V.H.F. DOUBLE TETRODE

YL1060

TENTATIVE DATA

QUICK REFERENCE DATA

Radiation cooled double tetrode intended for use as a v.h.f. amplifier, oscillator, frequency multiplier and modulator.

	Class 'C' Telephony Anode and Screen Grid Modulation		Class 'C' Telegraphy or F.M. Telephony		
	C.C.S.	I.C.A.S.	C.C.S.	I.C.A.S.	
f	175	175	175	175	Mc/s
P_{out}	97	122	150	180	W
$f_{max.}$	175	175	175	175	Mc/s
V_a max.	800	800	1000	1000	V
p_a max.	2 x 21	2 x 23.5	2 x 30	2 x 34	W

To be read in conjunction with
GENERAL OPERATIONAL RECOMMENDATIONS - TRANSMITTING VALVES

CLASS 'C' TELEGRAPHY OR F.M. TELEPHONY

Maximum operating conditions

	C.C.S.		I.C.A.S.		
f	175	175	175	175	Mc/s
P_{out}	150	146	166	180	W
P_{load}	132	125	147	163	W
η_a	75	73	77	75	%
V_a	900	1000	900	1000	V
I_a	2 x 110	2 x 100	2 x 120	2 x 120	mA
V_{g2}	245	230	260	260	V
I_{g2}	2 x 6.3	2 x 5.6	2 x 8.5	2 x 8.3	mA
$-V_{g1}$	90	85	85	85	V
I_{g1}	2 x 3	2 x 2.9	2 x 2.9	2 x 2.9	mA
$P_{load(driver)}$	3.5	3.5	3.5	3.5	W
p_a	2 x 25	2 x 27	2 x 25	2 x 30	W
p_{g2}	2 x 1.5	2 x 1.25	2 x 2.25	2 x 2.15	W

CLASS 'C' TELEPHONY ANODE AND SCREEN GRID MODULATION

Maximum operating conditions. (Carrier conditions for 100% modulation).

	C.C.S.	I.C.A.S.	
f	175	175	Mc/s
P_{out}	97	122	W
P_{load}	85	107	W
η_a	72	74	%
V_a	750	800	V
I_a	2 x 90	2 x 100	mA
V_{g2}	250	225	V
I_{g2}	2 x 5.1	2 x 4.4	mA
$-V_{g1}$	66	75	V
I_{g1}	2 x 2.2	2 x 2.5	mA
$P_{load(driver)}$	3.4	3.0	W
p_a	2 x 19	2 x 21	W
p_{g2}	2 x 1.3	2 x 1.0	W
For 100% modulation			
$P_{mod.}$	68	80	W
$v_{g2(pk)}$	90	80	V

ABSOLUTE MAXIMUM RATINGS

	Class 'C' Telephony		Class 'C' Telegraphy		
	C.C.S.	I.C.A.S.	C.C.S.	I.C.A.S.	
f max.	175	175	175	175	Mc/s
V_a max.	800	800	1000	1000	V
V_{g2} max.	250	250	300	300	V
$-V_{g1}$ max.	175	175	175	175	V
I_k max.	2 x 105	2 x 115	2 x 125	2 x 135	mA
p_a max.	2 x 21	2 x 23.5	2 x 30	2 x 34	W
p_{g2} max.	2 x 2.5	2 x 2.8	2 x 3.5	2 x 4.0	W
I_{g1} max.	2 x 5.0	2 x 5.0	2 x 5.0	2 x 5.0	mA
R_{gl-k} max. (each unit)	50	50	50	50	kΩ
V_{h-k} max. (each unit)	100	100	100	100	V

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CATHODE

Indirectly heated, oxide coated

	Parallel	Series	
V_h	6.3	12.6	V
I_h	1.8	0.9	A

CAPACITANCES

c_{a-g1} (each section)	max 90	mpF
c_{out} (two sections in push-pull)	3.2	pF
c_{in} (two sections in push-pull)	10.5	pF

Internally neutralised for push-pull operation

CHARACTERISTICS (measured at I_a = 30mA)

g_m	4.5	mA/V
μ_{g1-g2}	8.2	

MOUNTING POSITION

Vertical with base up or down.

