

R.F. POWER TRIODE

QUICK REFERENCE DATA									
(m)	Freq. (MHz)	C telegr.		grounded C grid		Ca mod.		B mod. ²⁾	
		Va (V)	Wo (W)	Va (V)	Wo ¹⁾ (W)	Va (V)	Wo (W)	Va (V)	Wo (W)
3	100	4000	1690	4000	1950	3000	1050	4000	2290
		3500	1430	3500	1650			3500	2440
		3000	1175	3000	1375			3000	2310
		2500	950	2500	1120			2500	2000

HEATING: direct; filament thoriated tungsten

Filament voltage	Vf	=	10	V
Filament current	If	=	9.9	A

CAPACITANCES

Anode to all other elements except grid	Ca	=	0.17	PF
Grid to all other elements except anode	Cg	=	8.0	PF
Anode to grid	Cag	=	7.0	pf

TYPICAL CHARACTERISTICS

Amplification factor	U	=	28	
Mutual conductance	S (Ia=125mA)	=	4.5	MA/V

TEMPERATURE LIMITS (Absolute limits)

Temperature of anode seal	=	max.	220	°C
Temperature of bottom pin seals	=	max.	180	°C
Bulb temperature	=	max.	250	°C

1) Power transferred from driving stage included

2) Tow tubes

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COOLING

In general cooling of the tube is not necessary at normal ambient temperature at frequencies below 50 MHz.

When the tube is used at or near the limiting values at frequencies above 50 Mc/s, it will be necessary to direct a low-velocity air flow on the anode seal and the bottom of the envelope.

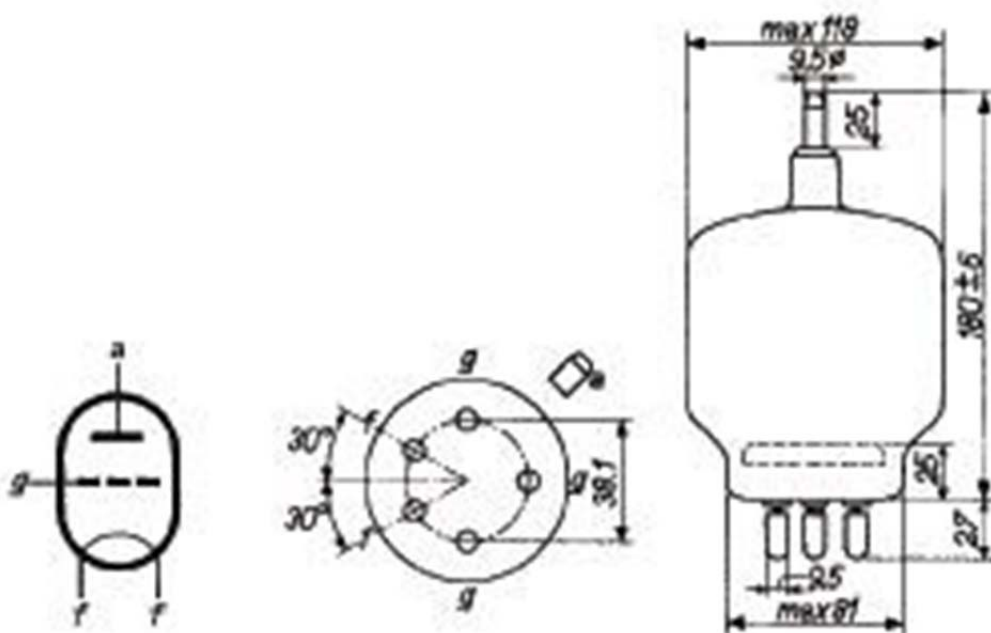
MECHANICAL DATA

Dimensions in mm

Socket : 2422 512 00001

Anode connector : 40626

Net mass : 420g



Mounting position: vertical with base up or down

Distributore per l'Italia:

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via I Maggio 71/9
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R.F. CLASS C TELEGRAPHY

LIMITING VALUES (Absolute limits)

