CURRENT                    | 50              | 50    | MA.     |
| PLATE VOLTAGE                       | 90              | 110   | VOLTS   |
| GRID #2 VOLTAGE                     | 90              | 110   | VOLTS   |
| GRID #1 VOLTAGE                     | -4.5            | -6.6  | VOLTS   |
| PEAK AF SIGNAL VOLTAGE              | 4.5             | 5.1   | VOLTS   |
| PLATE CURRENT                       | 8               | 8.5   | MA.     |
| GRID #2 CURRENT                     | 1               | 1.1   | MA.     |
| PLATE RESISTANCE (APPROX.)          | 0.08            | 0.11  | MEGOHM  |
| TRANSCONDUCTANCE                    | 2 000           | 2 000 | μMHQS   |
| LOAD RESISTANCE                     | 8 000           | 8 000 | OHMS    |
| TOTAL HARMONIC DISTORTION (APPROX.) | 8.5             | 8.5   | PERCENT |
| POWER OUTPUT                        | 230             | 330   | MW      |

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## TUNG-SOL

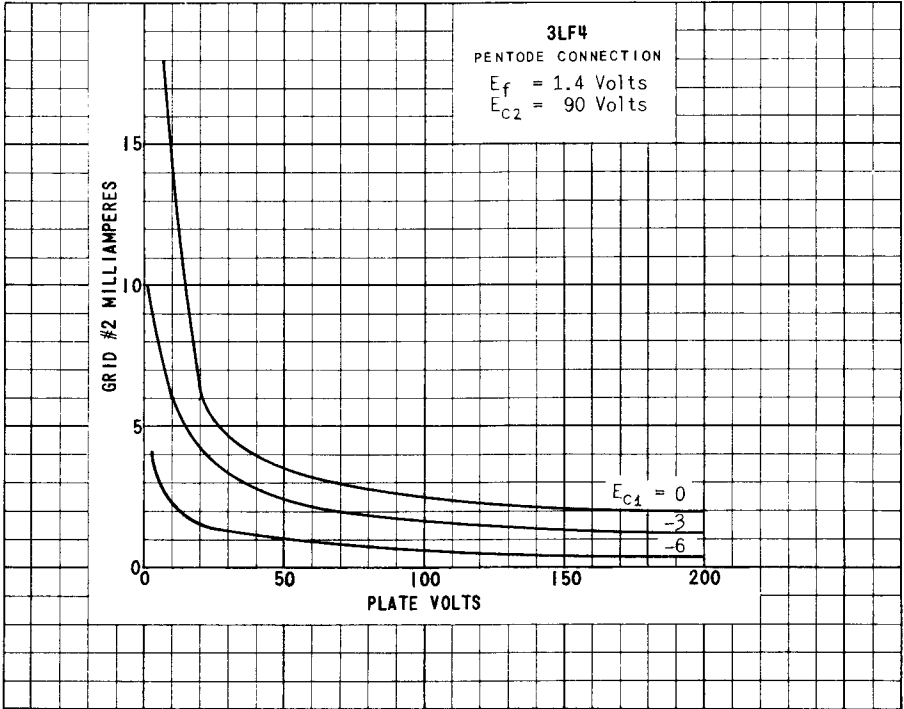
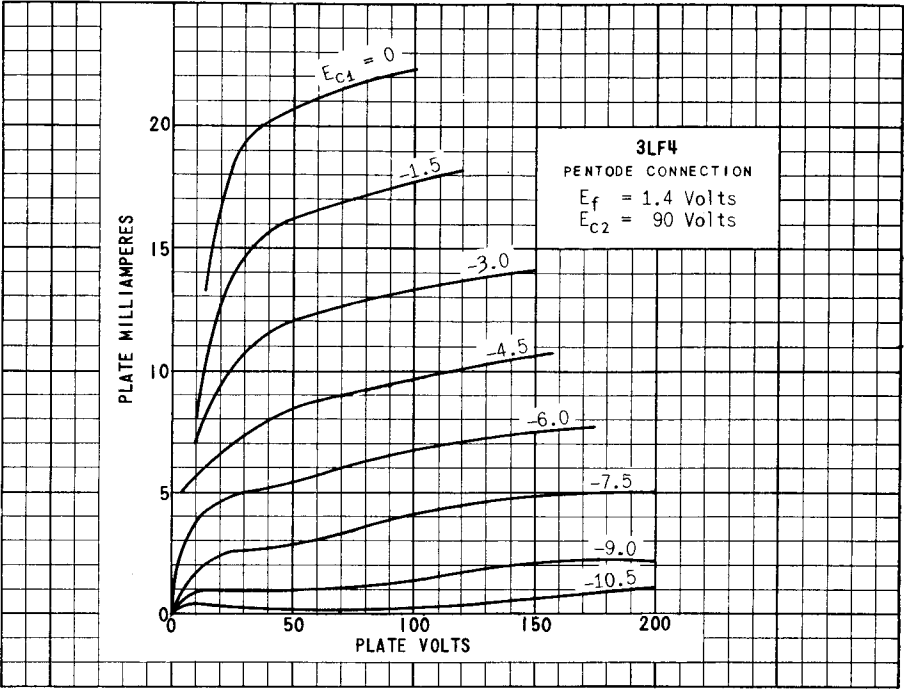
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## TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A<sub>1</sub> AMPLIFIER

|                                     | PARALLEL FILAMENT |       |       |         |
|-------------------------------------|-------------------|-------|-------|---------|
|                                     | 1.4               | 1.4   | 1.4   |         |
| FILAMENT VOLTAGE                    | 100               | 100   | 100   | MA.     |
| FILAMENT CURRENT                    | 85                | 90    | 110   | VOLTS   |
| PLATE VOLTAGE                       | 85                | 90    | 110   | VOLTS   |
| GRID #2 VOLTAGE                     | -5                | -4.5  | -6.6  | VOLTS   |
| GRID #1 VOLTAGE                     | 5                 | 4.5   | 5.4   | VOLTS   |
| PEAK AF SIGNAL VOLTAGE              | 7                 | 9.5   | 10    | MA.     |
| PLATE CURRENT                       | 0.8               | 1.3   | 1.4   | MA.     |
| GRID #2 CURRENT                     | 0.07              | 0.09  | 0.1   | MEGOHM  |
| PLATE RESISTANCE (APPROX.)          | 1 950             | 2 200 | 2 000 | μMHOS   |
| TRANSCONDUCTANCE                    | 9 000             | 8 000 | 8 000 | OHMS    |
| LOAD RESISTANCE                     | 5.5               | 6     | 6     | PERCENT |
| TOTAL HARMONIC DISTORTION (APPROX.) | 250               | 270   | 400   | MW      |
| POWER OUTPUT                        |                   |       |       |         |

*SIMILAR TYPE REFERENCES: Ratings and characteristics are identical to type 3Q5GP.*



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