Horizontal with the anode pins in a horizontal plane.

COOLING

Radiation and low velocity air flow

Maximum temperatures

Anode seal	250	°C
Bulb	250	°C
Base	180	°C

When the valve is operated at maximum ratings or with high ambient temperatures it may be necessary to direct an air flow on the bulb and anode seals.

PHYSICAL DATA

	oz	g
Weight of valve only	2.5	71

ACCESSORIES

Socket 40202

DIMENSIONS

	Inches	Millimetres
A	3.583	91
B	1.756	44.6
C	0.630	16
D	2.953	75
E	0.126	3.2
F	0.200	5.08
G	0.728	18.5
H	4.055	103

Inch dimensions derived from original millimetre dimensions except dimension 'F'.

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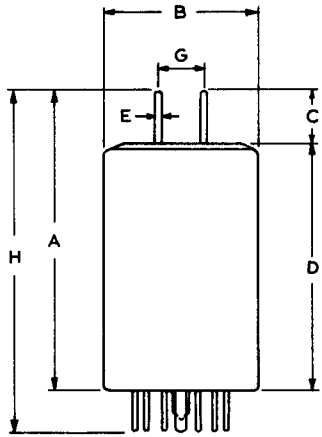
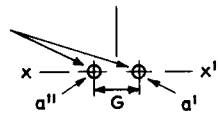
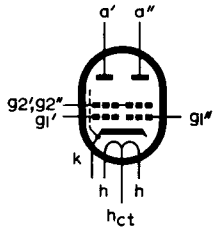
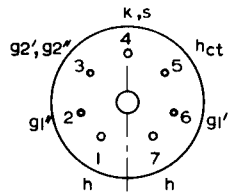


Location of anode pins within circles of dia. 'F'







