

## QUICK REFERENCE DATA

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

	Frequency Trebler	Telephony, Anode and Screen Grid Modulation, Class 'C'		Telegraphy or F.M. Telephony, Class 'C'		
		200	500	200	500	
f	500/167	200	500	200	500	Mc/s
P <sub>out</sub>	3.5	9.4	6.6	16	8.0	W
f max.	500	500		500		Mc/s
V <sub>a</sub> max.						
(f=200Mc/s)	-	240		300		V
(f=500Mc/s)	200	200		200		V
p <sub>a</sub> 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 <sub>out</sub>	16	8.0	W
P <sub>load</sub>	13	6.5	W
η <sub>a</sub>	68	57	%
V <sub>a</sub>	275	175	V
I <sub>a</sub>	2×42.5	2×40	mA
V <sub>g2</sub>	175	175	V
I <sub>g2</sub>	2×7.0	2×6.0	mA
-V <sub>g1</sub>	20	22	V
I <sub>g1</sub>	2×1.3	2×1.2	mA
v <sub>in(g1-g1)pk</sub>	65	65	V
P <sub>load(driver)</sub>	0.7	1.5	W
p <sub>a</sub>	2×3.5	2×3.0	W
p <sub>g2</sub>	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
$\eta_a$	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
$\eta_a$	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 Trebler	Telephony, Class 'C'		Telegraphy, Class 'C'		
f max.	500	200	500	200	500	Mc/s
V <sub>a</sub> max.	200	240	200	300	200	V
V <sub>g2</sub> max.	200	200	200	200	200	V
-V <sub>g1</sub> max.	150	150	150	150	150	V
I <sub>k</sub> max.	2 x 40	2 x 40	2 x 40	2 x 60	2 x 60	mA
p <sub>a</sub> max.	2 x 4.0	2 x 2.6	2 x 2.6	2 x 4.0	2 x 4.0	W
p <sub>g2</sub> max.	2 x 1.3	2 x 1.0	2 x 1.0	2 x 1.5	2 x 1.5	W
I <sub>g1</sub> max.	2 x 3.0	2 x 3.0	2 x 3.0	2 x 5.0	2 x 5.0	mA
p <sub>g1</sub> max.	2 x 0.2	2 x 0.2	2 x 0.2	2 x 0.2	2 x 0.2	W
R <sub>g1-f</sub> max. (per section)	100	100	100	100	100	kΩ

## CATHODE

Quick heating directly heated filament. 70% P<sub>out</sub> in less than 0.5 second.

*V <sub>f</sub>	1.1	V
I <sub>f</sub>	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 ±15%.

## CAPACITANCES

c <sub>in</sub> (two sections in push-pull)	4.1	pF
c <sub>out</sub> (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
$\mu_{g1-g2}$	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

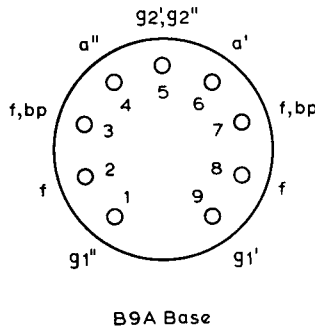
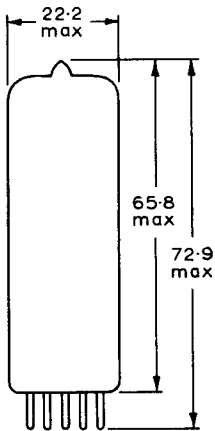
Maximum bulb temperature

