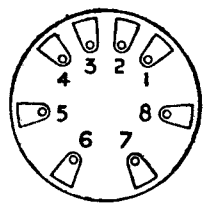
Mullard
OCTODE FREQUENCY CHANGER FC13

The FC13 is an indirectly heated Octode frequency changer for use in D.C./A.C. mains superheterodyne receivers.

DIMENSIONS

Overall length ... ... 118 mm. Overall diameter ... ... 47 mm.

CONNECTIONS



Viewed from underside of Valve base.

Contact No. 1 Metallising
" 2 Heater
" 3 Heater
" 4 Cathode and Suppressor Grid (G6)
" 5 Oscillator Anode (G2)
" 6 Oscillator Grid (G1)
" 7 Screen Grid (G3+5)
" 8 Anode
Top Cap—Control Grid (G4)

OPERATING DATA AND NOTES

For heater characteristics, operating data, and characteristic curves, see Type FC13C. Except for dimensions and base connections, Types FC13 and FC13C are identical.

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OCTODE FREQUENCY CHANGER

FC13C

The FC13C is an octode frequency changer for use in D.C./A.C. mains superheterodyne receivers

HEATER CHARACTERISTICS

Heater Voltage	Vf=13·0 volts
Heater Current	If=0·2 amp
Heating Time—60 secs.	

DIMENSIONS

Overall Length ...	=135 mm.
Overall Diameter...	= 47 mm.
Bulb Finish—Metallised	

OPERATING CHARACTERISTICS

Maximum Anode Voltage	Va_{max}	= 200 volts
Maximum Oscillator Anode Voltage	$Vg2_{max}$	= 90 volts
Maximum Screen Voltages	$Vg3+5_{max}$	= 90 volts
Normal Anode Voltage	Va_w	= 200 volts
Normal Oscillator Anode Voltage	$Vg2_w$	= 90 volts
Normal Screen Voltage	$Vg3+5_w$	= 70 volts
Anode Current (Vg4—1·5)	Ia_w	= 1·6 mA
Oscillator Anode Current	$Ig2_w$	= 2·0 mA
Screen Current	$Ig3+5_w$	= 3·8 mA
Control Grid Voltage	$-Vg4_w$	= 1·5 volts
Conversion Conductance (Ia=1·6 mA) ...	Sc_w	= 0·6 mA/V
Maximum Resistance in Grid Circuit	$Rg4_{max}$	= 2·0 megohms
Cathode Bias Resistance	Rk	= 250 ohms
Normal Heterodyne Voltage (Peak)	Vhet	= 12 volts

CAPACITIES

Anode-Control Grid	Cag4	=<0.1 $\mu\mu$F
Input	Cg4	= 9·0 $\mu\mu$F
Output	Ca	= 12·5 $\mu\mu$F
Oscillator Grid	Cg1	= 9·4 $\mu\mu$F
Oscillator Anode	Cg2	= 6·1 $\mu\mu$F
Oscillator Grid-Control Grid	Cg1g4	=<0·35 $\mu\mu$F
Oscillator Anode-Control Grid	Cg2g4	=<0·25 $\mu\mu$F

GRID CURRENT

At: Va=200, Vg2, 3+5=70, Vhet 12 Peak, Grid current (G4) reaches a value of 1·0 μA between the grid voltage range of −0·1 to −0·75.

FC13C

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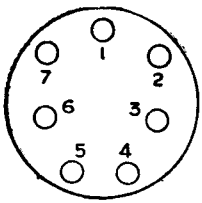
OCTODE FREQUENCY CHANGER

CONNECTIONS



Viewed from free end of pins.

Pin No. 1 Oscillator Anode (G2)
„ 2 Oscillator Grid (G1)
„ 3 Screen Grids (G3+5)
„ 4 Heater
„ 5 Heater
„ 6 Cathode, Metallising
„ 7 Anode
Top Cap—Control Grid (G4)

CIRCUIT DETAILS

For details of the circuit, see the circuit diagram printed on the FC4 data sheet.

DYNAMIC CHARACTERISTICS

For the dynamic characteristics of this Valve refer to type FC4.

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OCTODE FREQUENCY CHANGER

FC13C