

QUICK REFERENCE DATA

Amplifier and frequency multiplier for intermittent use in mobile transmitters. 70% power output in less than 0.5 seconds.

	Frequency Treble	Telephony, Anode and Screen Grid Modulation, Class 'C'		Telegraphy or F.M. Telephony, Class 'C'		
f	500/167	200	500	200	500	Mc/s
P _{out}	3.5	9.4	6.6	16	8.0	W
f max.	500	500		500		Mc/s
V _a max.						
(f = 200Mc/s)	-	240		300		V
(f = 500Mc/s)	200	200		200		V
p _a max.	2 × 4.0	2 × 2.6		2 × 4.0		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}	16	8.0	W
P _{load}	13	6.5	W
η _a	68	57	%
V _a	275	175	V
I _a	2 × 42.5	2 × 40	mA
V _{g2}	175	175	V
I _{g2}	2 × 7.0	2 × 6.0	mA
-V _{g1}	20	22	V
I _{g1}	2 × 1.3	2 × 1.2	mA
v _{in(g1-g1)pk}	65	65	V
P _{load(driver)}	0.7	1.5	W
p _a	2 × 3.5	2 × 3.0	W
p _{g2}	2 × 1.2	2 × 1.0	W

TELEPHONY, ANODE AND SCREEN-GRID MODULATION, CLASS 'C'

OPERATING CONDITIONS (Carrier conditions for 100% modulation).

f	200	500	Mc/s
P_{out}	9.4	6.6	W
P_{load}	8.0	5.0	W
η_a	67	59	%
V_a	220	175	V
I_a	2 x 32	2 x 32	mA
V_{g2}	175	175	V
I_{g2}	2 x 4.0	2 x 3.5	mA
$-V_{g1}$	35	30	V
I_{g1}	2 x 1.2	2 x 1.2	mA
$v_{in(g1-g1)pk}$	105	100	V
$P_{load(driver)}$	0.6	1.5	W
p_a	2 x 2.4	2 x 2.3	W
p_{g2}	2 x 0.8	2 x 0.8	W

For 100% modulation

P_{mod}	8.0	6.5	W
$v_{g2(pk)}$	125	125	V

FREQUENCY TREBLER

OPERATING CONDITIONS

f_{out}/f_{in}	500/167	Mc/s
P_{out}	3.5	W
P_{load}	2.0	W
η_a	33	%
V_a	175	V
I_a	2 x 30	mA
V_{g2}	175	V
I_{g2}	2 x 4.5	mA ←
$-V_{g1}$	75	V
I_{g1}	2 x 1.2	mA ←
$v_{in(g1-g1)pk}$	175	V
$P_{load(driver)}$	1.5	W ←
p_a	2 x 3.5	W
p_{g2}	2 x 0.8	W

QUICK HEATING DOUBLE TETRODE

YL1130

RATINGS (ABSOLUTE MAXIMUM SYSTEM)

←

	Frequency Treble	Telephony, Class 'C'	Telegraphy, Class 'C'		
$f_{\text{max.}}$	500	200	500	200	500 Mc/s
$V_a \text{ max.}$	200	240	200	300	200 V
$V_{g2} \text{ max.}$	200	200	200	200	200 V
$-V_{g1} \text{ max.}$	150	150	150	150	150 V
$I_k \text{ max.}$	2 x 40	2 x 40	2 x 40	2 x 60	2 x 60 mA
$p_a \text{ max.}$	2 x 4.0	2 x 2.6	2 x 2.6	2 x 4.0	2 x 4.0 W
$p_{g2} \text{ max.}$	2 x 1.3	2 x 1.0	2 x 1.0	2 x 1.5	2 x 1.5 W
$I_{g1} \text{ max.}$	2 x 3.0	2 x 3.0	2 x 3.0	2 x 5.0	2 x 5.0 mA
$p_{g1} \text{ max.}$	2 x 0.2	2 x 0.2	2 x 0.2	2 x 0.2	2 x 0.2 W
$R_{g1-f} \text{ max.}$ (per section)	100	100	100	100	100 kΩ

CATHODE

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

$*V_f$	1.1	V
I_f	2.9	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 $\pm 15\%$.

