

TENTATIVE DATA

QUICK REFERENCE DATA					
Amplifier and frequency multiplier for mobile transmitters					
	Frequency Trebler	Telephony, Anode and Screen Grid Modulation, Class 'C'	Telegraphy or F.M. Telephony Class 'C'		
f	500/167	175	200	500	Mc/s
P _{out}	6.5	19	33	19	W
f max.	500	500		500	Mc/s
V _a max.					
(f=200Mc/s)	-	330		400	V
(f=500Mc/s)	300	250		300	V
p _a max.	2 x 8.0	2 x 5.5		2 x 8.0	W

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

TELEGRAPHY OR F.M. TELEPHONY, CLASS 'C'

OPERATING CONDITIONS

f	200	500	Mc/s
P _{out}	33	19	W
†P _{load}	26	14	W
η _a	67	52	%
V _a	350	260	V
I _a	2 x 70	2 x 70	mA
V _{g2}	140	175	V
I _{g2}	23.5	20	mA
-V _{g1}	13	22.5	V
I _{g1}	2 x 6.5	2 x 3.25	mA
v _{in(g1-g1)pk}	85	65	V
P _{load(driver)}	1.0	2.5	W
p _a	2 x 8.0	2 x 8.0	W
p _{g2}	3.1	2.7	W

†With a circuit transfer efficiency of 80%.

FREQUENCY TREBLER

OPERATING CONDITIONS

f_{out}/f_{in}	500/167	Mc/s
P_{out}	6.5	W
P_{load}	3.0	W
η_a	29	%
V_a	250	V
I_a	2 x 45	mA
V_{g2}	250	V
I_{g2}	14	mA
$-V_{g1}$	70	V
I_{g1}	2 x 2.5	mA
$v_{in(g1-g1)pk}$	170	V
$P_{load(driver)}$	2.2	W
p_a	2 x 8.0	W
p_{g2}	2.4	W

TELEPHONY, ANODE AND SCREEN-GRID MODULATION, CLASS 'C'
(Two sections in push-pull)

OPERATING CONDITIONS (Carrier conditions for 100% modulation)

f	175	Mc/s
P_{out}	19	W
P_{load}	15	W
η_a	72	%
V_a	280	V
I_a	2 x 50	mA
V_{g2}	150	V
I_{g2}	19	mA
$-V_{g1}$	35	V
I_{g1}	2 x 4.0	mA
$v_{in(g1-g1)pk}$	50	V
$P_{load(driver)}$	1.5	W
p_a	2 x 4.5	W
p_{g2}	2 x 1.4	W
p_{g1}	2 x 0.18	W
For 100% modulation		
P_{mod}	16	W
$v_{g2(pk)}$	120	V

QUICK HEATING DOUBLE TETRODE

YL1190

RATINGS (ABSOLUTE MAXIMUM SYSTEM)

	Frequency Treble	Telephony Class 'C'		Telegraphy Class 'C'		
f max.	500	200	500	200	500	Mc/s
V _a max.	300	330	250	400	300	V
V _{g2} max.	200	200	200	200	200	V
-V _{g1} max.	150	150	100	150	100	V
I _a max.	2 x 50	2 x 56		2 x 75		mA
p _a max.	2 x 8.0	2 x 5.5		2 x 8.0		W
p _{g2} max.	3.5	2 x 1.5		3.5		W
I _{g1} max.	2 x 3.0	2 x 5.0		2 x 7.0		mA
R _{g1-f} max.	100	100		100		kΩ

CATHODE

Quick heating directly heated filament, 70% P_{out} in less than 0.5 seconds.

*V _f		1.1	V
I _f		3.8	A

Frequency of filament supply

Sine wave	max. 200	c/s
Square wave	Any	

*The filament has been designed to accept temporary fluctuations of supply voltage of ±15%.

CAPACITANCES

c _{out} (two sections in push-pull)	1.2	pF
c _{in} (two sections in push-pull)	4.7	pF

Internally neutralised for push-pull operation up to 500Mc/s.

