QUICK HEATING TETRODE

QZ06-20

QUICK REFERENCE DATA

Quick heating V.H.F. power amplifier for mobile transmitters. 70% power output in less than half a second.

f max.	175	Mc/s
V_a max.	650	V
p_a max.	25	W
Performance		
f	60	Mc/s
P_{out}	65	W

These data should be read in conjunction with GENERAL OPERATIONAL RECOMMENDATIONS – TRANSMITTING VALVES which precede this section of the handbook.

CLASS 'C' TELEGRAPHY OR F.M. TELEPHONY (Intermittent mobile service)

Absolute maximum ratings

f max.	175	Mc/s
V_a max.		
f < 60Mc/s	650	V
f = 175Mc/s	400	V
V_{g2} max.	200	V
$-V_{g1}$ max.	150	V
I_a max.	160	mA
I_{g1} max.	5.0	mA
p_a max.	25	W
p_{g2} max.	5.0	W
R_{g1-k} max.	30	kΩ

Typical operating conditions

f	60	175	Mc/s
V_a	600	400	V
V_{g2}	180	190	V
$-V_{g1}$	71	54	V
I_a	150	150	mA
I_{g2}	15	15	mA
I_{g1}	2.8	2.2	mA
$v_{in(pk)}$	91	68	V
P_{load} (driver)	2.0	5.0	W
p_a	25	25	W
p_{g2}	2.7	2.9	W
η_a	73.5	58	%
P_{out}	65	35	W
P_{load}	53	28	W

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CLASS 'C' ANODE AND SCREEN GRID MODULATION (Intermittent mobile service)

Absolute maximum ratings

Carrier condition for a modulation factor of 1

f max.	175	Mc/s
V_a max.		
f < 60Mc/s	480	V
f = 175Mc/s	350	V
V_{g2} max.	250	V
$-V_{g1}$ max.	150	V
I_a max.	120	mA
I_{g1} max.	3.5	mA
P_a	14	W
P_{g2} max.	2.0	W
R_{g1-k} max.	30	kΩ

Typical operating conditions

f	60	60	Mc/s
V_a	475	400	V
V_{g2}	135	150	V
$-V_{g1}$	77	87	V
I_a	94	112	mA
I_{g2}	9.0	12	mA
I_{g1}	2.8	3.4	mA
$v_{in(pk)}$	95	107	V
P_{load} (driver)	0.3	0.4	W
P_a	11	13	W
P_{g2}	1.2	1.8	W
η_a	75	71	%
P_{out}	34	32	W
P_{load}	29	27	W
$\eta_{transfer}$	85	85	%

CATHODE

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

V_f	1.6	V
I_f	3.2	A
Frequency of filament supply		
Sine wave	max. 200	c/s
Square wave	Any	

The filament has been designed to accept temporary variations in supply voltage of ±15%.

CAPACITANCES

C_{a-g1}	< 240	mpF
C_{in}	13.5	pF
C_{out}	8.5	pF

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CHARACTERISTICS (measured at V_a = 200V, V_{g2} = 200V, I_a = 100mA)

g_m	7.0	mA/V
μ_{g1-g2}	4.5	

COOLING

Radiation and convection

T_{bulb} max.	220	°C

MOUNTING POSITION

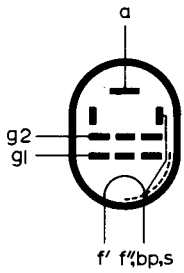
Any

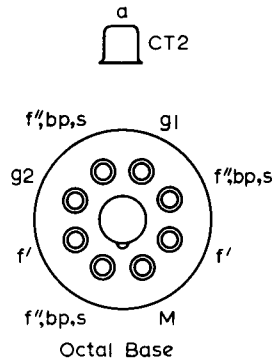
PHYSICAL DATA

Weight of valve	2.08	oz
	59	g
Weight of valve plus carton	3.0	oz
	85	g

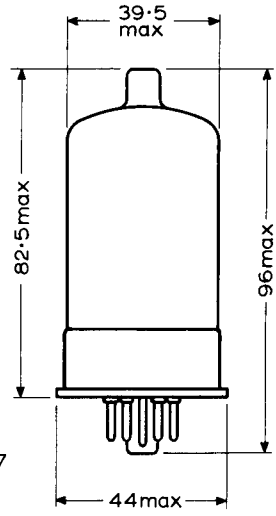
ACCESSORIES

Socket	5903/13
Anode cap	28906 022





Octal Base



Connect contacts 1,4 and 6 together and contacts 2 and 7 together externally to reduce the effective contact resistance .

