



ENGINEERING BULLETIN

ELECTRONIC COMPONENTS

N. U. - 6842

HIGH VOLTAGE REGULATOR TUBE

The N.U. 6842 is designed for use in regulated power supplies or voltage amplifiers operating at plate potentials between 300 V. and 4 Kv. This tube is particularly useful as a shunt or series regulator in equipment requiring stabilized output voltage essentially independent of line voltage variations in load current.

Low capacities, high gain, and high voltage ratings make this tube well suited for sweep circuits employing electrostatic deflection.

MAXIMUM RATINGS

Heater Voltage.....	6.3 Volts ±10%
Anode Voltage.....	4 kv. max.
Plate Current (average).....	10 ma. max.
Plate Current (peak).....	100 ma. max.
Grid Voltage.....	-100 volts max.
Plate Dissipation.....	8.0 watts max.
Heater Cathode Voltage.....	±300 volts max.
Screen Dissipation.....	.5 watts
Screen Voltage.....	150 volts

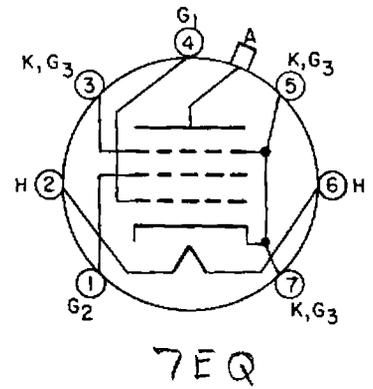
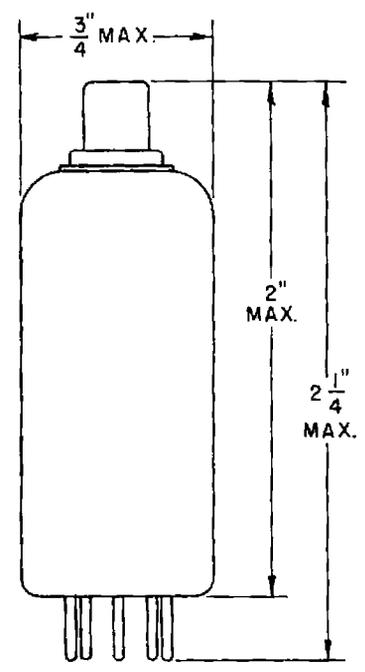
DIRECT INTERELECTRODE CAPACITIES

Cg-p (unshielded).....	.067 μ f
C in.....	3.95 μ f
C out.....	1.34 μ f

CLASS A OPERATION

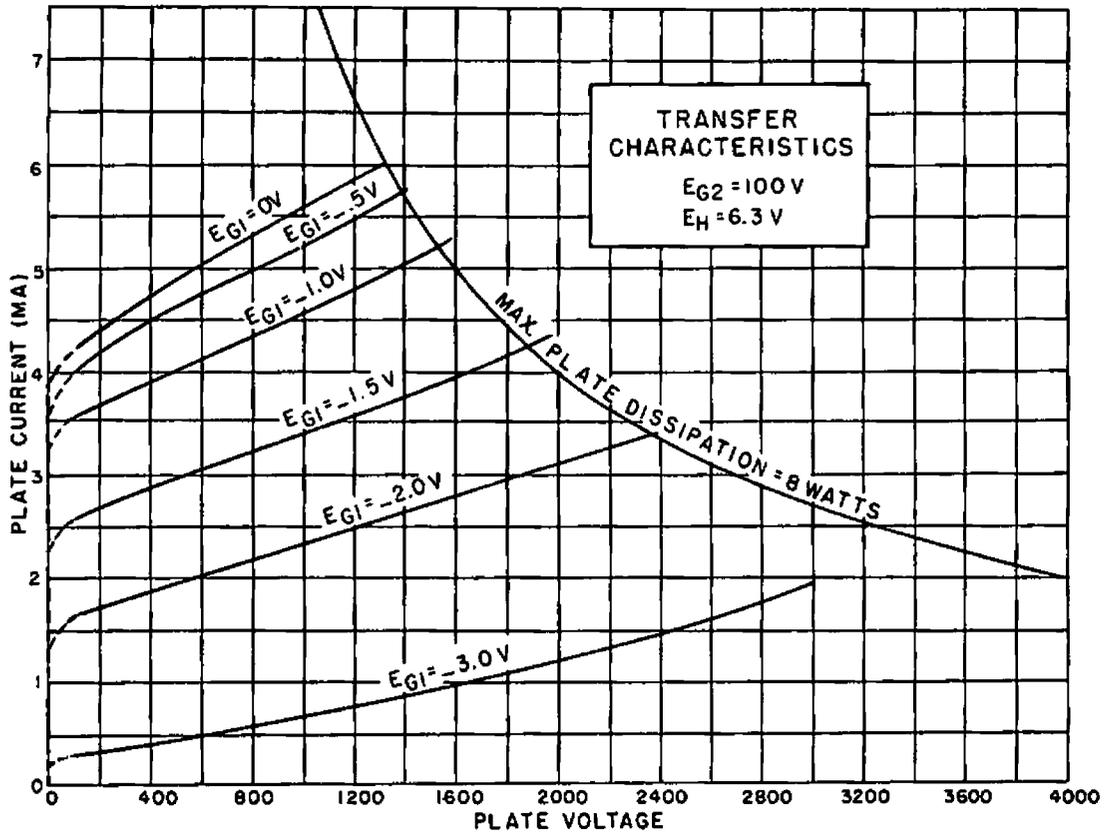
Heater Voltage.....	6.3 volts	6.3 volts	6.3 volts
Heater Current.....	.150 amps	.150 amps	.150 amps
Plate Voltage.....	500 volts	1000 volts	1500 volts
Grid Voltage.....	-1.0 volts	-1.0 volts	-1.0 volts
Screen Voltage.....	100 volts	100 volts	100 volts
Plate Current.....	3.5 ma.	4.0 ma.	4.5 ma.
Screen Current.....	0.50 ma.	0.50 ma.	0.50 ma.
Plate Res. (approx)...	.93 megohms	.93 megohms	.93 megohms
Mutual Conductance....	2250 μ hos	2400 μ hos	2500 μ hos

