

BEAM PENTODE

DESCRIPTION AND RATING

The 35GL6 is a miniature beam pentode primarily designed for use in the audio-frequency power output stage of radio receivers. Features include high power sensitivity and high efficiency at relatively low plate and screen voltages. The heater of the 35GL6 is tapped to permit operation of a panel lamp.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential

Heater Voltage, AC or DC*..... $35 \pm 10\%$ Volts

Heater-Tap Voltage*.....7.0 Volts

Heater Current*.....0.15 Amperes

Direct Interelectrode Capacitances, approximate†

Grid-Number 1 to Plate.....0.5 $\mu\mu\text{f}$

Input.....14 $\mu\mu\text{f}$

Output.....9.5 $\mu\mu\text{f}$

MECHANICAL

Mounting Position—Any

Envelope—T-5½, Glass

Base—E7-1, Miniature Button 7-Pin

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

Heater-Tap Voltage when Panel Lamp Fails, RMS.....14 Volts

Plate Voltage.....150 Volts

Screen Voltage.....130 Volts

Plate Dissipation.....5.5 Watts

Screen Dissipation.....1.1 Watts

Heater-Cathode Voltage

Heater Positive with Respect to Cathode.....200 Volts

Heater Negative with Respect to Cathode.....200 Volts

Grid-Number 1 Circuit Resistance

With Fixed Bias.....0.1 Megohms

With Cathode Bias.....0.5 Megohms

Bulb Temperature at Hottest Point.....225 C

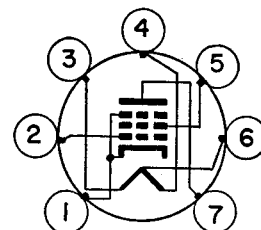
Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions.

These values are chosen by the tube manufacturer to provide acceptable serviceability of the tube, taking responsibility for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, variation in characteristics of all other tubes in the equipment, equipment control adjustment, load variation, signal variation, and environmental conditions.

The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or elements. In the absence of an express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of the tubes with other devices or elements by any purchaser of tubes or others.

BASING DIAGRAM



EIA 7FZ

TERMINAL CONNECTIONS

Pin 1—Cathode and Beam
Plates

Pin 2—Grid Number 1

Pin 3—Heater

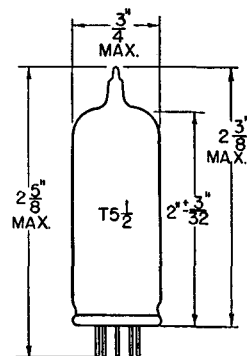
Pin 4—Heater

Pin 5—Grid Number 2
(Screen)

Pin 6—Heater Tap

Pin 7—Plate

PHYSICAL DIMENSIONS



EIA 5-3

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A₁ AMPLIFIER

Plate Voltage.....	110	Volts
Screen Voltage.....	110	Volts
Grid-Number 1 Voltage.....	-7.5	Volts
Peak AF Grid-Number 1 Voltage.....	7.5	Volts
Plate Resistance, approximate.....	12000	Ohms
Transconductance.....	7500	Micromhos
Zero-Signal Plate Current.....	45	Milliamperes
Maximum-Signal Plate Current.....	47	Milliamperes
Zero-Signal Screen Current.....	3.0	Milliamperes
Maximum-Signal Screen Current.....	9.0	Milliamperes
Load Resistance.....	2500	Ohms
Total Harmonic Distortion, approximate.....	8	Percent
Maximum-Signal Power Output.....	1.8	Watts

* Operation without panel lamp.