Frequency	F		Up to	100	MHz
Anode voltage	Va	=	Max.	4000	V
Anode dissipation	Wa	=	Max.	450	W
Grid dissipation	Wg	=	Max.	50	W
Grid current	Ig	=	Max.	115	mA
Cathode current	Ik	=	Max.	650	mA

OPERATING CONDITIONS(contuolled)

Wavelength		=	3	3	3	3	M
Anode voltage	Va	=	4000	3500	3000	2500	V
Grid voltage	Vg	=	-350	-300	-250	-200	V
Anode current	Ia	=	535	535	535	535	MA
Grid current	Ig	=	115	115	115	115	MA
Peak grid A.C. voltage	Vgp	=	580	520	460	405	V
Grid input power	Wig	=	60	54	48	42	W
Anode input power	Wia	=	2140	1880	1600	1340	W
Anode dissipation	Wa	=	450	450	425	390	W
Output power	Wo	=	1690	1430	1175	950	W
Efficiency	η	=	79	76	73.5	71	%

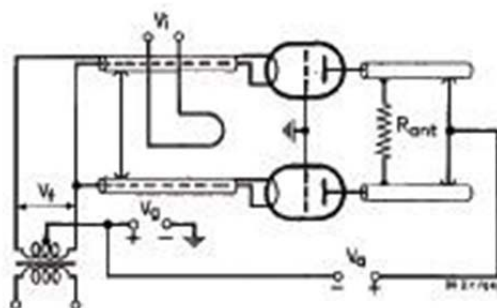
OPERATING CONDITIONS(self excied)

Wavelength		=	3	3	3	3	M
Anode voltage	Va	=	4000	3500	3000	2500	V
Grid resistor	Rg	=	3000	2600	2200	1800	Ω
Anode current	Ia	=	535	535	535	535	MA
Grid current	Ig	=	115	115	115	115	MA
Peak grid A.C. voltage	Vgp	=	580	520	460	405	V
Grid input power	Wig	=	60	54	48	42	W
Anode input power	Wia	=	2140	1880	1600	1340	W
Anode dissipation	Wa	=	450	450	425	390	W
Output power	Wo	=	1630	1376	1127	908	W
Efficiency	η	=	76.5	73	70.5	67.5	%

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OPERATING CONDITIONS R.F. CLASS C TELEGRAPHY (continued)

Grounded grid circuit,two tubes



Wavelength	=	3	3	3	3	M
Anode voltage	Va =	4000	3500	3000	2500	V
Grid voltage	Vg =	-350	-300	-250	-200	V
Anode current	Ia =	2*535	2*535	2*535	2*535	MA
Grid current	Ig =	2*115	2*115	2*115	2*115	MA
Peak grid voltage	Vgp =	580	520	460	405	V
Grid input power	Wig =	2*320	2*274	2*248	2*212	W
Anode input power	Wia =	2*2140	2*1880	2*1600	2*1340	W
Anode dissipation	Wa =	2*450	2*450	2*425	2*390	W
Output power	Wo =	3380+520	2860+440	2350+400	1900+340	W ¹⁾
Efficiency	η =	79	76	73.5	71	% ²⁾

1) Power tuansferred from driving stage included

2) Pure tube efficiency

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R.F. CLASS C ANODE MODULATION

LIMITING VALUES (Absolute limits)

Frequency	F		Up to	100	MHz
Anode voltage	Va	=	Max.	3000	V
Anode dissipation	Wa	=	Max.	300	W
Grid dissipation	Wg	=	Max.	50	W
Grid current	Ig	=	Max.	115	mA
Cathode current	Ik	=	Max.	550	mA

OPERATING CONDITIONS

Wavelength		=	3	m
Anode voltage	Va	=	3000	V
Grid voltage	Vg	=	-375	V
Anode current	Ia	=	450	mA
Grid current	Ig	=	85	mA
Peak grid A.C. voltage	Vgp	=	580	V
Grid input power	Wig	=	42	W
Anode input power	Wia	=	1350	W
Anode dissipation	Wa	=	300	W
Output power	Wo	=	1050	W
Efficiency	η	=	78	%
Modulation factor	M	=	100	%
Modulation power	Wmod	=	675	W

