

# Mullard

## H.F. PENTODE

# SP13C

The SP13C is an indirectly heated straight H.F. Pentode for use in D.C./A.C. receivers, and for car radio.

### HEATER CHARACTERISTICS

Heater Voltage ...	$V_f = 13.0$ volts
Heater Current ...	$I_f = 0.2$ amp
Heating Time—60 seconds	

### DIMENSIONS

Overall Length ...	= 125 mm.
Overall Diameter...	= 43 mm.
Bulb Finish—Metallised	

### OPERATING DATA AS R.F. AMPLIFIER

Normal Anode Voltage ...	$V_{aw}$	= 200 volts
Normal Auxiliary Grid Voltage ...	$V_{g2w}$	= 200 volts
Anode Current ...	$I_{aw}$	= 2.5 mA
Control Grid Voltage ...	$-V_{g1w}$	= 2.2 volts
Auxiliary Grid Current ...	$I_{g2w}$	= 0.9 mA
Amplification Factor ...	$G_w$	= 7,000
Mutual Conductance ( $I_a = 2.5$ mA) ...	$S_w$	= 2.8 mA/V
Anode Impedance ...	$R_{iw}$	= 2.5 megohms

### OPERATING DATA AS SPEECH DETECTOR

Anode Voltage (line) ...	$V_a$	= 200 volts
Series Resistance (Grid 2) ...	$R_{g2}$	= 0.5 megohm
Anode Resistance ...	$R_a$	= 0.1 megohm
Grid Condenser ...	$C_{g1}$	= 100 $\mu\mu F$
Grid Resistance ...	$R_{g1}$	= 0.5—1.0 megohm

### CAPACITIES

Anode-Control Grid ...	$C_{g1}$	= <0.003 $\mu\mu F$
Input ...	$C_{g1}$	= 6.9 $\mu\mu F$
Output ...	$C_a$	= 8.1 $\mu\mu F$

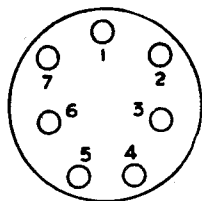
### LIMITS

Maximum Anode Voltage ...	$V_{amax}$	= 200 volts
Maximum Anode Dissipation ...	$W_{amax}$	= 1.0 watt
Maximum Cathode Current ...	$I_{kmax}$	= 6.0 mA
Maximum Auxiliary Grid Voltage ...	$V_{g2max}$	= 200 volts
Maximum Auxiliary Grid Dissipation ...	$W_{g2max}$	= 0.3 watt
Maximum Auxiliary Grid Current ...	$I_{g2max}$	= 1.2 mA
Maximum Resistance in Grid Circuit ...	$R_{g1amax}$	= 1.5 megohms
Maximum Voltage Heater to Cathode ...	$V_{fkmax}$	= 125 volts
Maximum Resistance Heater to Cathode ...	$R_{fkmax}$	= 20,000 ohms
Range of Grid Voltage for 1 $\mu A$ Grid Current	$V_{g1}$	= -0.5 to -1.0 volt

# SP13C

# Mullard H.F. PENTODE

## CONNECTIONS



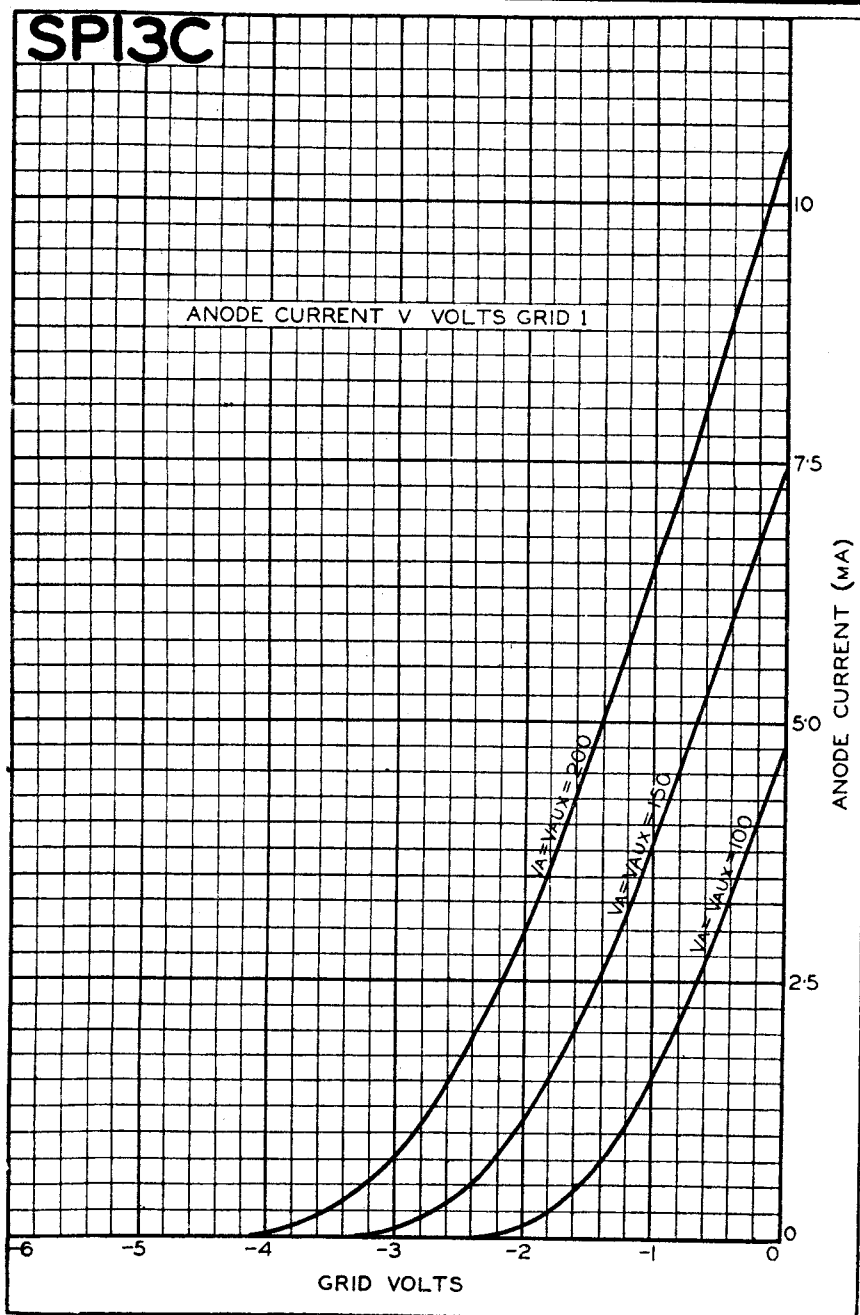
Viewed from free end of pins.

- Pin No. 1 Metallisation  
" 2 Anode  
" 3 Suppressor Grid (G<sub>3</sub>)  
" 4 Heater  
" 5 Heater  
" 6 Cathode  
" 7 Auxiliary Grid (G<sub>2</sub>)  
Top Cap—Control Grid

# Mullard

## H.F. PENTODE

# SP13C



# SP13C

# Mullard H.F. PENTODE

## SP13C.