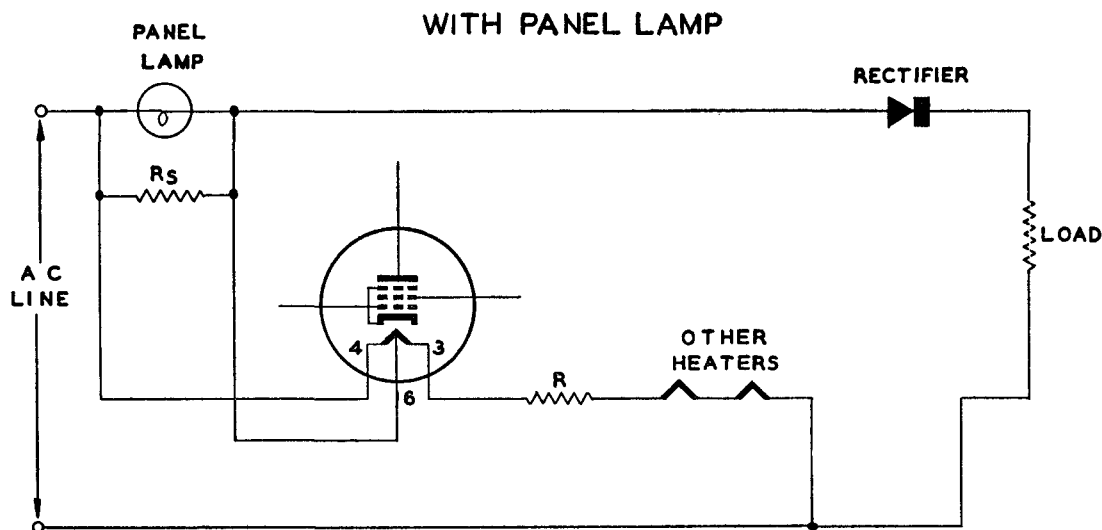
† Without external shield.

The 35GL6 has a heater tap, which may be used for operating a 6.3-volt, 150-milliampere panel lamp in equipment employing semiconductor rectifiers. The table below gives the required values of panel-lamp shunting resistor for various rectifier load currents.

SHUNTING RESISTOR REQUIRED WITH PANEL LAMP NUMBER 40 OR NUMBER 47 (See Typical Circuit)

Heater Voltage (Pin 3 to Pin 4).....	32	32	32	32	32	32	32	Volts
Heater-Tap Voltage (Pin 4 to Pin 6).....	5.0	5.4	5.5	5.5	5.5	5.5	5.5	Volts
Heater Current (Between Pins 3 and 6).....	150	150	150	150	150	150	150	Milliamperes
Panel-Lamp Shunting Resistor.....	—	—	370	175	120	88	73	Ohms
Rectifier Load Current†.....	60	70	80	90	100	110	120	Milliamperes