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A.F. CLASS B AMPLIFIER AND MODULATOR

LIMITING VALUES (Absolute limits)

Anode voltage	Va	=	Max.	4000	V
Anode dissipation	Wa	=	Max.	450	W
Grid dissipation	Wg	=	Max.	50	W
Cathode current	Ik	=	Max.	700	MA
Peak cathode current	Ikp	=	Max.	5	A
Grid current	Ig	=	Max.	130	MA
Grid circuit resistance	Rg	=	Max.	50	k Ω

OPERATING CONDRTIONS, two tubes

Anode voltage	Va	=	4000	3500	V
Grid voltage	Vg	=	-135	-114	V
Load resistance	Raa	=	14.5	10.2	k Ω
Peak grid to grid voltage	Vgpp	=	0 566	0 563	V
Anode current	Ia	=	2*70 2*368	2*70 2*442	MA
Grid current	Ig	=	0 2*93	0 2*115	MA
Gird input power	Wig	=	0 2*24	0 2*29	W
Anode input power	Wia	=	2*280 2*1474	2*245 2*1550	W
Anode dissipation	Wa	=	2*280 2*329	2*245 2*330	W
Output power	Wo	=	0 2290	0 2440	W
Total distortion	dtot	=	- 5	- 5	%
Efficiency	η	=	- 77.7	- 78.8	%

Anode voltage	Va	=	3000	2500	V
Grid voltage	Vg	=	-94	-75	V
Load resistance	Raa	=	7.5	5.2	k Ω
Peak grid to grid voltage	Vgpp	=	0 560	0 530	V
Anode current	Ia	=	2*70 2*500	2*70 2*555	MA
Grid current	Ig	=	0 2*130	0 2*126	MA
Grid input power	Wig	=	0 2*33	0 2*30	W
Anode input power	Wia	=	2*210 2*1500	2*175 2*1387	W
Anode dissipation	Wa	=	2*210 2*345	2*175 2*387	W
Output power	Wo	=	0 2310	0 2000	W
Total distortion	dtot	=	- 5	- 3.5	%
Efficiency	η	=	- 77	- 72	%

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R.F. CLASS C OSCILLATOR FOR INDUSTRIAL USE with anode voltage from

Two-phase half-wave rectifier without filter

LIMITING VALUES (Absolute limits)

Frequency	F	=	Up to	100	MHz
Anode voltage	Va	=	Max.	3600	V
Negative grid voltage	-Vg	=	Max.	320	V
Anode current	Ia	=	Max.	475	MA
Grid current	Ig	=	Max.	100	MA
Anode input power	Wia	=	Max.	2200	W
Anode dissipation	Wa	=	Max.	450	W
Grid dissipation	Wg	=	Max.	50	W

OPERATING CONDITIONS

Transformer voltage	Vtr	=	4000 ¹⁾	3350 ²⁾	V _{RMS}
Anode voltage	Va	=	3600	3000	V ³⁾
Anode current	Ia	=	450	400	MA
Grid current	Ig	=	100	85	MA
Grid resistor	Rg	=	3.0	3.0	k Ω
Anode input power	Wia	=	2000	1480	W
Anode dissipation	Wa	=	450	400	W
Output power	Wo	=	1500	1040	W
Efficiency	η		75	70	%

- 1) Care must be taken that under these operating conditions the absolute limiting values are not exceeded by variation of the supply voltage or the load or by tolerances in the circuit elements.
- 2) Under these conditions normal deviations of voltages and load are permissible. The absolute limiting values of the tube must, however, not be exceeded.
- 3) D.C. value

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R.F. CLASS C OSCILLATOR FOR INDUSTRIAL USE with anode voltage from

Three-phase half-wave rectifier without filter

LIMITING VALUES (Absolute limits)