230 °C

**PHYSICAL DATA**

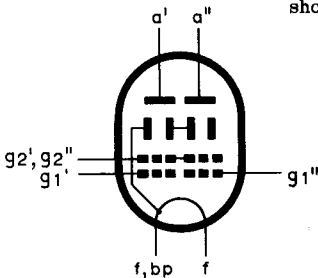
Weight of valve

oz g  
0.6 16



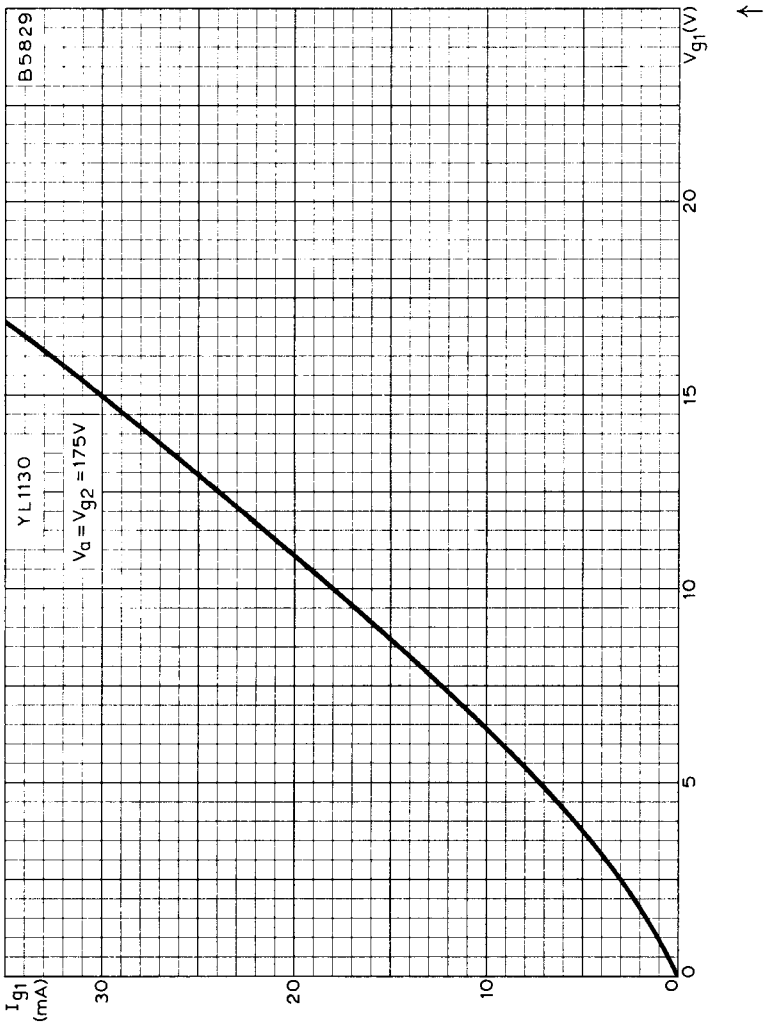
B9A Base

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

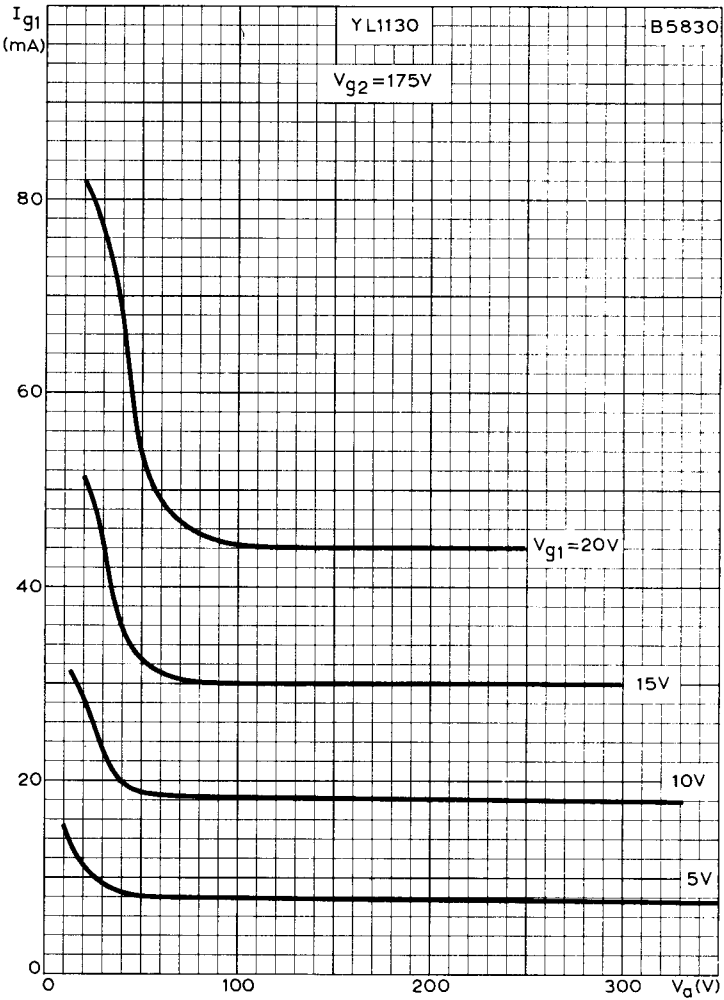


All dimensions in mm

**B5826**

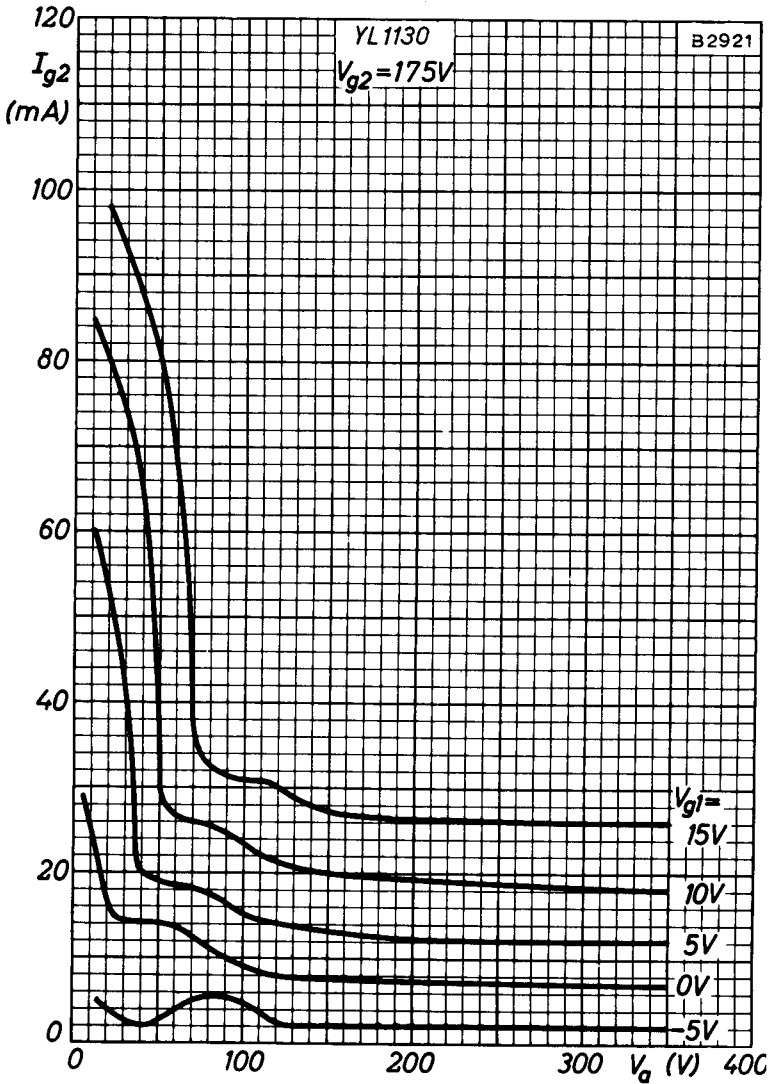