Septar base

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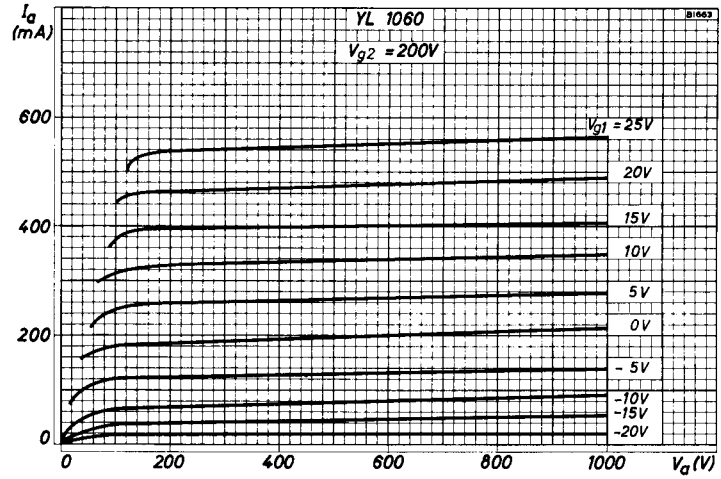
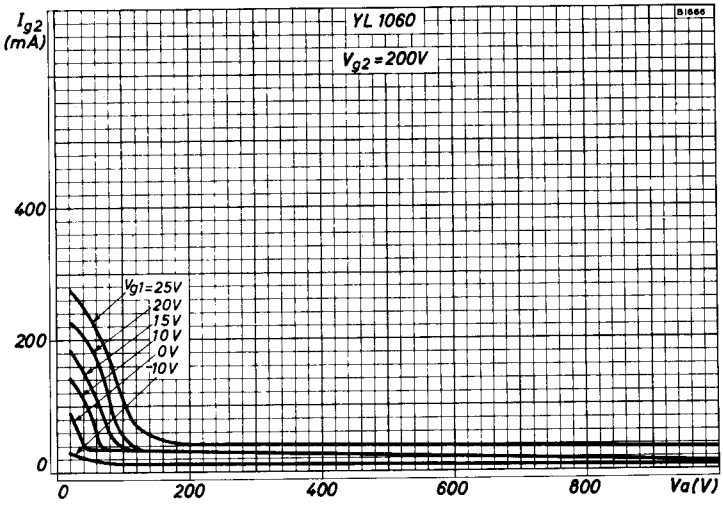
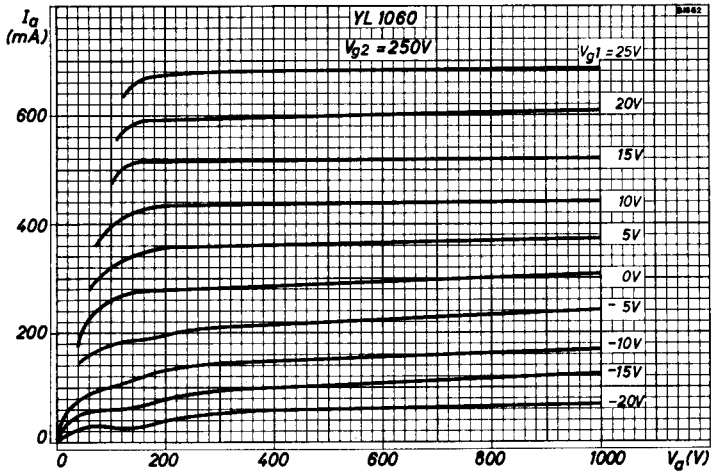
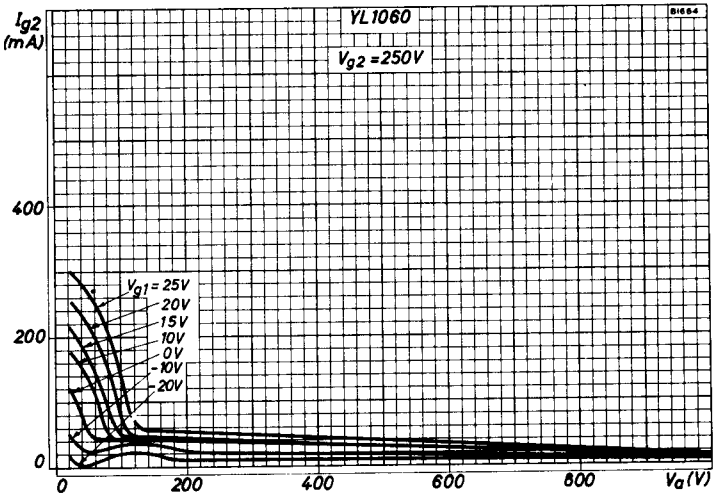