CHARACTERISTICS (measured at V_a = 150V, V_{g2} = 150V, I_a = 45mA)

g _m	9.5	mA/V
μ _{g1-g2}	22	

MOUNTING POSITION

Any

If the valve is mounted with its main axis horizontal it is recommended that pins 3 and 7 be in a horizontal plane.

COOLING

Radiation and convection cooling

Maximum temperatures

Bulb 230 °C

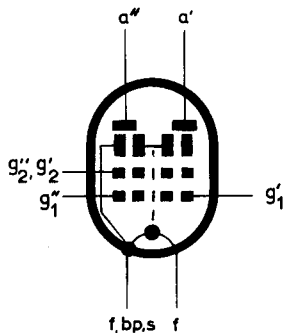
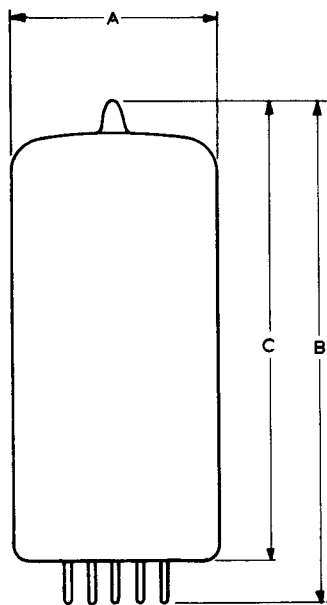
PHYSICAL DATA

	oz	g
Weight of valve	1.0	27

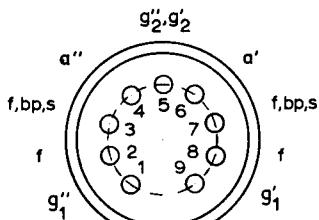
DIMENSIONS

	Inches	Millimetres
A	1.189	30.2 max.
B	2.909	73.9 max.
C	2.591	65.8 max.

Inch dimensions derived from original millimetre dimensions.