8228

All dimensions in mm

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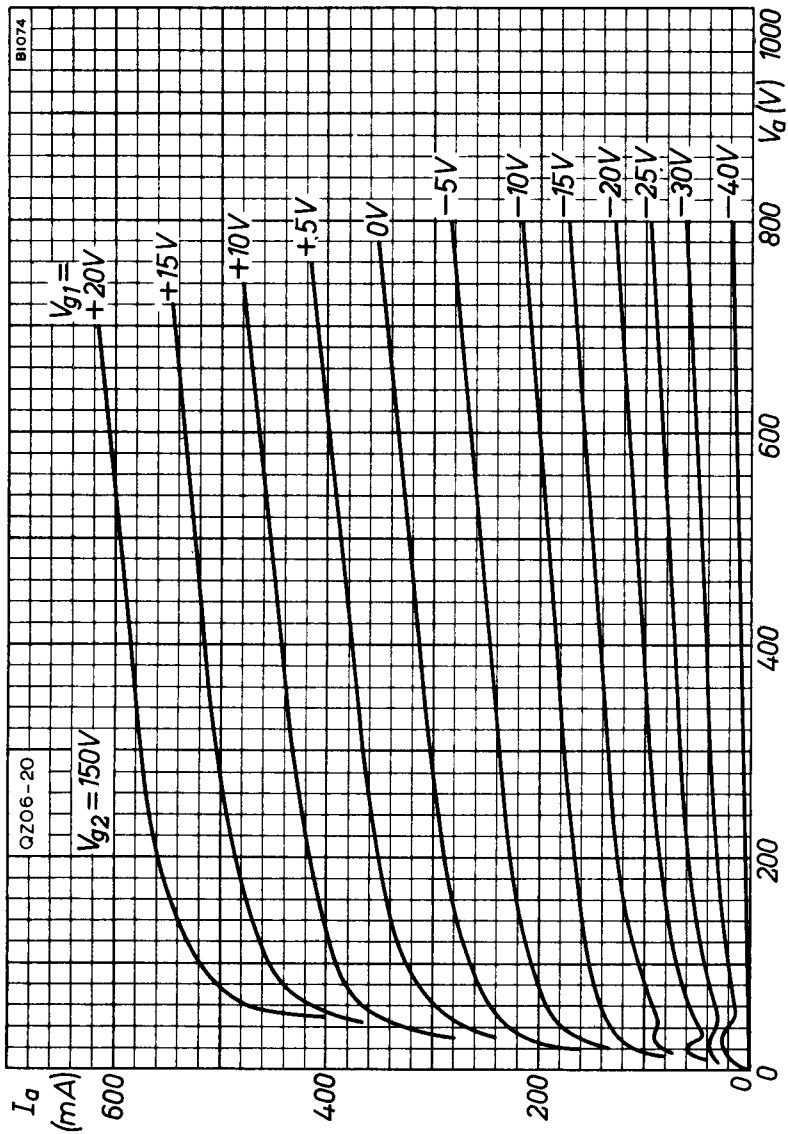

ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH CONTROL-GRID VOLTAGE AS PARAMETER.
V_{g2} = 150V

