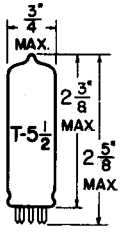
TUNG-SOL

PENTODE

MINIATURE TYPE



GLASS BULB

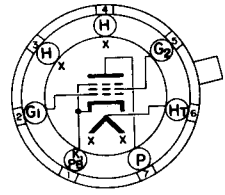
COATED UNIPOTENTIAL CATHODE

HEATER

35±10% VOLTS 0.15 AMP.

AC OR DC[A]

ANY MOUNTING POSITION



BOTTOM VIEW

MINIATURE BUTTON

7 PIN BASE

7FZ

THE 35GL6 IS A BEAM PENTODE IN THE 9 PIN MINIATURE CONSTRUCTION. IT IS DESIGNED PRIMARILY FOR USE IN THE AUDIO-FREQUENCY POWER OUTPUT STAGE OF RADIO RECEIVERS. THE 35GL6 IS TAPPED TO PERMIT OPERATION OF A PANEL LAMP.

DIRECT INTERELECTRODE CAPACITANCES -APPROX.

WITHOUT EXTERNAL SHIELD

GRID #1 TO PLATE	0.5	μμf
INPUT	14	μμf
OUTPUT	9.5	μμf

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

HEATER VOLTAGE	35±10%	VOLTS
HEATER-TAP VOLTAGE WHEN PANEL LAMP FAILS, RMS	14	VOLTS
MAXIMUM PLATE VOLTAGE	150	VOLTS
MAXIMUM SCREEN VOLTAGE	130	VOLTS
MAXIMUM PLATE DISSIPATION	5.5	WATTS
MAXIMUM SCREEN DISSIPATION	1.1	WATTS
MAXIMUM HEATER CATHODE VOLTAGE:		
HEATER POSITIVE WITH RESPECT TO CATHODE	200	VOLTS
HEATER NEGATIVE WITH RESPECT TO CATHODE	200	VOLTS
MAXIMUM GRID #1 CIRCUIT RESISTANCE:		
WITH FIXED BIAS	0.1	MEGOHM
WITH CATHODE BIAS	0.5	MEGOHMS
BULB TEMPERATURE AT HOTTEST POINT	225	°C

DESIGN-MAXIMUM RATINGS ARE THE LIMITING VALUES EXPRESSED WITH RESPECT TO BOGIE TUBES AT WHICH SATISFACTORY TUBE LIFE CAN BE EXPECTED TO OCCUR. TO OBTAIN SATISFACTORY CIRCUIT PERFORMANCE, THEREFORE, THE EQUIPMENT DESIGNER MUST ESTABLISH THE CIRCUIT DESIGN SO THAT NO DESIGN-MAXIMUM VALUE IS EXCEEDED WITH A BOGIE TUBE UNDER THE WORST PROBABLE OPERATING CONDITIONS WITH RESPECT TO SUPPLY-VOLTAGE VARIATION, EQUIPMENT COMPONENT VARIATION, EQUIPMENT CONTROL ADJUSTMENT, LOAD VARIATION, AND ENVIRONMENTAL CONDITIONS.

[A] OPERATION WITHOUT PANEL LAMP.

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A_1 AMPLIFIER

HEATER VOLTAGE[A]	35±10%	VOLTS
HEATER-TAP VOLTAGE[A]	7.0	VOLTS
HEATER CURRENT[A]	0.15	AMP.
PLATE VOLTAGE	110	VOLTS
SCREEN VOLTAGE	110	VOLTS
GRID #1 VOLTAGE	-7.5	VOLTS
PEAK AF GRID #1 VOLTAGE	7.5	VOLTS
PLATE RESISTANCE, APPROX.	12 000	OHMS
TRANSCONDUCTANCE	7 500	μMHOS
ZERO-SIGNAL PLATE CURRENT	45	MA.
MAXIMUM-SIGNAL PLATE CURRENT	47	MA.
ZERO-SIGNAL SCREEN CURRENT	3.0	MA.
MAXIMUM-SIGNAL SCREEN CURRENT	9.0	MA.
LOAD RESISTANCE	2 500	OHMS
TOTAL HARMONIC DISTORTION, APPROX.	8	PERCENT
MAXIMUM-SIGNAL POWER OUTPUT	1.8	WATTS

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.

