

RF POWER TRIODE

Forced air cooled triode of metal-ceramic construction with integral cooler intended for use as an industrial oscillator.

QUICK REFERENCE DATA

Oscillator output power ($W_o - W_{\text{feedb}}$), typical	W_{osc}	2,73 kW
Frequency for full ratings	f	max. 50 MHz

To be read in conjunction with chapter "General Operational Recommendations".

RF CLASS C OSCILLATOR FOR INDUSTRIAL USE

with anode voltage from a three-phase rectifier

OPERATING CONDITIONS, continuous service

Frequency	f	50	50	50	50 MHz
Oscillator output power ($W_o - W_{\text{feedb}}$)	W_{osc}	2,73	2,61	2,04	1,44 kW
Anode voltage	V_a	6	5	4	3 kV
Anode current	I_a	600	700	700	700 mA
Anode input power	W_{ia}	3600	3500	2800	2100 W
Anode dissipation	W_a	760	780	640	540 W
Anode output power	W_o	2840	2720	2160	1560 W
Anode efficiency	η_a	79	78	77	74 %
Oscillator efficiency	η_{osc}	76	75	73	69 %
Feedback ratio	V_{gp}/V_{ap}	13	17	20	25 %
Grid resistor	R_g	3	2,5	2	1,5 k Ω
Grid current, on load	I_g	150	160	180	200 mA
Grid voltage, negative	$-V_g$	450	400	360	300 V
Grid dissipation	W_g	43	46	55	60 W
Grid resistor dissipation	W_{Rg}	67	64	65	60 W

Note

For other operating conditions contact the manufacturer.

LIMITING VALUES (Absolute maximum rating system)

Frequency for full ratings	f	up to	50 MHz
Anode voltage	V_a	max.	7 kV
Anode current	I_a	max.	750 mA
Anode input power	W_{ia}	max.	4000 W
Anode dissipation	W_a	max.	800 W
Grid voltage	$-V_g$	max.	1250 V
Grid current, on load	I_g	max.	300 mA
off load	I_g	max.	400 mA
Grid dissipation	W_g	max.	150 W
Grid circuit resistance	R_g	max.	10 k Ω
Cathode current, mean	I_k	max.	1,2 A
peak	I_{kp}	max.	4,3 A
Envelope temperature	T_{env}	max.	240 °C

HEATING: direct; filament thoriated tungsten

Filament voltage	V_f	6,3 V
Filament current	I_f	33 A

The filament is designed to accept temporary fluctuations of + 5% and -10%.

CAPACITANCES

Anode to filament	C_{af}	0.3 pF
Grid to filament	C_{gf}	17 pF
Anode to grid	C_{ag}	11,3 pF

CHARACTERISTICS measured at $V_a = 4$ kV, $I_a = 190$ mA

Transconductance	S	5 mA/V
Amplification factor	μ	22

COOLING

To obtain optimum life, the temperature of the seals and the envelope should, under normal operating conditions, be kept below 200 °C.

Rate of airflow $q_{\min} = 1 \text{ m}^3$ at $W_g + W_a$ 800 W

ACCESSORIES

Filament connector	type 40688
Filament/cathode connector	type 40689
Grid connector	type 40686

