6H1
HEXODE
Indirectly heated—for parallel operation

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GENERAL

The 6H1 is a miniature based hexode intended for use as a frequency changer with a separate triode oscillator, and will operate up to a frequency of 20 Mc/s. It is also suitable for use as a gated amplifier, and may be used in equipment having AC or DC powered parallel connected heater chains.

RATING

Heater Voltage	(volts)	V_h	6·3
Heater Current	(amps)	I_h	0·2
Maximum Anode Voltage	(volts)	$V_{a(b)max}$	550†
Maximum Operating Anode Voltage	(volts)	$V_{a(max)}$	300
Maximum Screen Voltage	(volts)	$V_{g2,4(b)max}$	400†
Maximum Operating Screen Voltage	(volts)	$V_{g2,4(max)}$	300
Maximum Anode Dissipation	(watts)	$P_{a(max)}$	1·0
Maximum Screen Dissipation	(watts)	$P_{g2+4(max)}$	0·7
Mutual Conductance	(mA/V)	g_m	2·1*

* Measured at $V_a = 250$ V ; $V_{g2+g4} = 100$ V ; $V_{g1} = -1{\cdot}8$V.

† $I_a = 0$.

All Maximum Values quoted are absolute.

INTER-ELECTRODE CAPACITANCES (pF)

Anode/Grid 1	c_{a-g1}	0·06
Anode/Earth	c_{a-E}	9·25
Grid 1/Earth	c_{g1-E}	4·3
Grid 3/All	c_{g3-all}	4·9

" Earth " denotes all earth potential electrodes, shields and heater connected to the cathode.

These capacities are measured cold with a metal screening can fitted to the valve.

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DIMENSIONS

Maximum Overall Length	(mm)	54·5 ←
Maximum Diameter	(mm)	19·0
Maximum Seated Height	(mm)	47·5 ←
Approximate Nett Weight	(ozs)	$\frac{1}{4}$
Approximate Packed Weight	(ozs)	$\frac{1}{2}$

MOUNTING POSITION—Unrestricted.

TYPICAL OPERATION—Frequency Changer

Anode Voltage	(volts)	V_a	250
Screen Voltage	(volts)	V_{g2+4}	100
Grid 1 Bias Voltage	(volts)	V_{g1}	−2·2 ←
Anode Current (approx)	(mA)	I_a	2·3* ←
Screen Current (approx)	(mA)	I_{g2+4}	2·7* ←
Conversion Conductance	(μA/V)	g_c	560† ←
Valve Anode Resistance ($\delta v_a/\delta i_a$)	(MΩ)	r_a	1·0 ←
Peak Heterodyne Voltage	(volts)	$V_{het(pk)}$	12 ←
Grid 3 Resistor	(kΩ)	R_{g3}	47*

* Grid 3 connected in parallel with the grid of the oscillator valve and biased by grid current through the Grid 3 resistor.

Measured with an anode circuit of low dynamic impedance.

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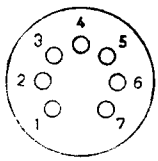
BASE—B7G



Viewed from free end of pins

VALVE HOLDER—Ediswan Clix VH337/7, VH437/7 and VH17/7 series.

CONNECTIONS

Pin 1	Grid 1	g1
Pin 2	Cathode	k
Pin 3	Heater	h
Pin 4	Heater	h
Pin 5	Anode	a
Pin 6	Grid 3	g3
Pin 7	Grid 2 and Grid 4	g2+g4

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AVERAGE CHARACTERISTIC CURVES:

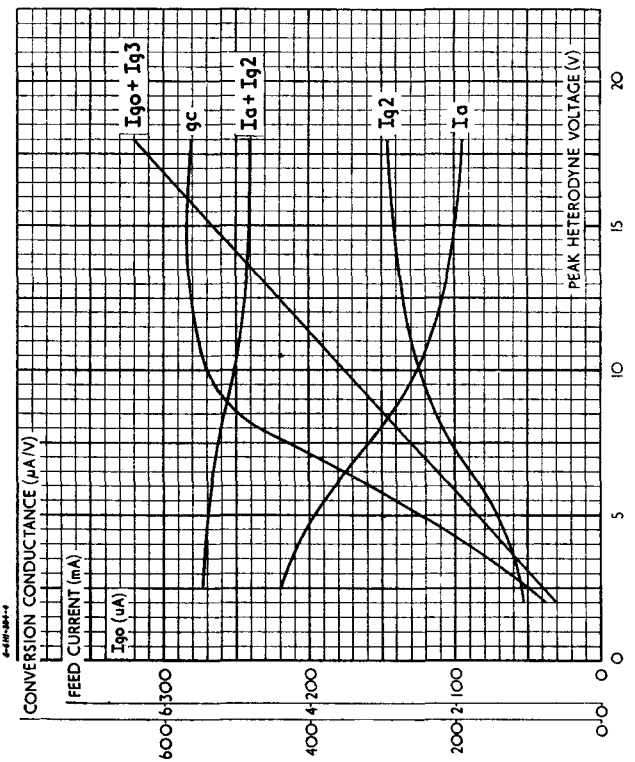
$g_c, I_a, I_{g2}, I_{g3}, I_{g0}/V_{het(pk)}$

Heterodyne injected into g3

V_a = 250V V_{g2} = 100V V_{g3} = Self Bias

V_{g1} = —2·2V Z_L = 49kΩ R_{g3} = 47kΩ

Note: g3 is connected in parallel with the grid of an external oscillator and is biased by grid current.



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