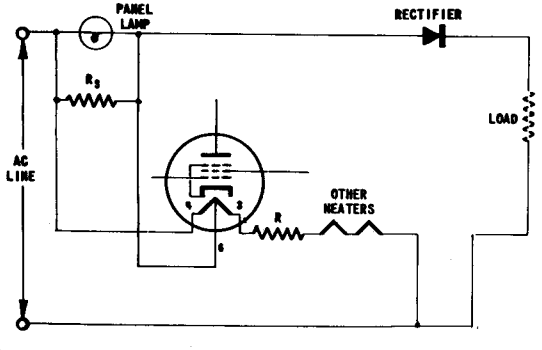
SHUNTING RESISTOR REQUIRED WITH PANEL LAMP #40 OR #47

(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 & 6)	150	150	150	150	150	150	150	MA.
PANEL-LAMP SHUNTING RESISTOR	---	---	370	175	120	88	73	OHMS
RECTIFIER LOAD CURRENT[B]	60	70	80	90	100	110	120	MA.

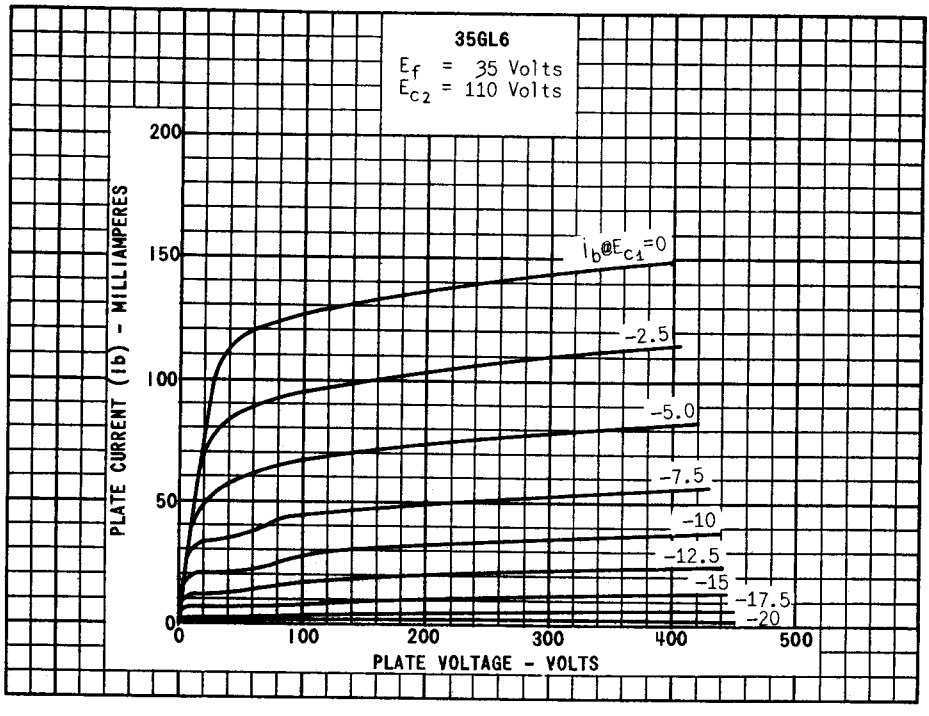
[B] HIGHER LOAD CURRENTS WILL REQUIRE SMALLER VALUES OF PANEL-LAMP SHUNTING RESISTOR. FOR MAXIMUM PANEL-LAMP LIFE, THE SHUNTING RESISTOR SHOULD BE SELECTED TO ALLOW A PANEL-LAMP VOLTAGE OF 5.5 VOLTS WITH FULL RECTIFIER LOAD CURRENT.

