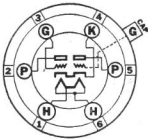


Sylvania

TYPE 79

COMPLETE CLASS B AMPLIFIER



CHARACTERISTICS

Heater Voltage AC or DC	6.3 Volts
Heater Current	0.6 Ampere
Maximum Over-all Length	4 ¹¹ / ₁₆ "
Maximum Diameter	1 ³ / ₁₆ "
Bulb	ST-12
Cap	Small Metal
Base—Small 6-Pin	6-H

Operating Conditions and Characteristics:

Heater Voltage	6.3	6.3 Volts
Plate Voltage	180	250 Volts
Grid Voltage	0	0 Volts
Plate Current (no signal)	7.5	10.5 Ma.
Load Resistance (plate-to-plate)	7000	14000 Ohms
Power Output*	5.5	8.0 Watts

All characteristics shown are for two triodes operating in "Class B" service.

All plate currents are sum of currents flowing to each plate.

*Average Power Input—380 Mw. grid to grid.

CIRCUIT APPLICATION

Sylvania Type 79 is a highly efficient complete Class B power amplifier tube especially adapted to the requirements of automobile service. Important advantages include small bulb size, and high power output with minimum battery drain. The power gain is increased in comparison with other Class B power amplifier tubes of the cathode type, as may be seen by reference to the table.

As a Class B tube, Type 79 may be operated with 180 volts applied to the plate and zero grid bias. The plate current taken by Type 79 without a signal is 7.5 ma. (3.7 ma. per plate), while with a signal applied the current depends upon the amplitude of this signal. The tube may be operated with a continuous plate current of 42 ma., and is capable of withstanding peak swings of considerably greater magnitude, provided these swings are not continuous.

Type 37 may be used as a driver tube when outputs of 2 to 4 watts are desired. The output available will depend upon the efficiency of the inter-stage transformer and the exact value of plate voltage available from the source. Power output increases rapidly with increase in plate voltage, due to increased performance of both driver and Class B stage. For higher outputs a Type 89 or two Type 37 tubes in push-pull may be used as a driver. Type 41, a pentode, is also available for supply of maximum power inputs shown in the tabulation. Experimental work indicates that it is possible to obtain satisfactory performance from this tube if the interstage transformer is provided with a parallel resistance load to prevent second harmonic distortion from reaching high values due to change in driver load impedance.

Type 79 may also be employed as a combination voltage amplifier and phase inverter—a system for obtaining push-pull resistance coupling to a pair of output tubes (e.g. two Type 41's) providing a gain equal to a good triode transformer combination. It will provide a saving in space requirements and a reduction in cost. It is applicable only to Class A systems. The average voltage gain obtained from a 79 when used for inversion is approximately 35 with a B supply voltage of 250 volts.

When used as a cascade amplifier each section of the 79 is operated as a separate triode. Due to high values of amplification factor and plate resistance, the sections are well suited to resistance coupling. An over-all voltage gain of 1000 is easily obtainable. With such high gain considerable care is necessary in the choice of circuit constants in order to reduce hum and noise.