

6H1 HEXODE

Indirectly heated—for parallel operation



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 ; $V_{g1} = -1.8$ 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.

6H1

HEXODE

Indirectly heated—for parallel operation

←

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	($\mu A/V$) g_c	560† ←
Valve Anode Resistance ($\delta v_a / \delta i_a$)	(M Ω) r_a	1.0 ←
Peak Heterodyne Voltage	(volts) $V_{het(pk)}$	12 ←
Grid 3 Resistor	(k Ω) 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.

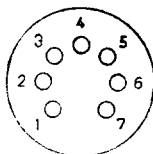
Measured with an anode circuit of low dynamic impedance.

6H1
HEXODE

Indirectly heated—for parallel operation



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



6H1
HEXODE

Indirectly heated—for parallel operation

AVERAGE CHARACTERISTIC CURVES:

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

Heterodyne injected into g3

- | | | |
|------------------|-------------------|-----------------------------|
| $V_a = 250V$ | $V_{g2} = 100V$ | $V_{g3} = \text{Self Bias}$ |
| $V_{g1} = -2.2V$ | $Z_L = 49k\Omega$ | $R_{g3} = 47k\Omega$ |

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