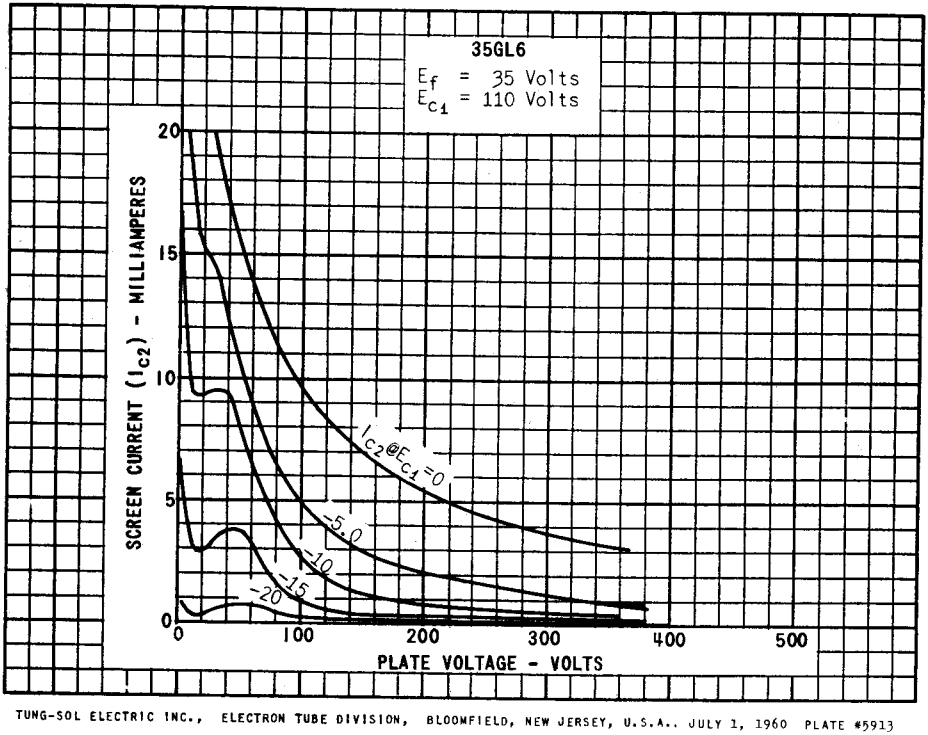
TYPICAL CIRCUIT FOR OPERATION WITH PANEL LAMP