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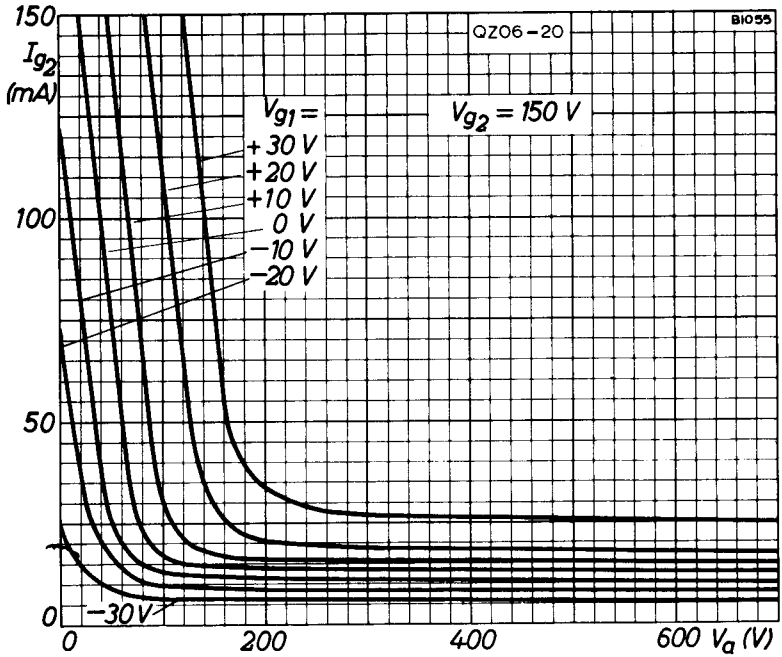

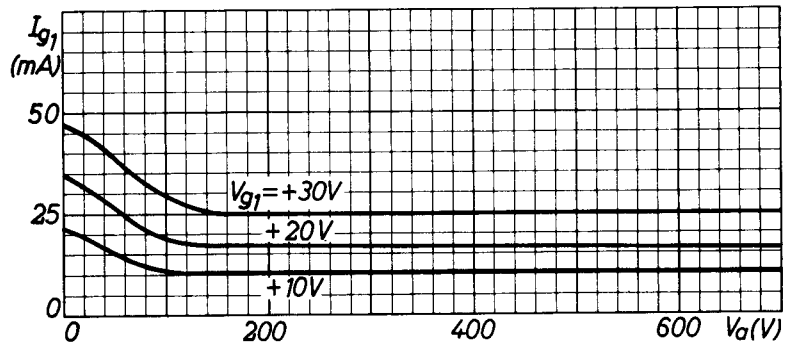

SCREEN-GRID AND CONTROL-GRID CURRENTS PLOTTED AGAINST ANODE VOLTAGE WITH CONTROL-GRID VOLTAGE AS PARAMETER.
V_{g2} = 150V

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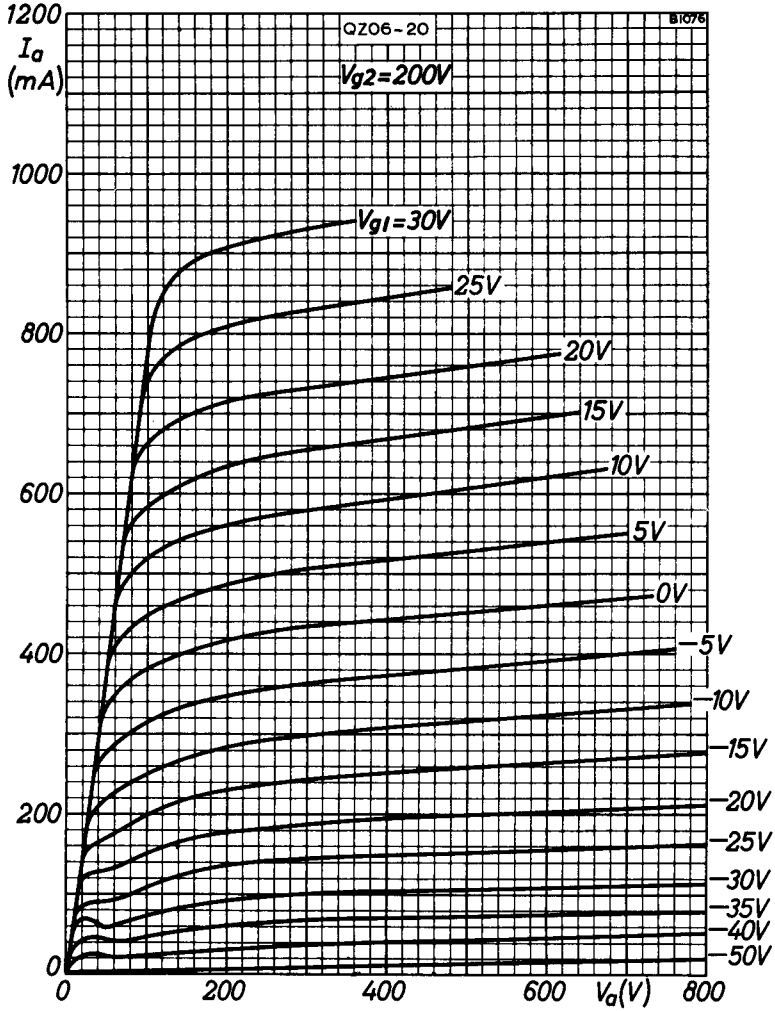

ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH CONTROL-GRID VOLTAGE AS PARAMETER.
V_{g2} = 200V

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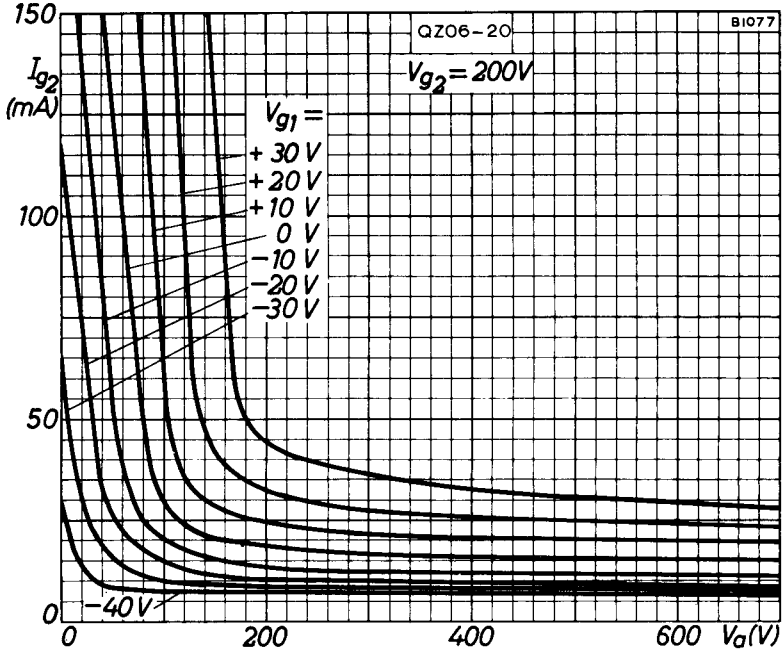

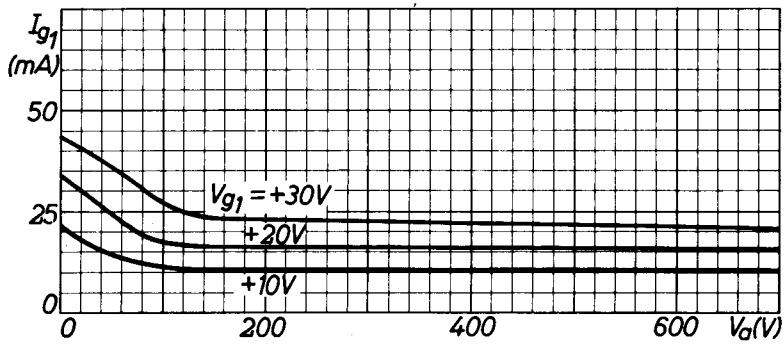

SCREEN-GRID AND CONTROL-GRID CURRENTS PLOTTED AGAINST ANODE VOLTAGE WITH CONTROL-GRID VOLTAGE AS PARAMETER.
V_{g2} = 200V