TYPICAL CIRCUIT FOR OPERATION

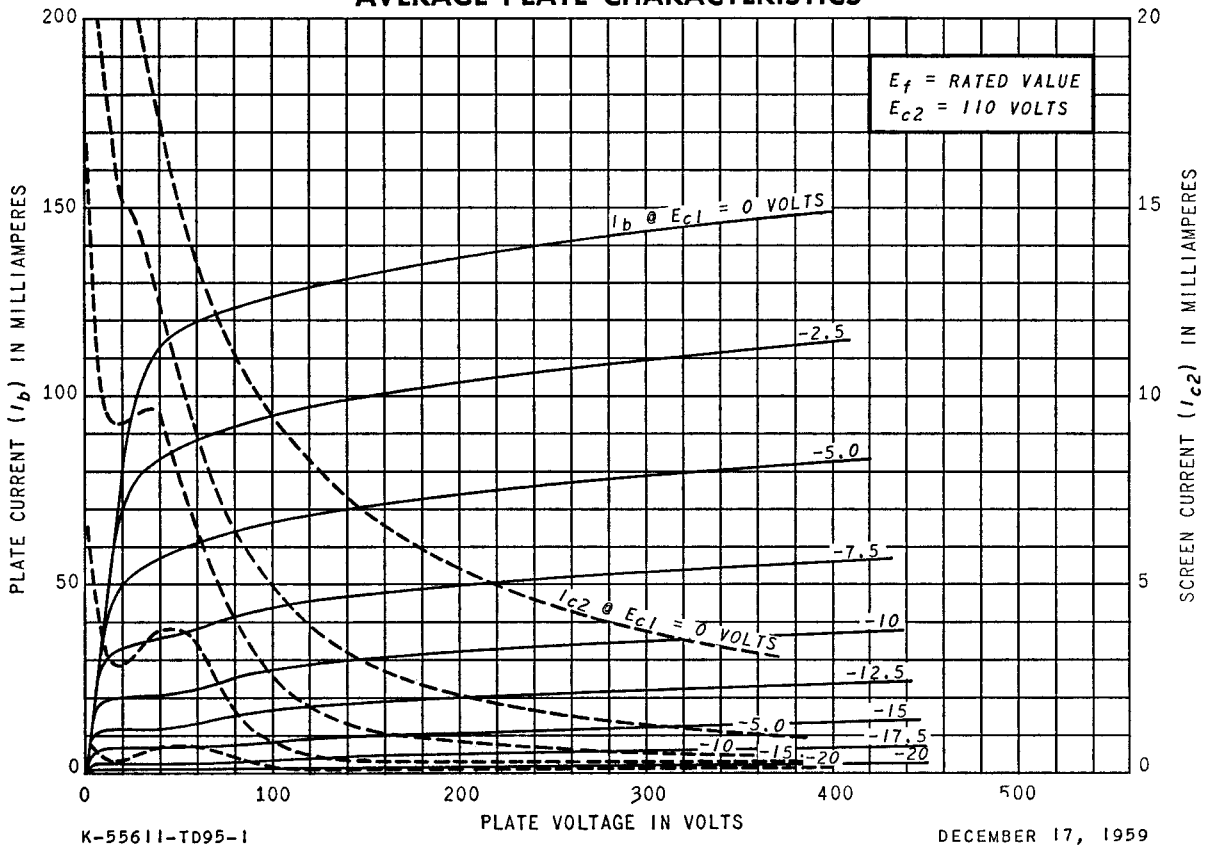


R_s = PANEL-LAMP SHUNTING RESISTOR

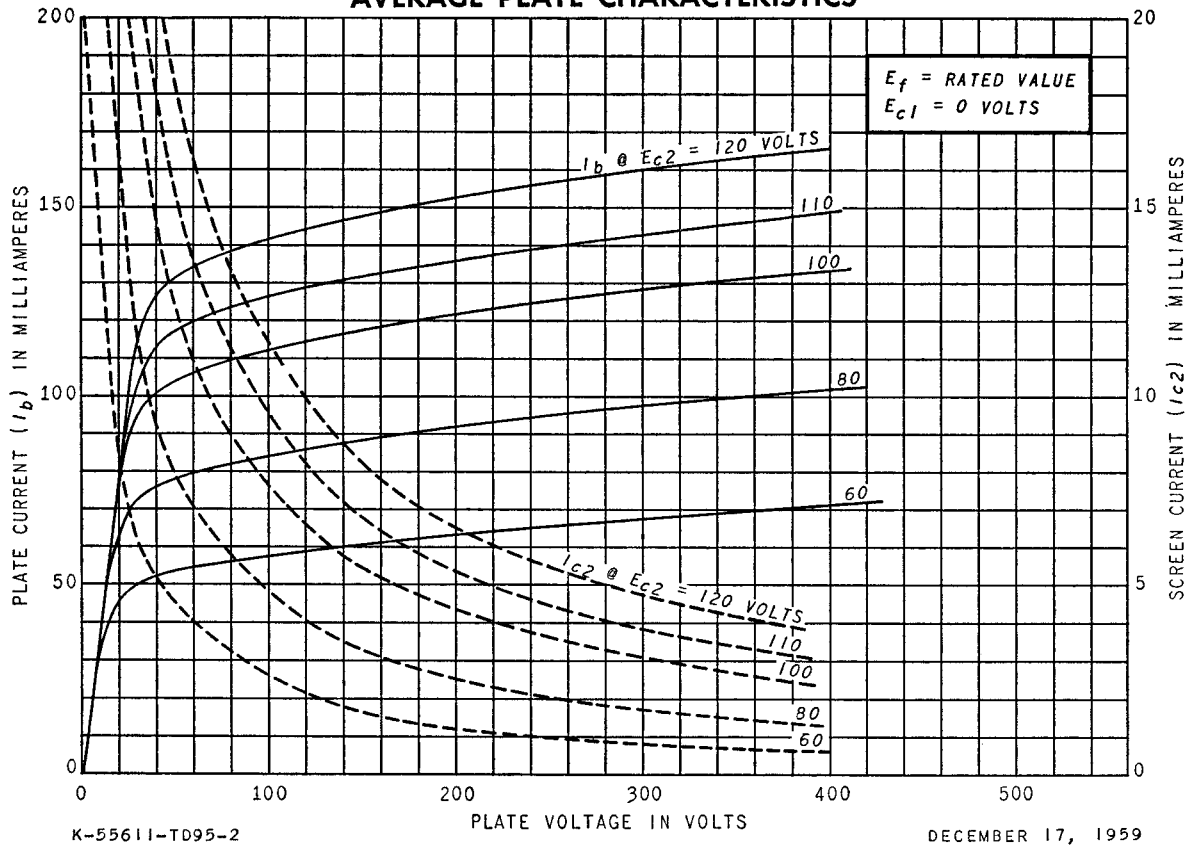
**DROP ACROSS R AT 0.15 AMPERE SHOULD EQUAL
DIFFERENCE BETWEEN LINE VOLTAGE AND TOTAL
OF ALL RATED HEATER VOLTAGES**