CAPACITANCES

c_{in} (two sections in push-pull)	4.1	pF
c_{out} (two sections in push-pull)	1.2	pF

Internally neutralised for push-pull operation.

CHARACTERISTICS (measured at $V_a = V_{g2} = 175V$, $I_a = 40mA$)

g_m	7.0	mA/V
μ_{g1-g2}	22	←

MOUNTING POSITION

Any

If the valve is mounted horizontally it is recommended that pins 3 and 7 be in the vertical plane.

COOLING

Radiation and convection

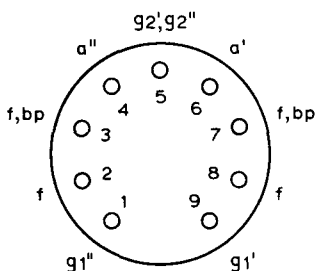
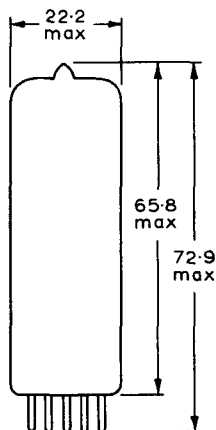
Maximum bulb temperature

230 °C

PHYSICAL DATA

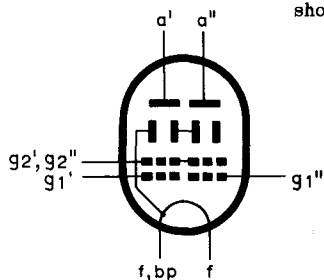
Weight of valve

oz	g
0.6	16



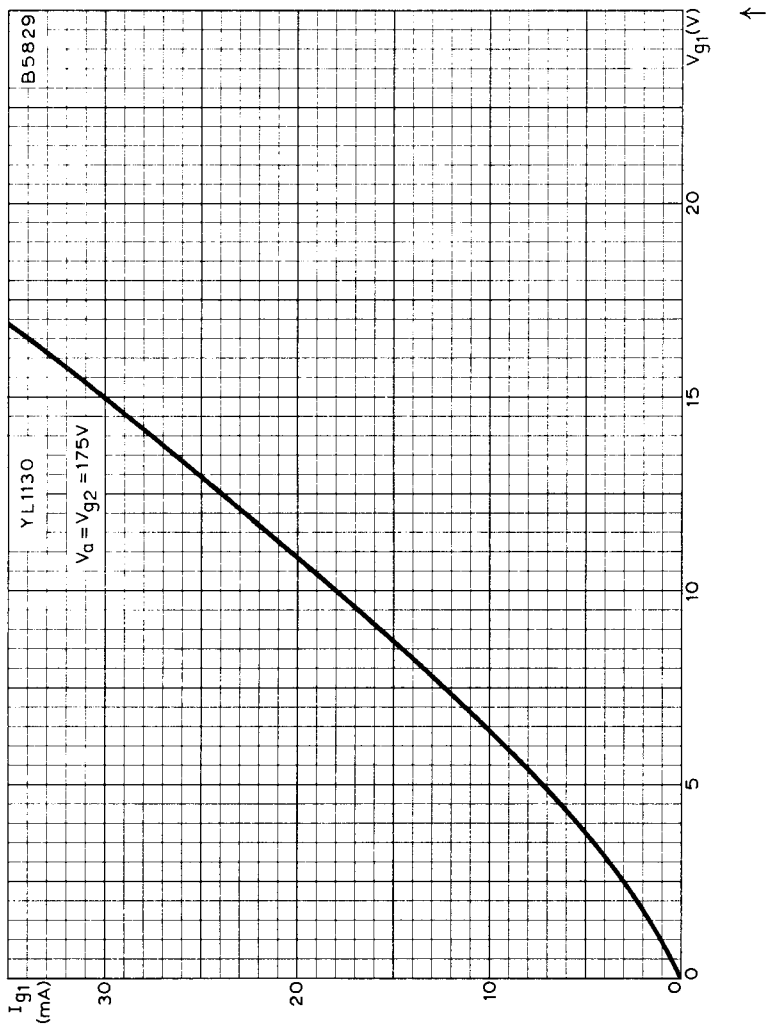
B9A Base

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

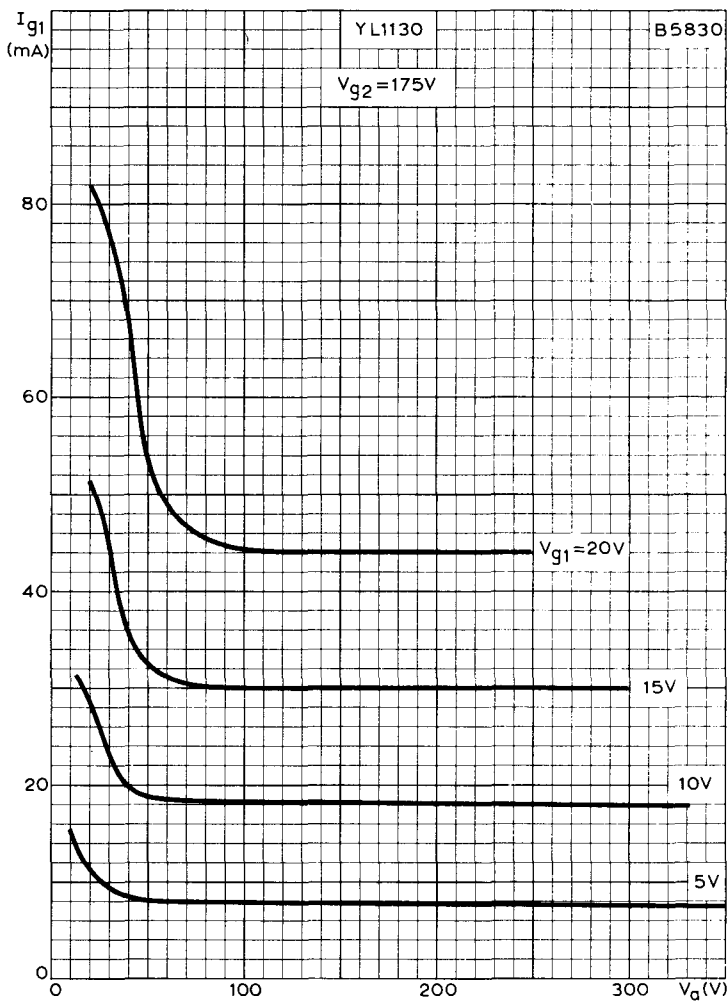


All dimensions in mm

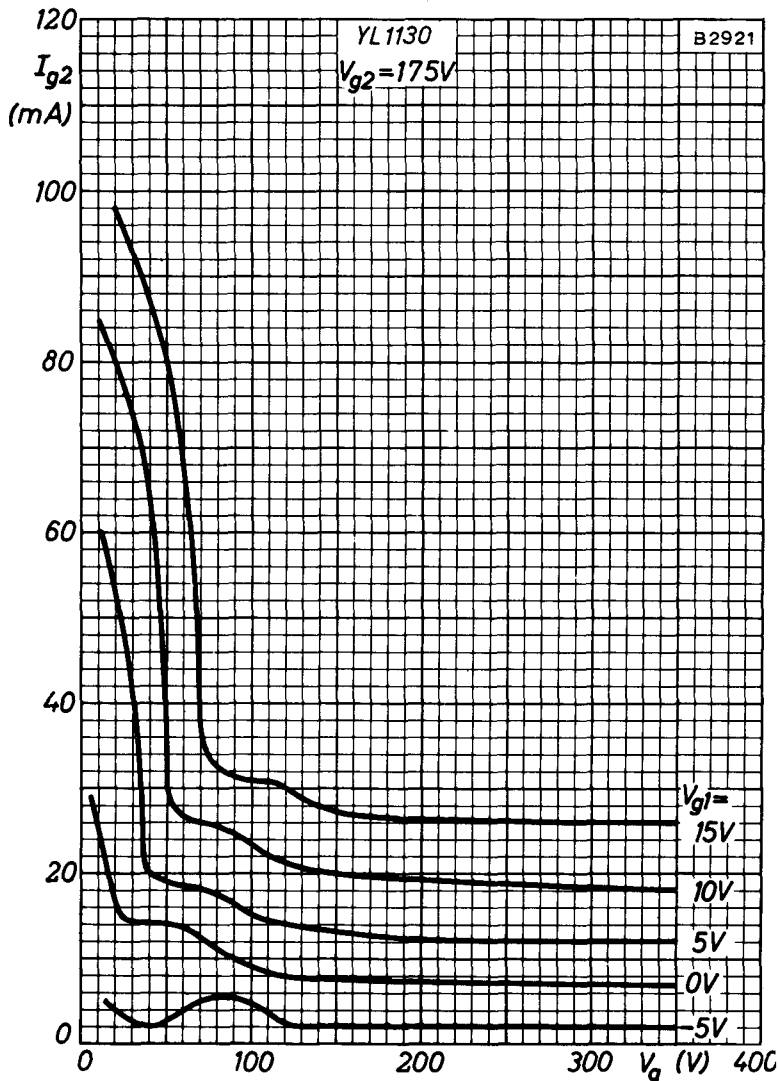
B5826



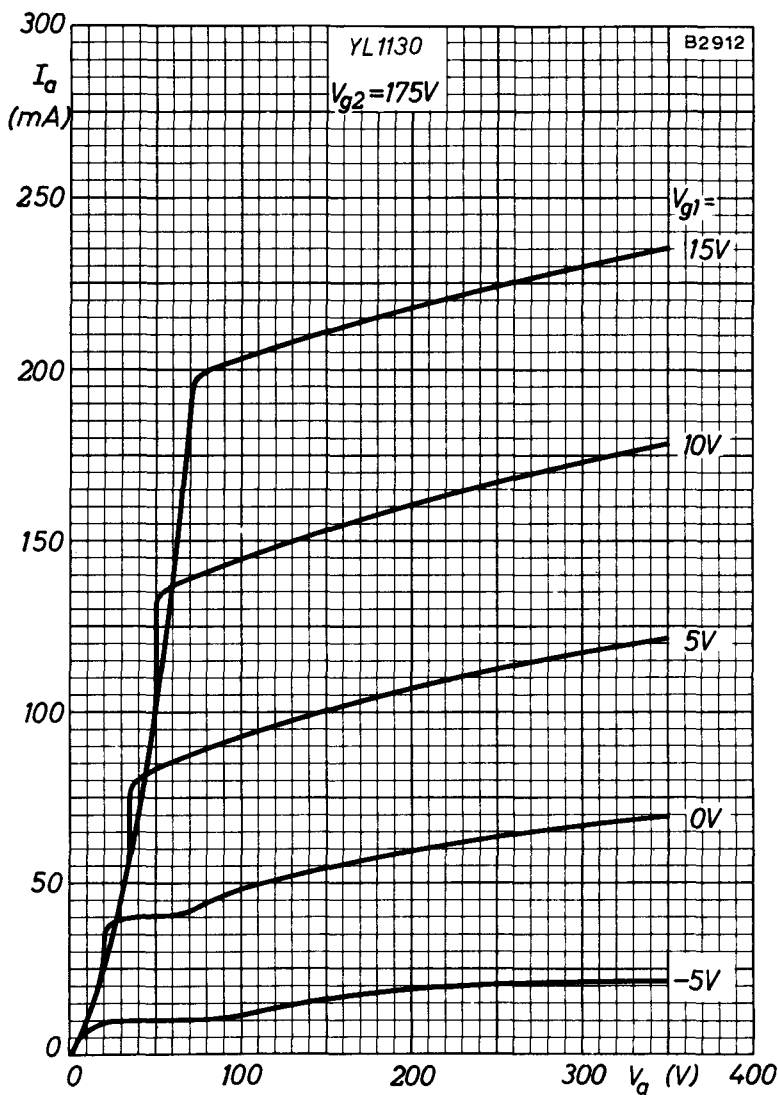
CONTROL-GRID CURRENT PLOTTED AGAINST CONTROL-GRID VOLTAGE.
 $V_a = V_{g2} = 175V$ (EACH SECTION)



CONTROL-GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH
CONTROL-GRID VOLTAGE AS PARAMETER
 $V_{g2} = 175V$ (EACH SECTION)



SCREEN-GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH
CONTROL-GRID VOLTAGE AS PARAMETER
 $V_{g2}=175V$ (EACH SECTION)



ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH
 CONTROL-GRID VOLTAGE AS PARAMETER
 $V_{g2} = 175V$ (EACH SECTION)