Triode *Type DET 18*

(OSCILLATOR AND HF AMPLIFIER)

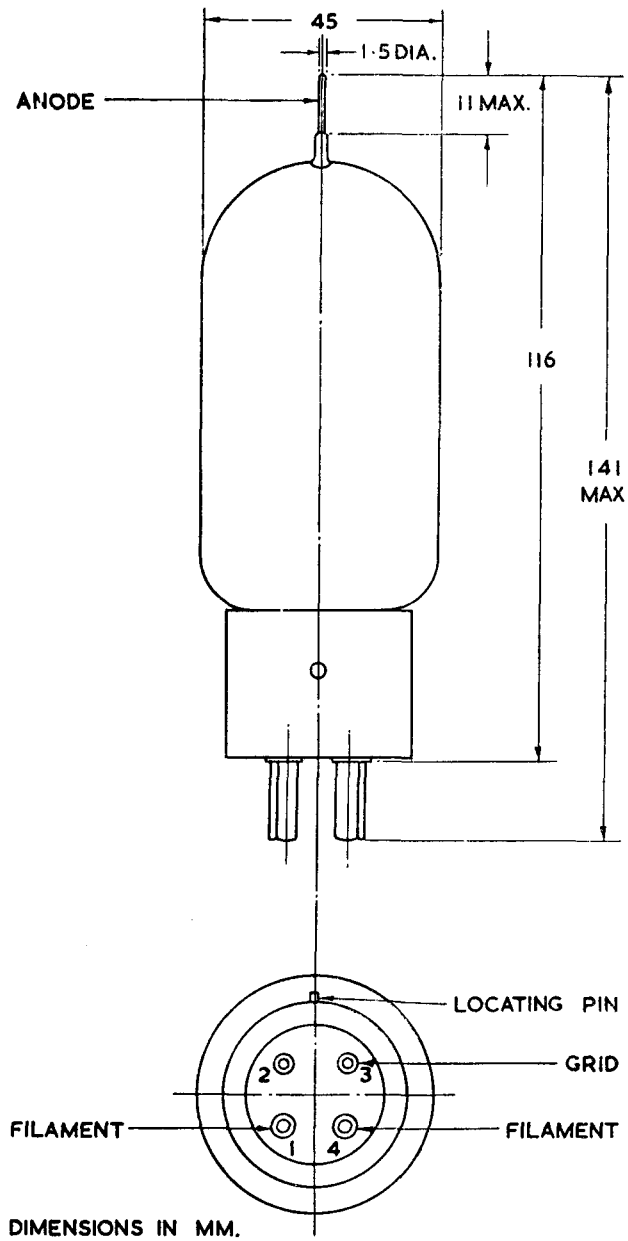
General. A transmitting triode fitted with a thoriated tungsten filament, suitable for use as an oscillator or high-frequency amplifier at frequencies up to 120 Mc/s.

Mounting. The valve must be mounted vertically. Connections should be made to the anode lead by means of a suitable clip. On no account should attempt be made to solder the lead itself.

APPROXIMATE DATA

V_f				5	V
I_f				4	A
$V_{a(max)}$				2	kV
$p_{a(max)}$				50	W
$p_{gl(max)}$				35	mA
$I_{e(pk)}{}^{*}{}_{(max)}$				2	A
$I^{*}{}_{(a+gl)}$				0·9	A
μ	taken at V_a	1,000	V	32·5	
g_m	I_a	35	mA	2·55	mA/V
g_m	taken at V_a	700	V	4·4	mA/V
	I_a	500	mA		
f				100	Mc/s
c_{a-gl}				1·7	pF
c_{a-k}				0·17	pF
c_{gl-k}				4·6	pF

*No attempt must be made to measure this figure statically.



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Typical Operation

(1) HF POWER AMPLIFIER AND OSCILLATOR. CLASS C TELEGRAPHY

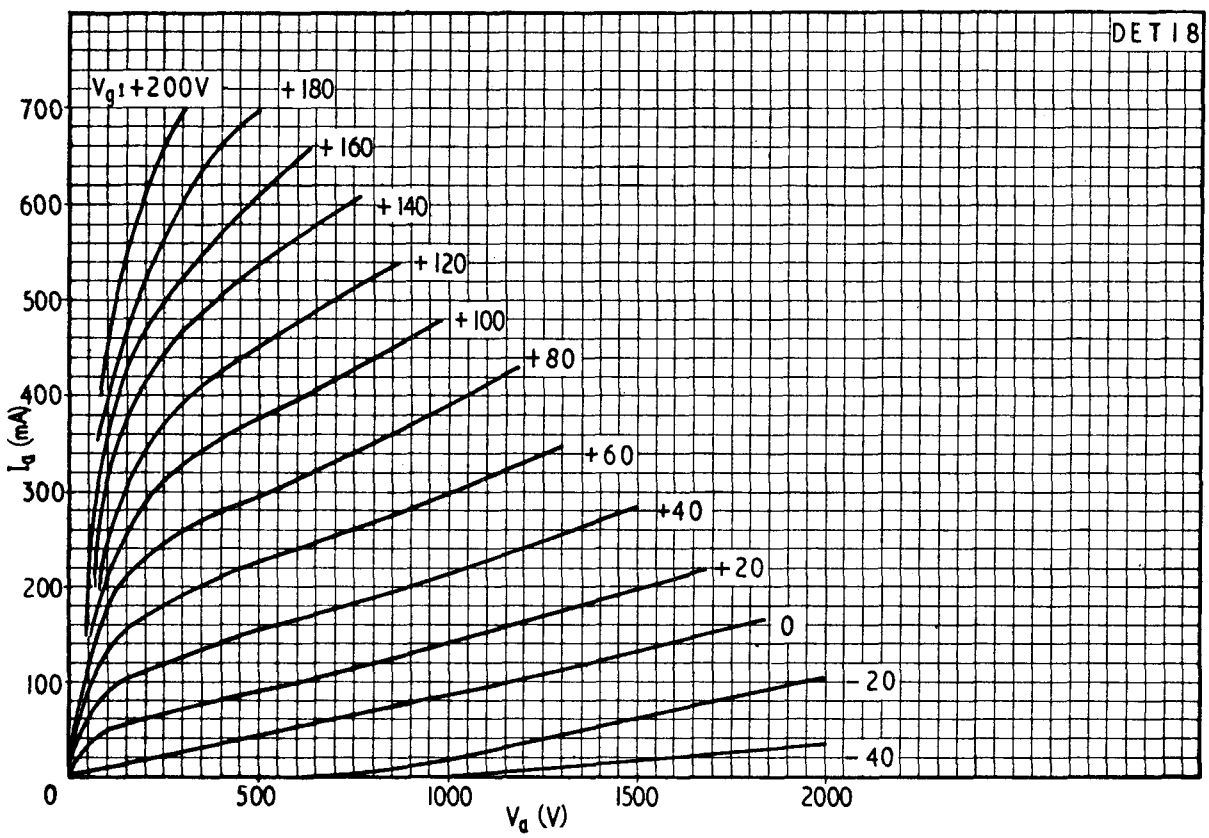
(*Unmodulated, one valve, key down conditions*)