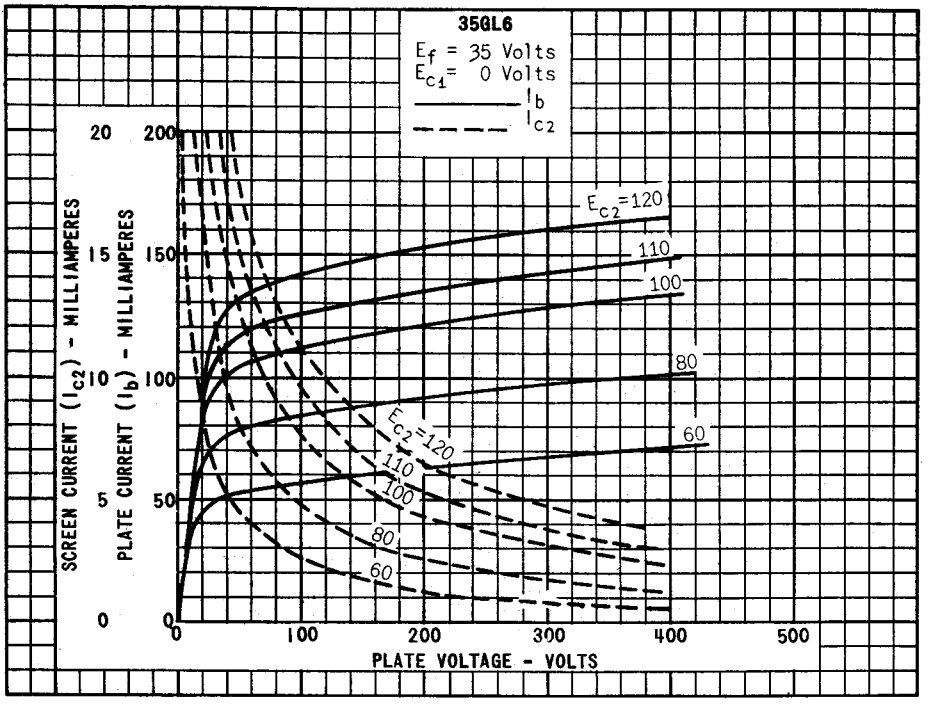


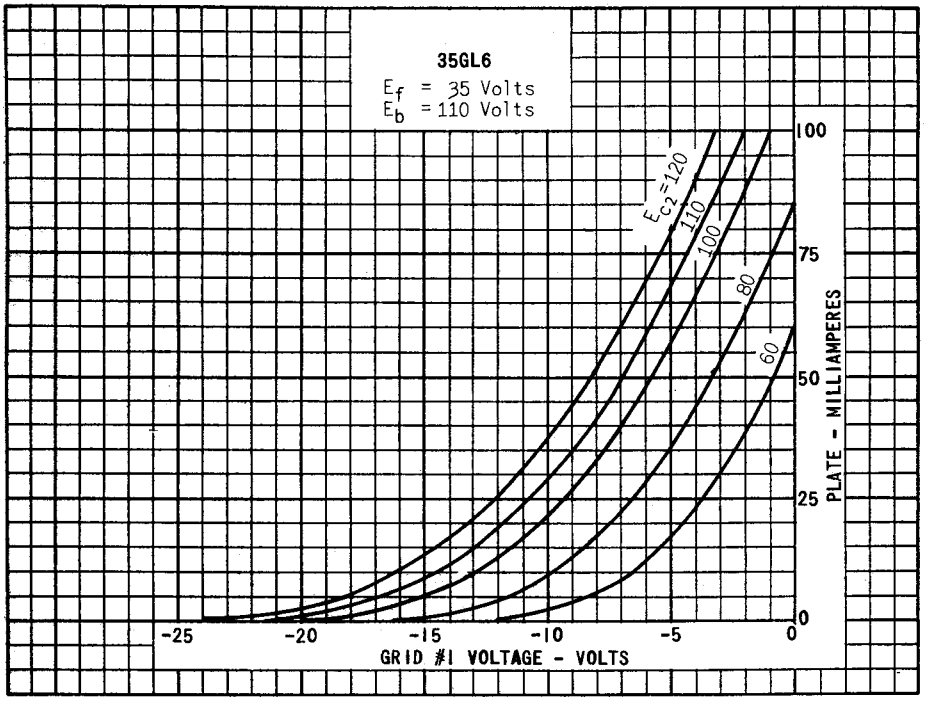
R_S = PANEL-LAMP SHUNTING RESISTOR.

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






35GL6
Ef = 35 Volts
Ec1 = 0 Volts
Ib
Ic2
SCREEN CURRENT (Ic2) - MILLIAMPERES
PLATE CURRENT (Ib) - MILLIAMPERES
PLATE VOLTAGE - VOLTS
Ec2=120
110
100
80
60
0
5
10
15
20
50
100
150
200
0
100
200
300
400
500


35GL6
Ef = 35 Volts
Eb = 110 Volts
PLATE - MILLIAMPERES
GRID #1 VOLTAGE - VOLTS
Ec2=120
110
100
80
60
0
25
50
75
100
-25
-20
-15
-10
-5
0