Frequency	F		Up to	100	MHz
Anode voltage	Va	=	Max.	4000	V
Negative grid voltage	-Vg	=	Max.	500	V
Anode current	Ia	=	Max.	535	MA
Grid current	Ig	=	Max.	115	MA
MAnode input power	Wia	=	Max.	2200	W
Anode dissipation	Wa	=	Max.	450	W
Grid dissipation	wg	=	Max.	50	W

OPERATING CONDRRIONS

Transformer voltage	Vtr	=	3400 ¹⁾	2900 ²⁾	V _{RMS}
Anode voltage	Va	=	4000	3400	V ³⁾
Anode current	Ia	=	535	450	MA
Grid current	Ig	=	115	100	mA
Grid current	Rg	=	3.0	3.0	k Ω
Anode input power	Wia	=	2140	1530	W
Anode dissipation	Wa	=	450	390	W
Output power	Wo	=	1630	1090	W
Efficiency	η	=	76.5	71	%

- 1) Care must be taken that under these operating conditions the absolute limiting values are not exceeded by variation of the supply voltage or the load or by tolerances in the circuit elements.
- 2) Under these conditions normal deviations of voltages and load are permissible. The absolute limiting values of the tube must, however, not be exceeded.
- 3) D.C. value.

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R.F. CLASS C OSCILLATOR FOR INDUSTRIAL USE with self rectification