CONTROL-GRID CURRENT PLOTTED AGAINST CONTROL-GRID VOLTAGE.  
 $V_a = V_{g2} = 175V$  (EACH SECTION)

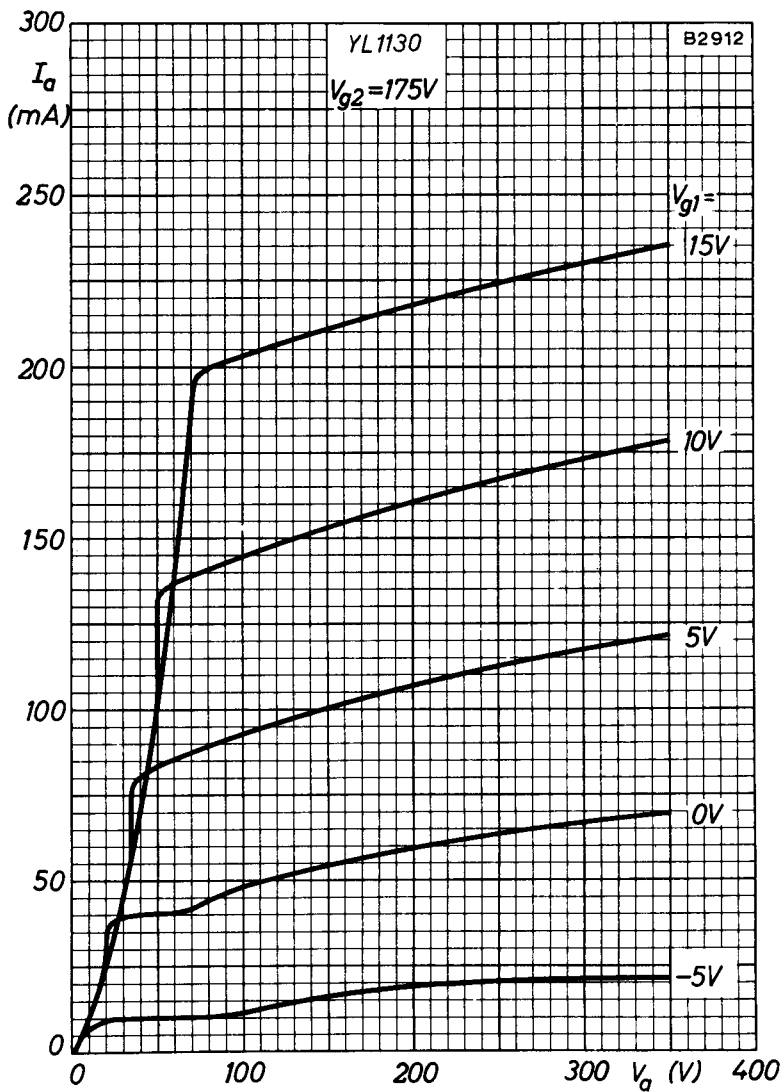


CONTROL-GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH CONTROL-GRID VOLTAGE AS PARAMETER  
 $V_{g2} = 175V$  (EACH SECTION)





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)