† Higher load currents will require smaller values of panel-lamp shunting resistor. For maximum panel-lamp life, the shunting resistor should be selected to allow a panel-lamp voltage of 5.5 volts with full rectifier load current.

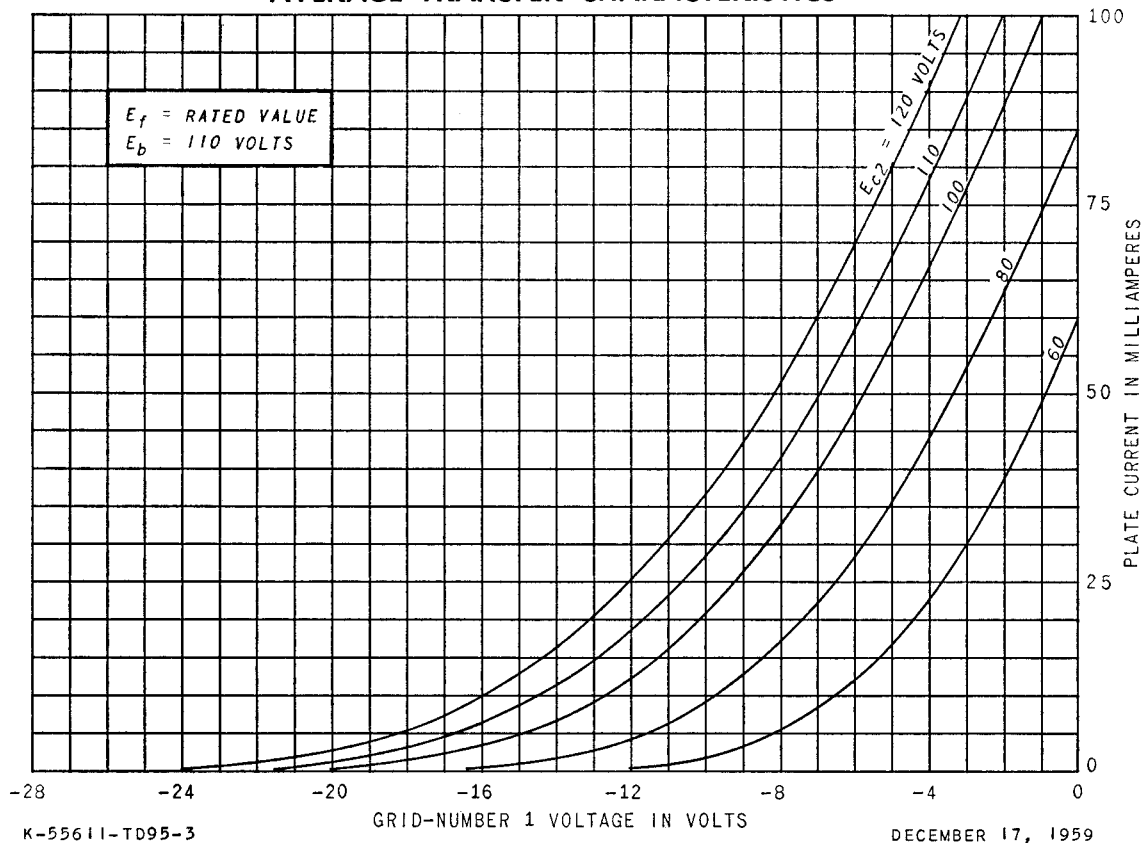
AVERAGE PLATE CHARACTERISTICS



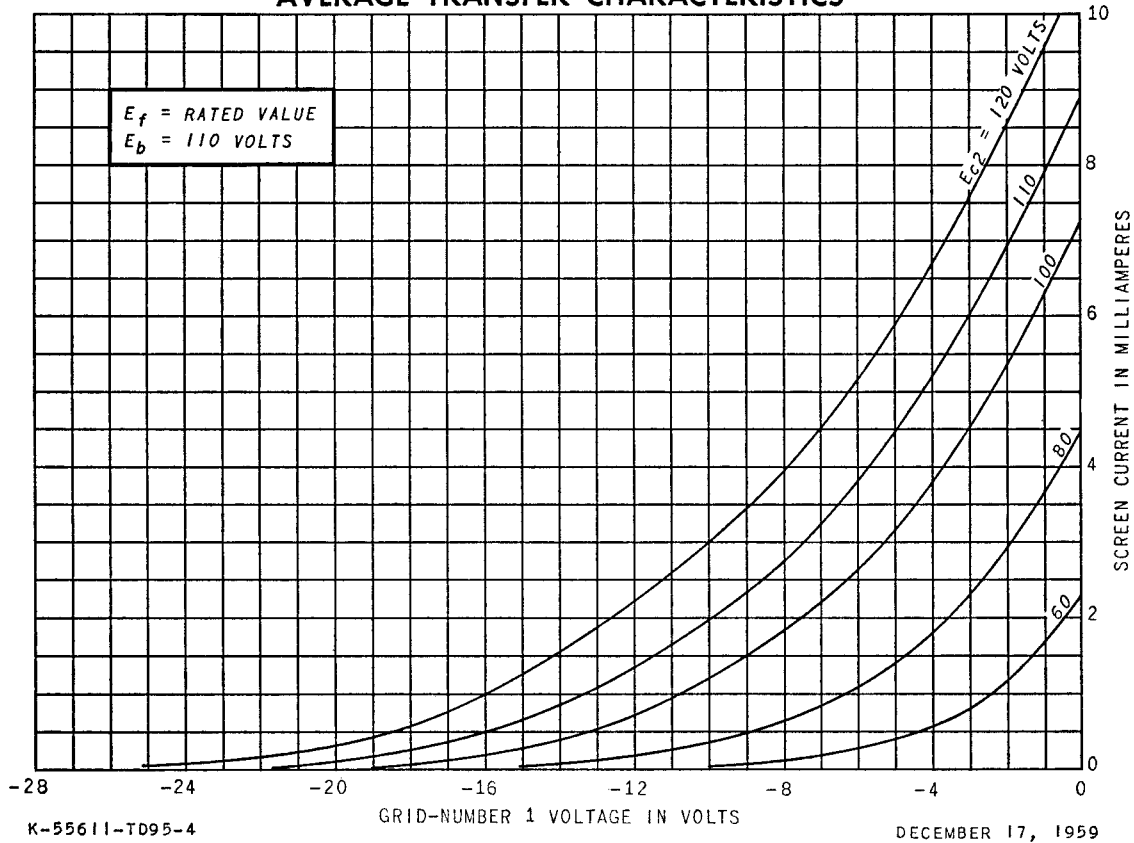
AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



OPERATION CHARACTERISTICS