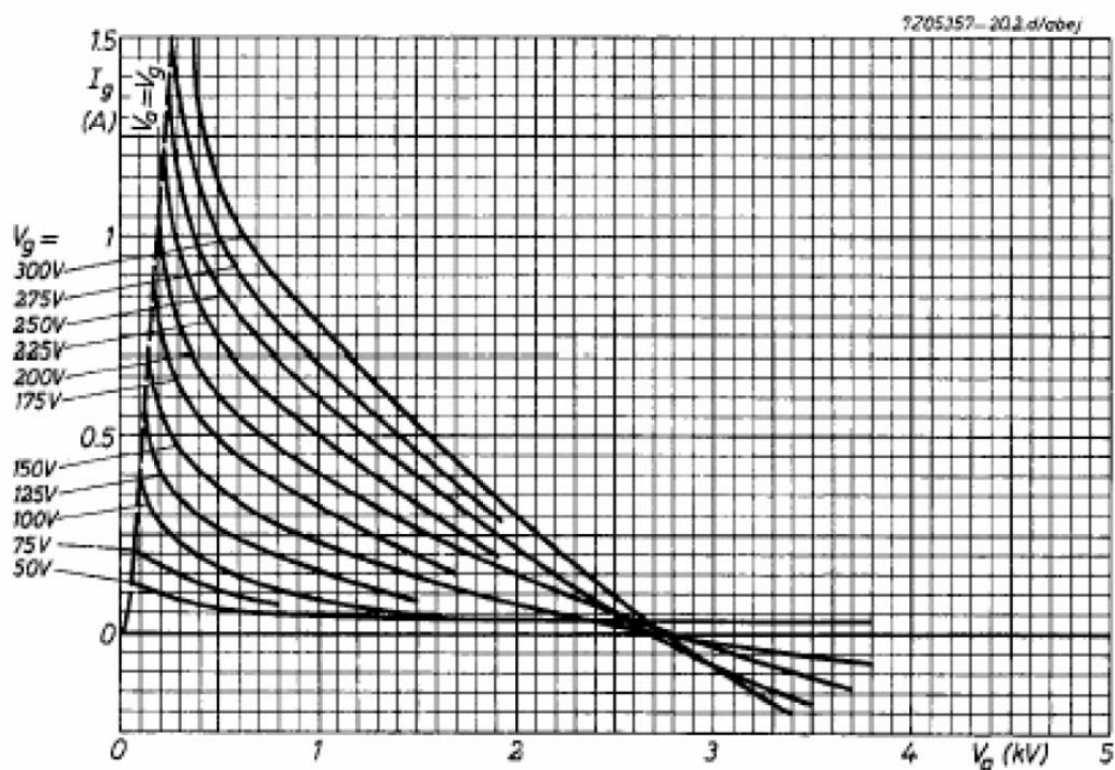
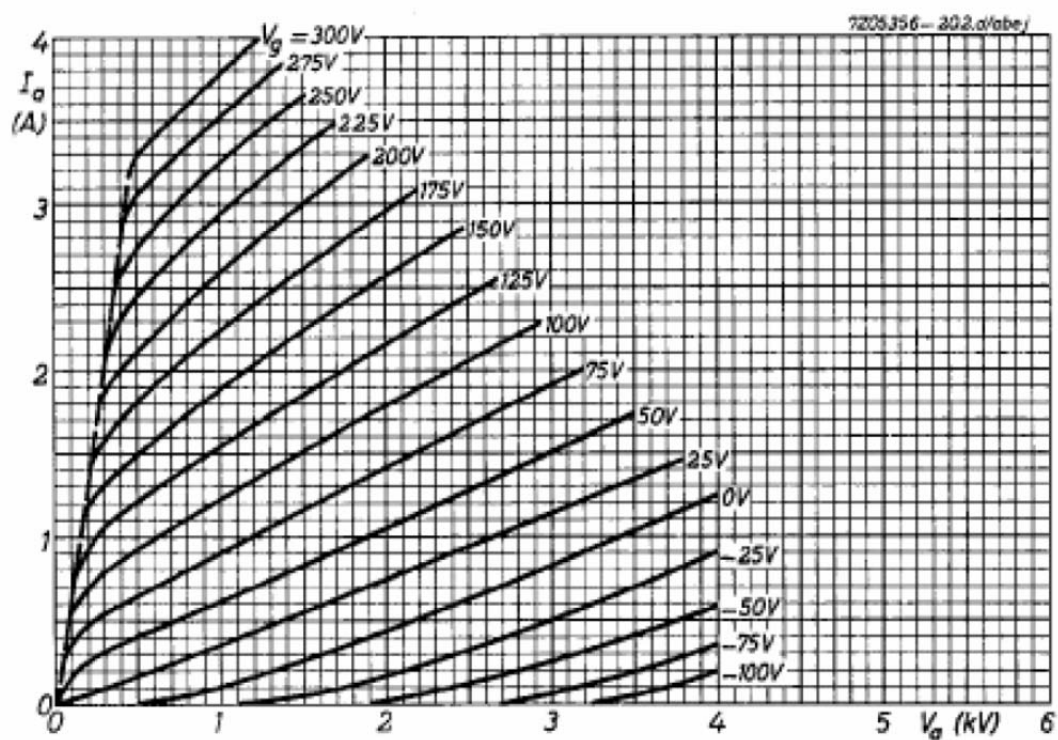
LIMITING VALUES (Absolute limits)

Frequency	f		up to	100	MHz
Transformer voltage	V_{tr}	=	max.	4500	V_{RMS}
Negative grid voltage	$-V_g$	=	max.	500	V
Anode current	I_a	=	max.	280	mA
Grid current	I_g	=	max.	55	mA
Anode input power	W_{ia}	=	max.	1450	W
Anode dissipation	W_a	=	max.	450	W
Grid dissipation	W_g	=	max.	50	W

OPERATING CONDITIONS

Transformer voltage	V_{tr}	=	4500 ¹⁾	3800 ²⁾	V_{RMS}
Anode current	I_a	=	280	240	mA
Grid current	I_g	=	55	47	mA
Grid resistor	R_g	=	3.4	3.4	k ω
Anode input power	W_{ia}	=	1400	1010	W
Anode dissipation	W_a	=	350	295	W
Output power	W_o	=	1000	670	W
Efficiency	n	=	71.5	66	%

- 1) Care must be taken that under these operating conditions the absolute limiting values are not exceeded by variation of the supply voltage or the load or by tolerances in the circuit elements.
- 2) Under these conditions normal deviations of voltages and load are permissible. The absolute limiting values of the tube must, however, not be exceeded.