MECHANICAL RATINGS



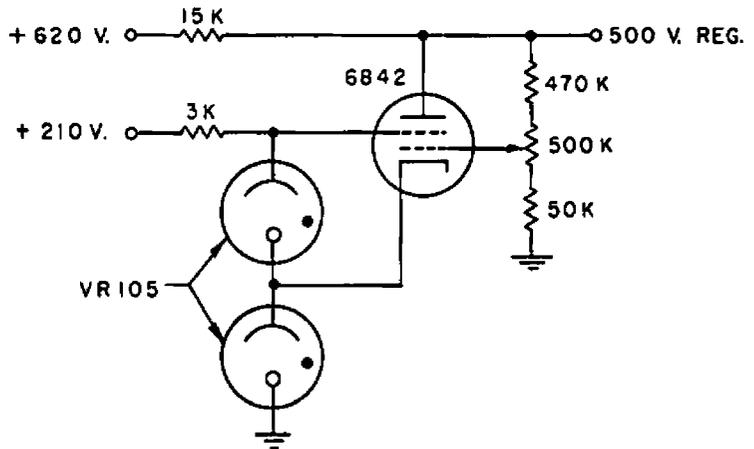
7EQ

Bulb.....	T-5 1/2
Base.....	7-pin miniature
Cap.....	Skirted Miniature
Mounting Position	Any



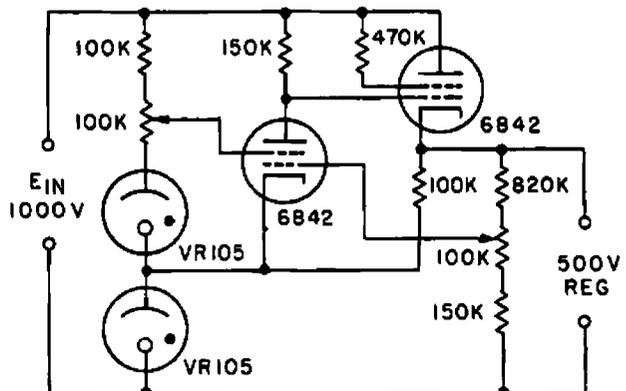
TYPICAL OPERATION - SHUNT REGULATOR

Series Resistance.....	15 k ohms
Unregulated Input Voltage..	620 volts
Regulated Output Voltage..	500 volts
Cathode Voltage.....	105 volts
Plate Current.....	6 ma.
Load Current (average) ...	2 ma.
Screen Voltage.....	210 volts



TYPICAL OPERATION - SERIES REGULATOR

Unregulated Input Voltage..	1000 volts
Regulated Output Voltage...	500 volts
Load Current (average)	2 ma.
Cathode Voltage.....	105 volts
Screen Voltage.....	210 volts



NOTE: Should the peak instantaneous voltage exceed the maximum rated voltage in any 6842 application, a current limiting series impedance must be inserted in the plate lead. The purpose of this impedance is to limit the anode peak current so that it shall not exceed in value the maximum rated current characteristic.