TRIODE PENTODE

6U8

Combined triode and high slope r.f. pentode with separate cathodes. Primarily intended for use as a frequency changer at frequencies up to 220Mc/s.

HEATER

V_h	6.3	V
I_h	450	mA

MOUNTING POSITION

Any

CAPACITANCES

	Shielded	Unshielded	
C_{ap-at}	0.018	0.07	pF
C_{ap-gt}	0.0035	0.008	pF
C_{gp-at}	0.1	0.11	pF
C_{gp-gt}	0.0025	0.003	pF

Pentode section

C_{a-g1}	<0.006	<0.01	pF
C_{in}	5.0	5.0	pF
C_{out}	3.5	2.6	pF
C_{kp-h}	3.0	3.0	pF

Triode section

C_{a-k+h}	1.0	0.4	pF
C_{g-k+h}	2.5	2.5	pF
C_{a-g}	1.8	1.8	pF
C_{kt-h}	3.0	3.0	pF

CHARACTERISTICS

Pentode section

V_a	250	V
V_{g2}	110	V
I_a	10	mA
I_{g2}	3.5	mA
V_{g1}	−0.9	V
g_m	5.2	mA/V
r_a	400	kΩ
μ_{g1-g2}	35	
V_{g1} (I_a = 10μA)	−10	V

Triode section

V_a	150	V
I_a	18	mA
V_g	−1.0	V
g_m	8.5	mA/V
μ	40	
r_a	5.0	kΩ

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TYPICAL OPERATING CONDITIONS

As a frequency changer

V_a	170	200	250	V
R_{g2}	30	45	70	kΩ
R_{g1}	1.0	1.0	1.0	MΩ
V_{g1}	0	0	0	V
I_a	4.7	4.9	5.2	mA
I_{g2}	2.0	1.9	1.9	mA
$V_{osc(r.m.s.)}$	3.0	3.0	3.0	V
I_{g1}	3.7	3.7	3.7	μA
g_c	1.65	1.8	1.9	mA/V

Triode section as an oscillator

V_b	170	200	250	V
R_a	20	20	20	kΩ
R_{g-k}	20	20	20	kΩ
I_a	3.3	4.1	5.7	mA
I_g	160	160	160	μA
$V_{osc(r.m.s.)}$	3.0	3.0	3.0	V
g_m (eff.)	2.8	3.2	4.0	mA/V

LIMITING VALUES

Pentode section

$V_{a(b)}$ max.	550	V
V_a max.	300	V
p_a max.	2.8	W
$V_{g2(b)}$ max.	550	V
V_{g2} max.	300	V
p_{g2} max.	500	mW
I_k max.	20	mA
R_{g1-k} max.	1.0	MΩ
V_{g1} ($I_{g1} = +0.3\mu A$)	−1.3	V
V_{h-k} max. (cathode negative)	90	V
V_{h-k} max. (cathode positive)	90	V

Triode section

$V_{a(b)}$ max.	550	V
V_a max.	300	V
p_a max.	2.7	W
I_k max.	20	mA
R_{g-k} max.	1.0	MΩ
V_{h-k} max. (cathode negative)	90	V
V_{h-k} max. (cathode positive)	90	V
R_{h-k} max.	20	kΩ

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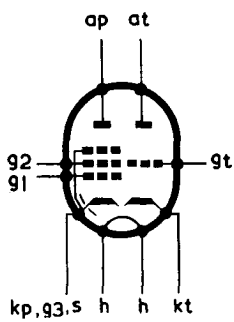
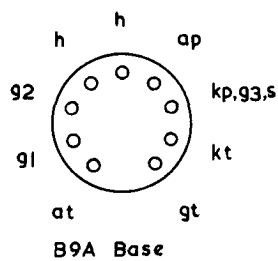
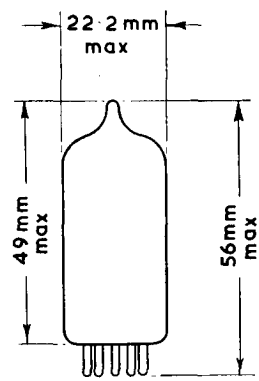




B9A Base



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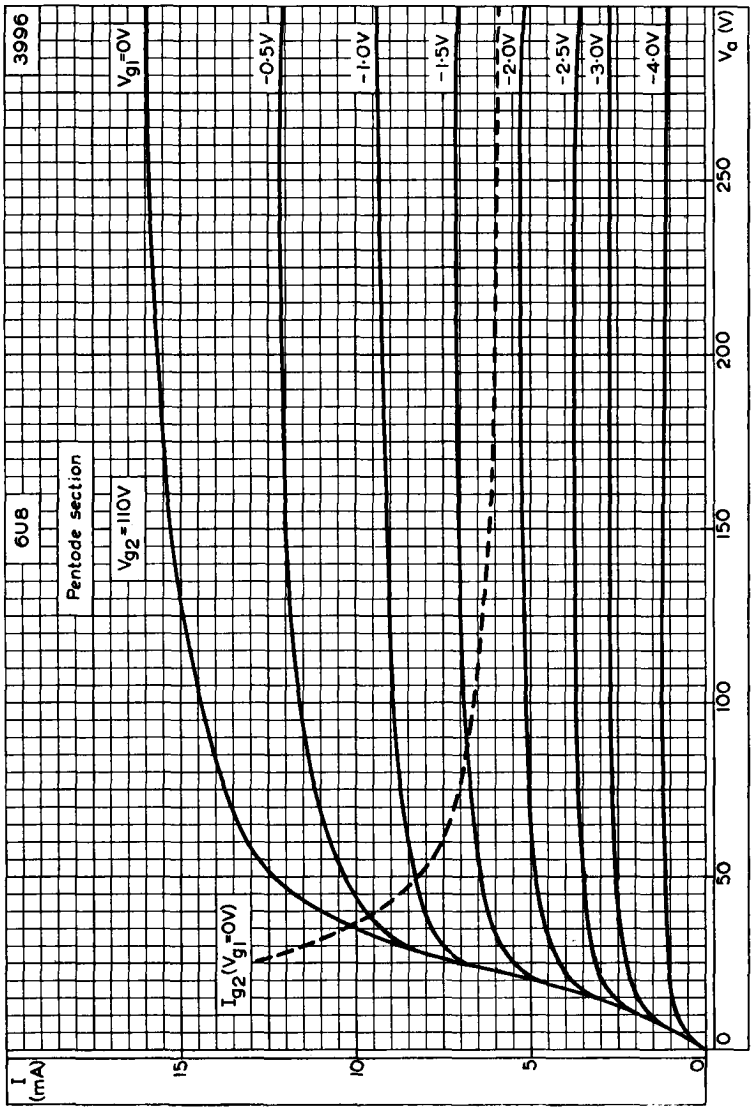

ANODE AND SCREEN-GRID CURRENTS PLOTTED AGAINST ANODE VOLTAGE FOR PENTODE SECTION WITH CONTROL-GRID VOLTAGE AS PARAMETER