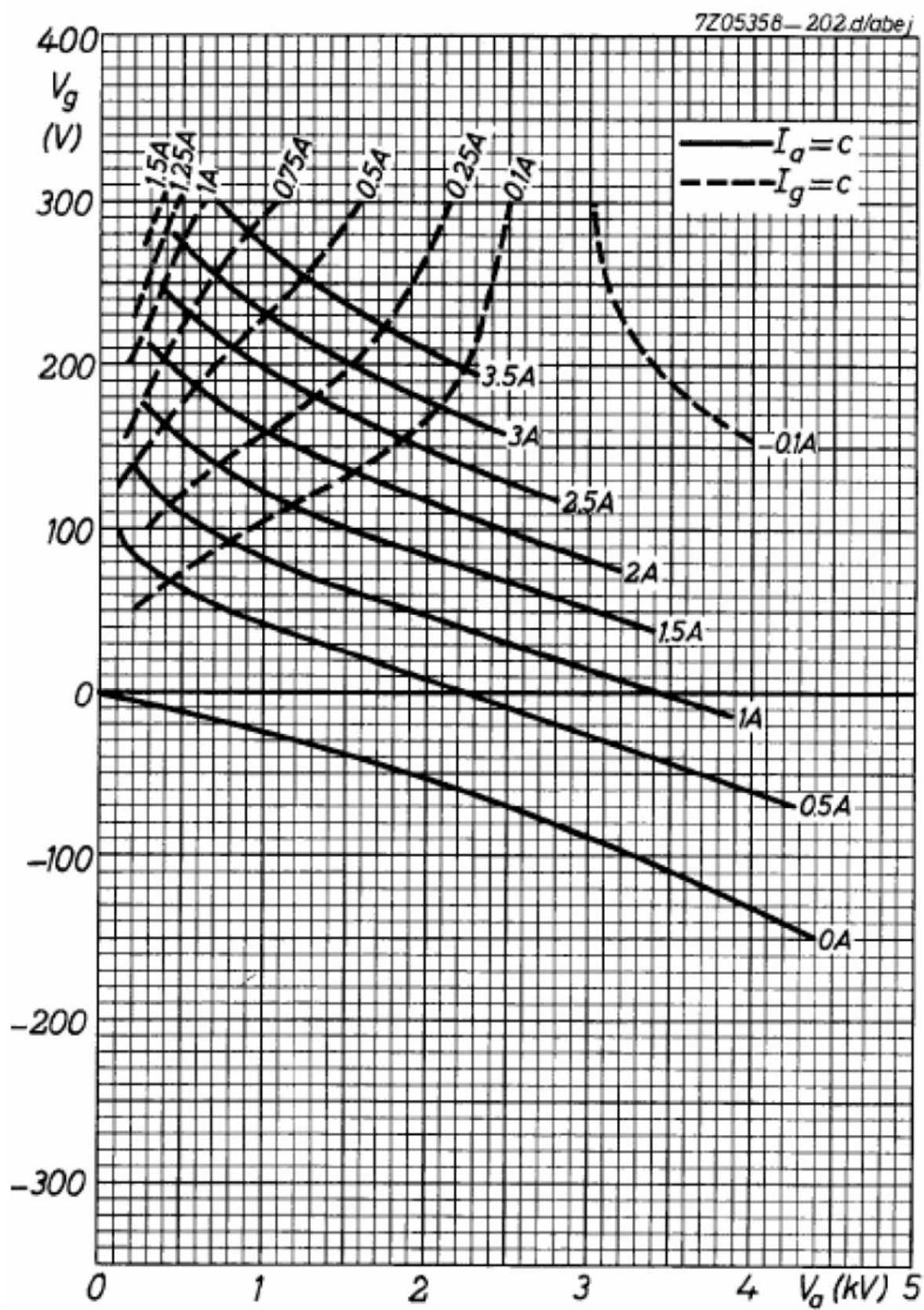


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