MECHANICAL DATA

Mounting position: vertical with anode up or down

Net mass: 1,3 kg

Dimensions in mm

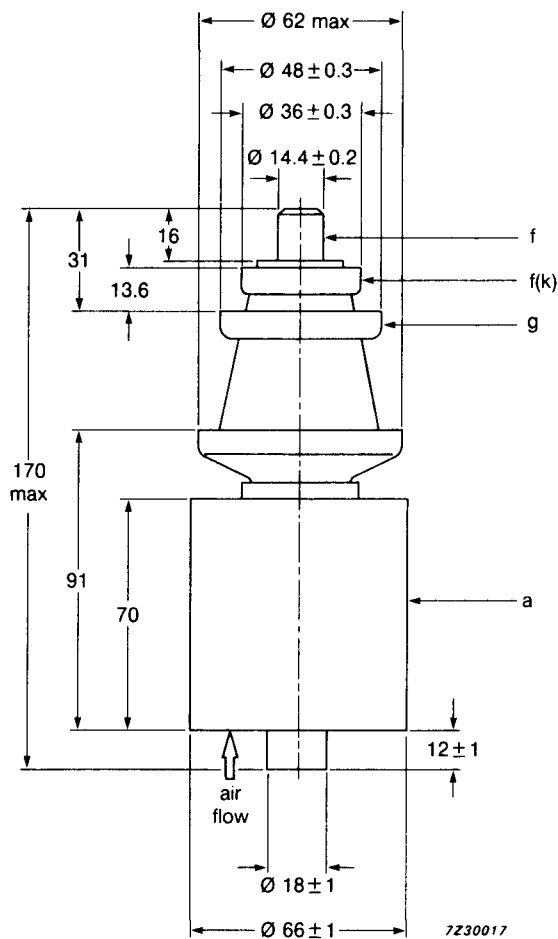


Fig. 1 Mechanical outline.

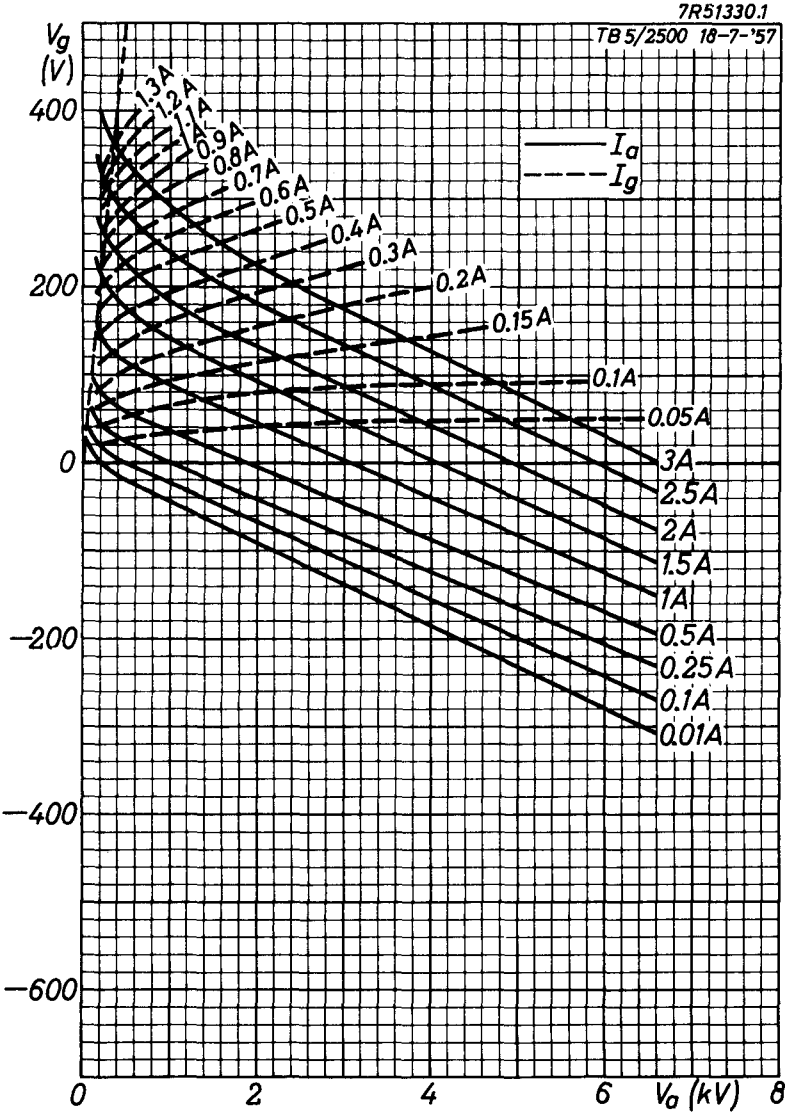


Fig. 1 Constant current characteristics.

PHILIPS

Data handbook



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