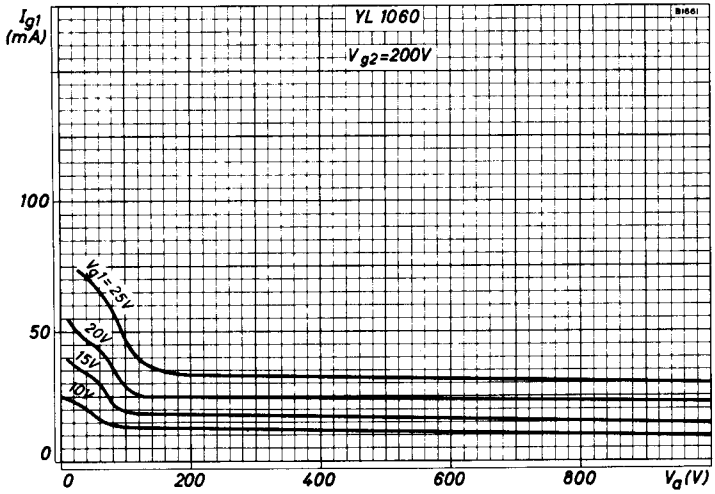


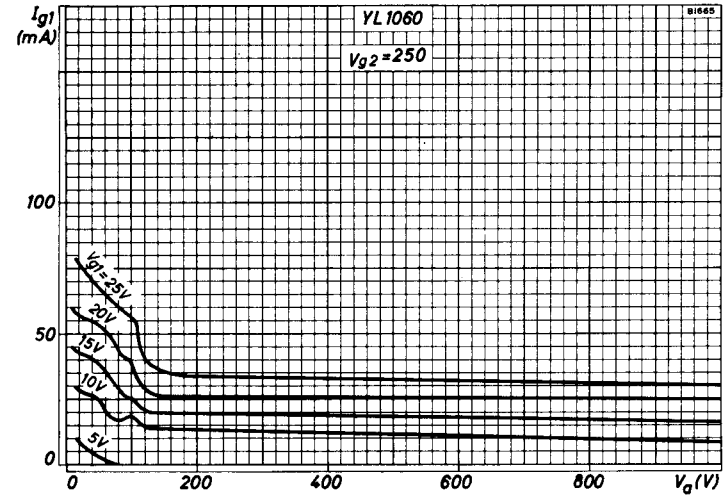
ANODE AND SCREEN-GRID CURRENTS PLOTTED AGAINST ANODE VOLTAGE WITH CONTROL-GRID VOLTAGE AS PARAMETER. Vg2 = 200V.



