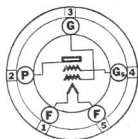


# Sylvania

## TYPE 49

### DOUBLE GRID

### POWER AMPLIFIER



#### CHARACTERISTICS

Filament Voltage DC . . . . .	2.0 Volts
Filament Current . . . . .	0.12 Ampere
Maximum Over-all Length . . . . .	4 $\frac{1}{8}$ "
Maximum Diameter . . . . .	1 $\frac{1}{8}$ "
Bulb . . . . .	ST-14
Base—Medium 5-Pin . . . . .	5-C

#### Operating Conditions and Characteristics:

##### CLASS A AMPLIFIER

Filament Voltage . . . . .	2.0 Volts
Plate Voltage . . . . .	135 Volts Max.
Grid Voltage . . . . .	-20 Volts
Plate Current . . . . .	6.0 Ma.
Plate Resistance . . . . .	4175 Ohms
Mutual Conductance . . . . .	1125 $\mu$ mhos
Amplification Factor . . . . .	4.7
Load Resistance . . . . .	11000* Ohms
Power Output . . . . .	170 Mw.

##### CLASS B POWER AMPLIFIER

Filament Voltage . . . . .	2.0 Volts
Plate Voltage . . . . .	180 Volts Max.
Dynamic Peak Plate Current . . . . .	50 Ma. Max.

#### Typical Operation (two tubes):

Plate Voltage . . . . .	180 Volts
Grid Voltage (Grids G and Gs tied together) . . . . .	0 Volts
Static Plate Current (per tube) . . . . .	2 Ma.
Load Resistance (Plate to Plate) . . . . .	12000 Ohms
Power Output (two tubes) . . . . .	3.5 Watts

\*Approximately twice this value is recommended for load of driver.

#### CIRCUIT APPLICATION

Sylvania 49 is a double grid power amplifier tube designed for battery operated receivers. The double grid construction, with each grid terminating at a separate base pin, permits adaptation of this type to Class A or Class B service.

By connecting the two grids together at the socket the tube is converted into a high- $\mu$  triode. Two tubes connected in this manner form an efficient Class B amplifier and will deliver 3.5 watts under maximum operating conditions. The no signal plate current is but 2 ma. per tube.

If the outer grid is connected to the plate the tube becomes a low- $\mu$  amplifier and as such is well suited as a driver tube for either a pair of 49's or for a Type 19. When operated under conditions as specified under **Characteristics** the rated power output is 170 milliwatts. When used as the driver for a Class B stage a load resistance of approximately twice the indicated value is recommended. Allowing for transformer losses, about 120 milliwatts may be delivered to the input circuit of the Class B output stage. The output available will depend upon the design and efficiency of the inter-stage transformer and also upon the value of plate voltage applied to the Class B tubes.