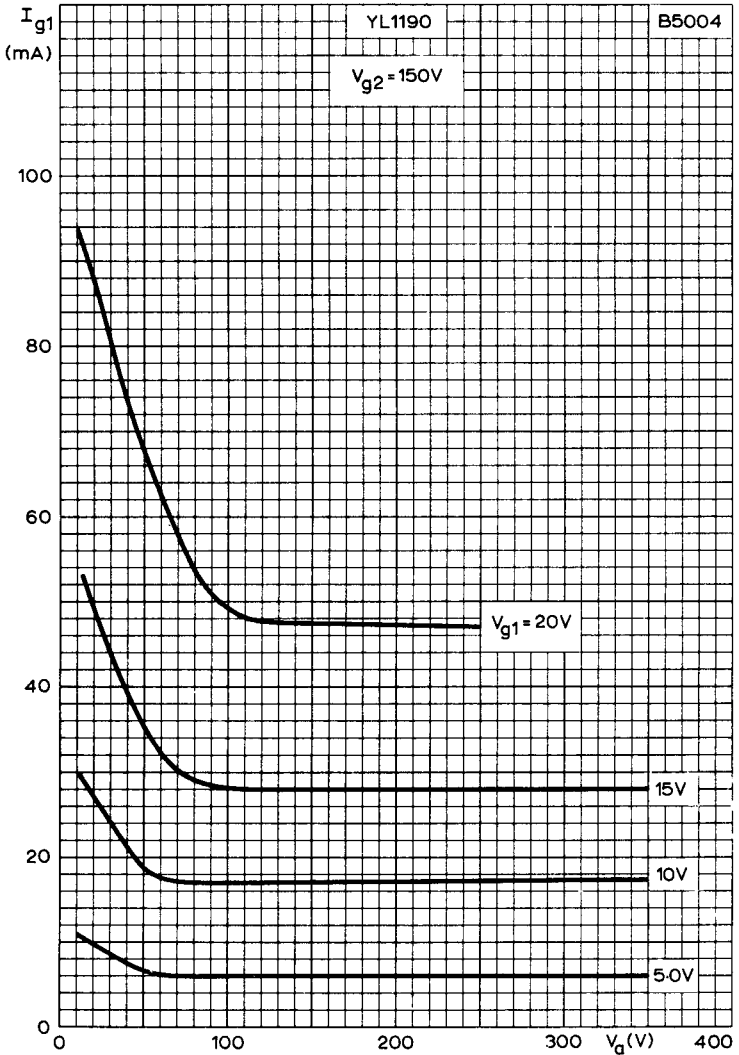


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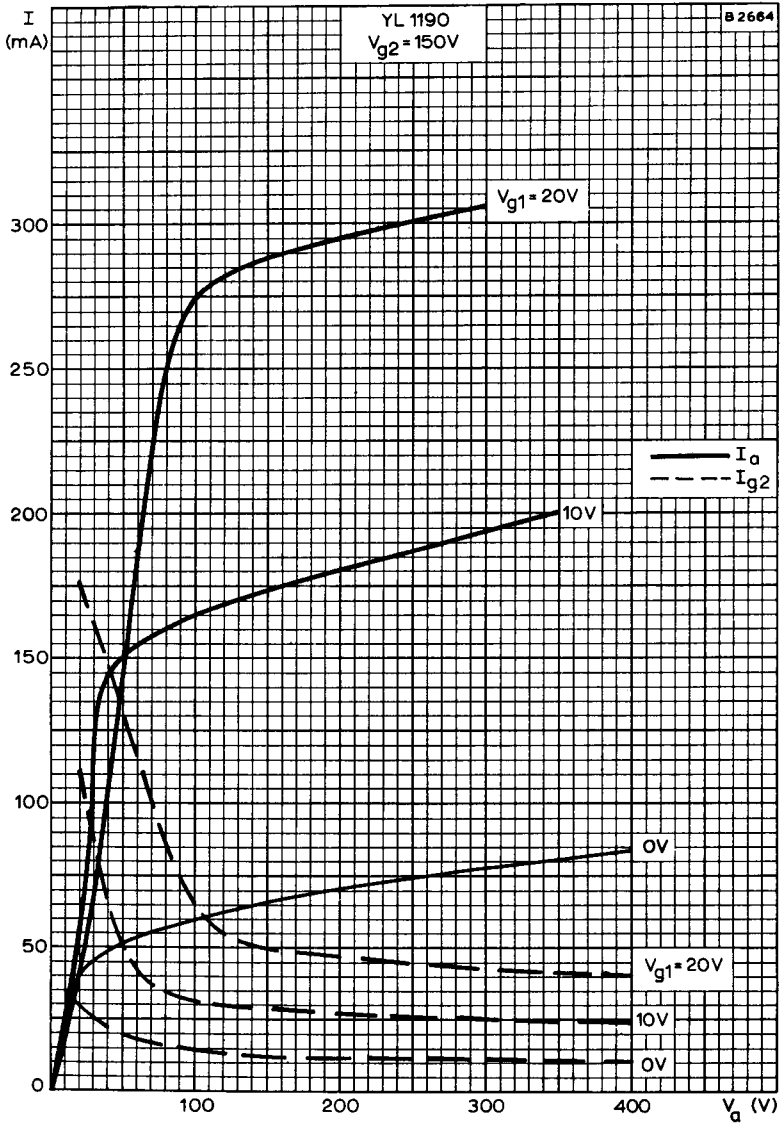


B9D Base

Filament connections (pins 3, 7 and 2, 8) should be connected in parallel on the socket.



CONTROL-GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH CONTROL-GRID VOLTAGE AS PARAMETER, $V_{g2} = 150V$.



ANODE AND SCREEN-GRID CURRENTS PLOTTED AGAINST ANODE VOLTAGE WITH CONTROL-GRID VOLTAGE AS PARAMETER. $V_{g2} = 150V$.