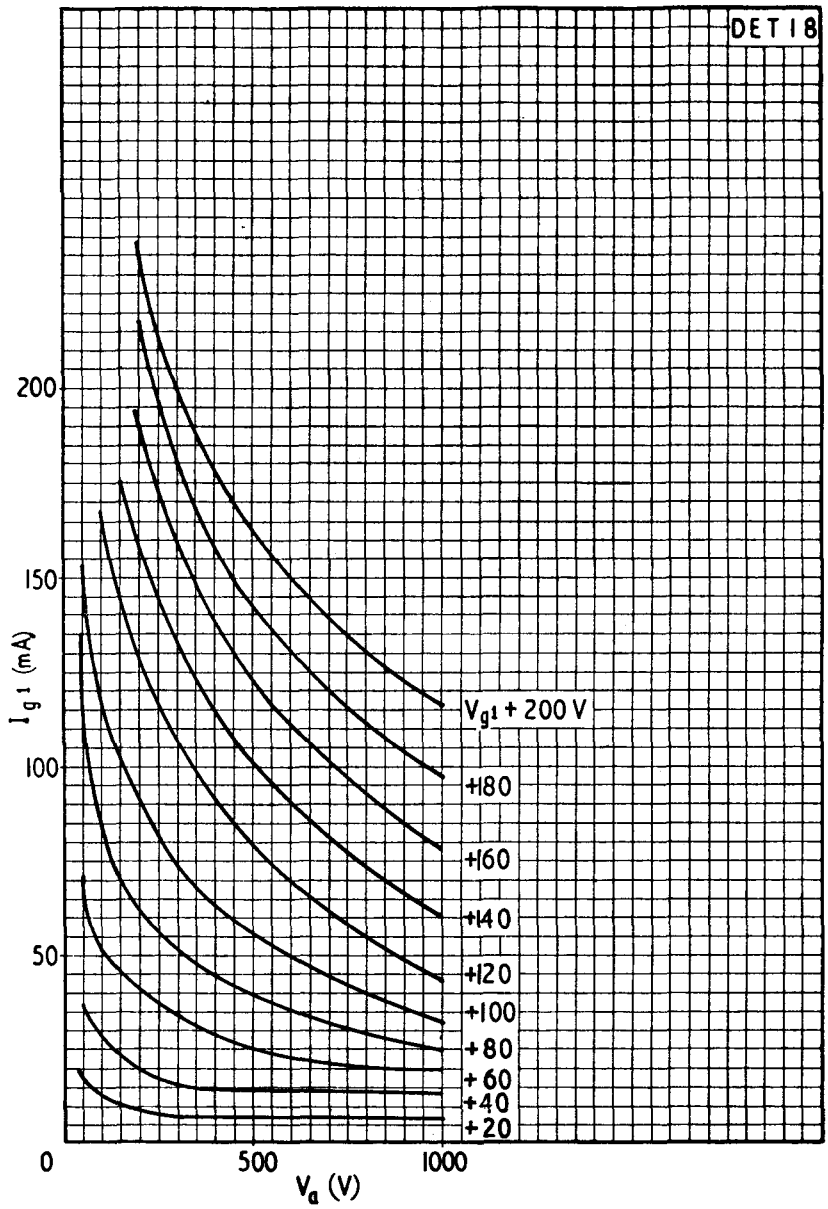
V_a		1,500	1,000	750	V
I_a		85	110	120	mA
V_{g1}		−170	−180	−160	V
I_{g1}	(a)	35	35	35	mA
P_{dr}	(a)	12	13	11	W
Z_a		9,000	4,200	2,400	Ω
P_{out}		77	63	45	W
$V_{g1(pk)}$		320	360	330	V

At frequencies above 75 Mc/s it is recommended that two valves are used in push-pull. At 100 Mc/s an output of 100 watts can be obtained from a pair of valves.

NOTES

(a) Subject to wide variation.




DET 18
200
150
100
50
0
500
1000
I_{g1} (mA)
V_a (V)
V_{g1} + 200 V
+180
+160
+140
+120
+100
+80
+60
+40
+20

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