

GU50 MERCURY VAPOUR RECTIFIER

DESCRIPTION

Type GU50 is a directly heated half-wave mercury vapour rectifier.

RATINGS

Filament Voltage ...	...	...	...	...	...	$4 \pm 10\%$	volts
Filament Current ...	...	...	...	...	...	3	amps
Input Voltage, R.M.S. ...	...	...	...	...	...	1,750	max. volts
Peak Inverse Voltage ...	...	...	...	...	...	5,200	max. volts
D.C. Output Current ...	...	...	...	...	...	0.25	max. amp
Peak Anode Current ...	...	...	...	...	...	1	max. amp
Forward Voltage Drop ...	...	...	...	...	...	12	approx. volts

MOUNTING POSITION

The valve must be mounted vertically, with the anode at the top.

TYPE OF SWITCHING

Delayed.

PREHEATING TIME

When newly installed after transit or following a period of disuse, the filament must be run at normal temperature for at least 15 minutes prior to the application of the anode voltage.

After installation, a delay of 30 seconds is essential when switching on from cold.

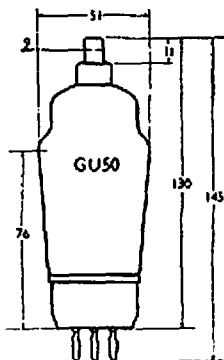
Failure to observe these precautions will destroy the filament and render the valve useless.

PRECAUTIONS IN USE

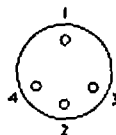
A choke input filter circuit must always be used.

The ambient temperature of the valve must not exceed 35°C. measured by a thermometer suspended six inches from the valve with the bulb level with the top of the valve base.

DIMENSIONS



BASE

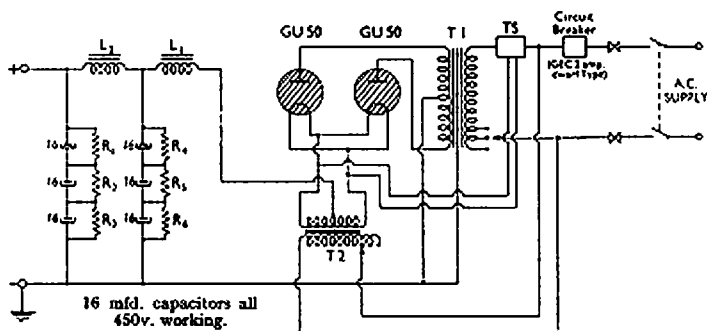


View looking on underside of base.

4-PIN BRITISH

- Pin 1: Not connected
- 2: Not connected
- 3: Filament
- 4: Filament
- Top cap: Anode

All dimensions are in mm and are the maximum except where otherwise stated.



TYPICAL CIRCUIT DIAGRAM

$R_1, R_2, R_3, R_4, R_5, R_6$ are 50,000 ohm resistors, only required if series connected electrolytic capacitors are used, as shown.

A paper capacitor of $4 \mu\text{F}$ may be used instead of each group of three electrolytic capacitors.

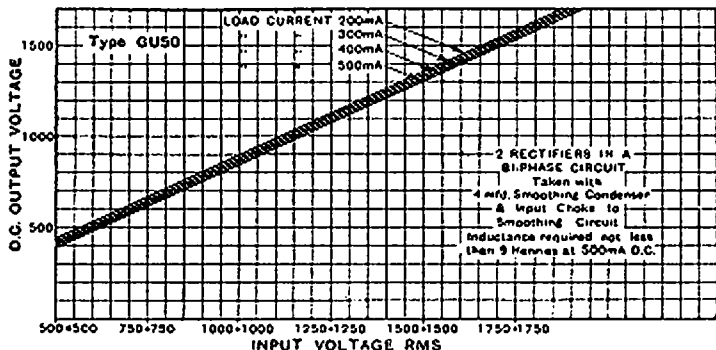
L_1, L_2 should be not less than 9 henries at 500 mA, D.C. resistance not greater than 100 ohms.

T1. For reasonably good regulation, the primary winding should be designed for 0.55 k.V.A. and the secondary for 0.8 k.V.A., 1300 + 1300 volts for D.C. output 465 mA at 1000 v.

T2. Filament transformer, secondary winding 4 volts total at 6 amps.

TS. Time switch for delayed switching of anode voltage.

If less smoothing is required, L_2 and one capacitor bank may be omitted.



CHARACTERISTIC CURVES OF AVERAGE VALVE.