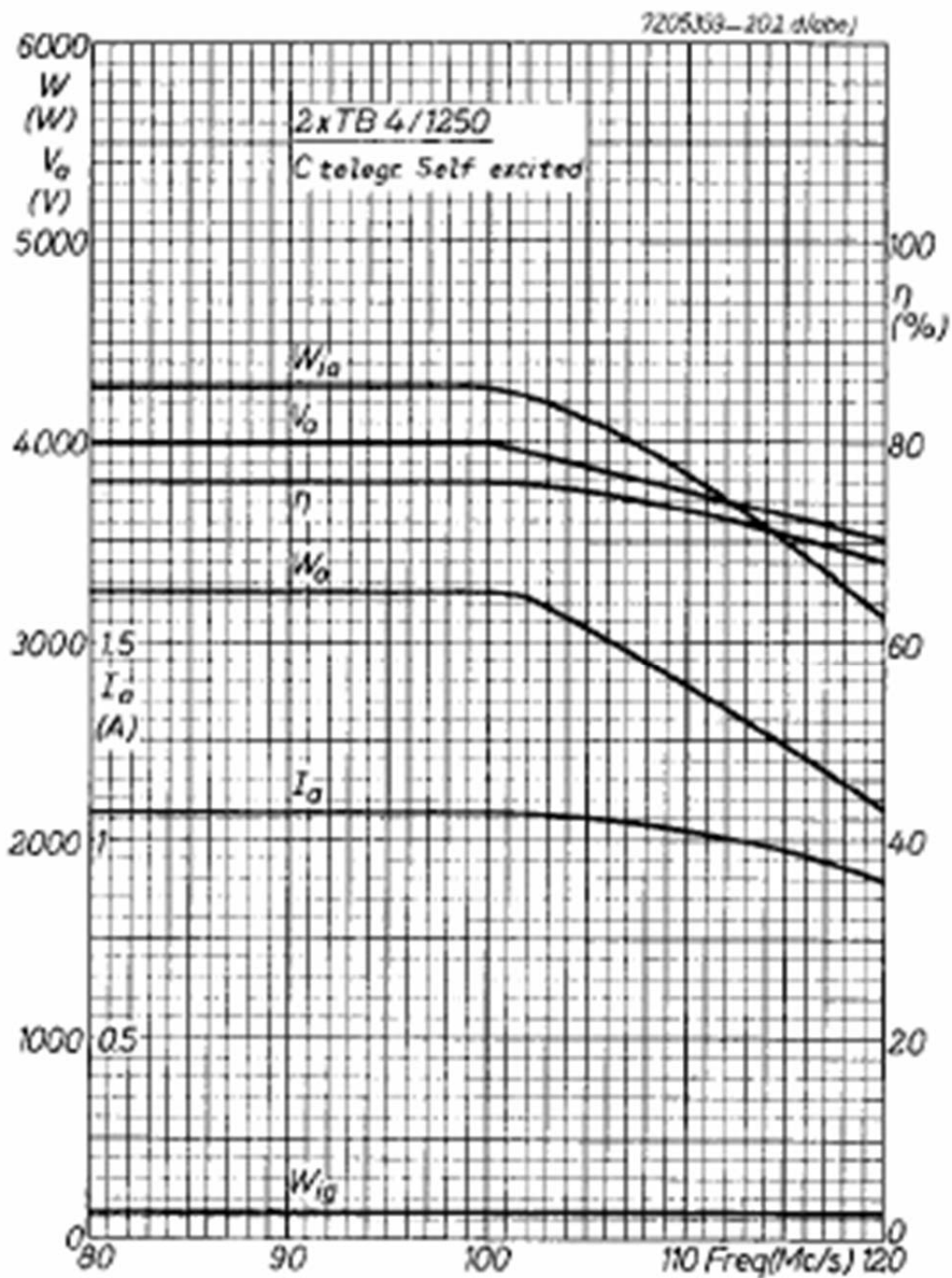


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