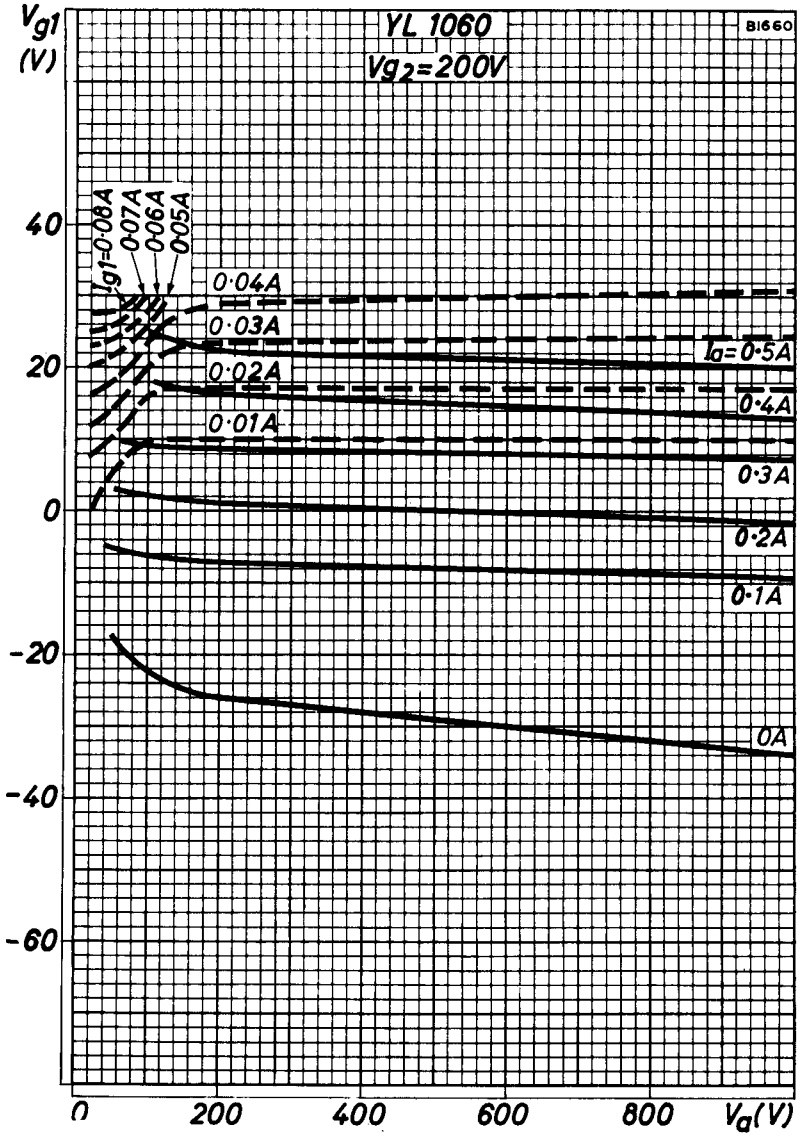


ANODE AND SCREEN-GRID CURRENTS PLOTTED AGAINST ANODE VOLTAGE WITH CONTROL-GRID VOLTAGE AS PARAMETER. Vg2 = 250V.

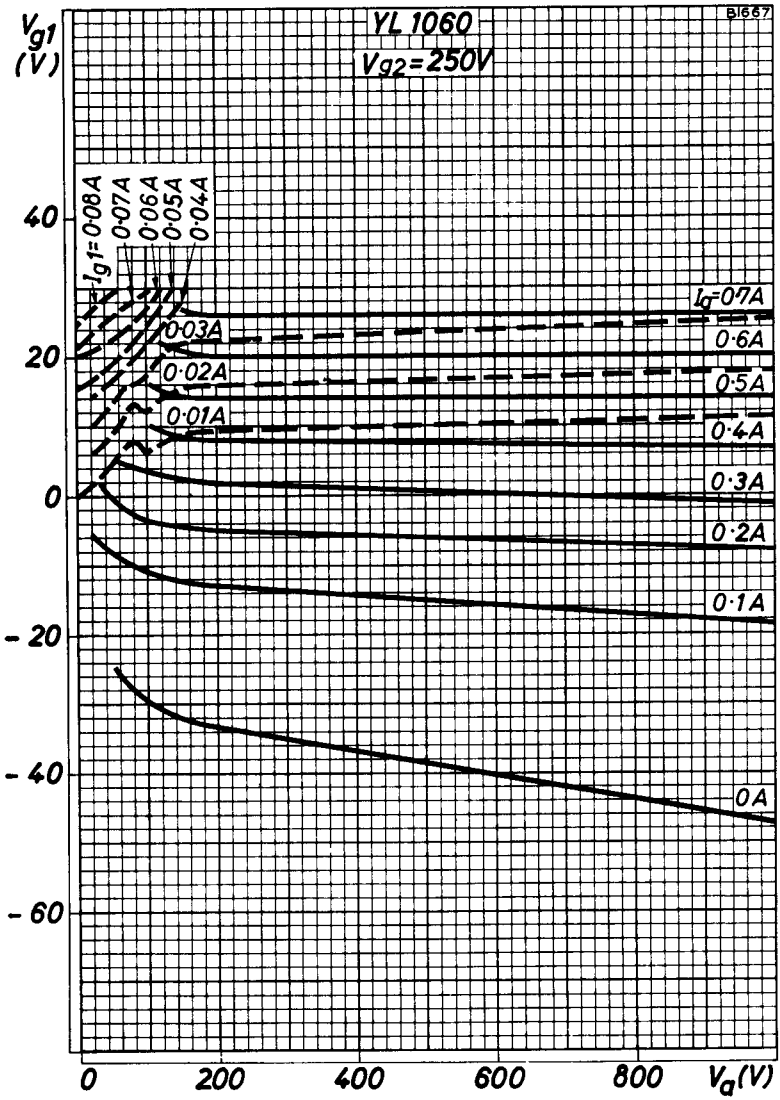




CONTROL-GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH CONTROL-GRID VOLTAGE AS PARAMETER Vg2 = 200V and 250V.



CONSTANT CURRENT CHARACTERISTICS V_{g2} = 200V



CONSTANT CURRENT CHARACTERISTICS. V_{g2} = 250V