

S.Q. TUBE

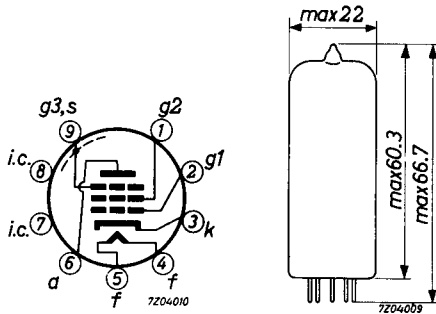
Special quality pentode designed for use in telephone equipment.

QUICK REFERENCE DATA	
Life expectancy	10 000 hours
Low interface resistance	
Base	Noval. Gold plated pins
Heating	Indirect A.C. or D.C. Series or parallel supply
Heater voltage	V_f 6.3 V
Heater current	I_f 0.3 A
Anode current	I_a 10 mA
Mutual conductance	S 9 mA/V

DIMENSIONS AND CONNECTIONS

Dimensions in mm

Base: Noval



CHARACTERISTICS

Column I Nominal value or setting of the tube.

II Range values for equipment design: Initial spread

III Range values for equipment design: End of life

		I	II	III	
Heater voltage	V_f	6.3			V
Heater current	I_f	300	285 - 315		mA
Anode voltage	V_a	210			V
Grid No.3 voltage	V_{g3}	0			V
Grid No.2 voltage	V_{g2}	120			V
Cathode resistor	R_k	165			Ω
Anode current	I_a	10	8.7 - 11.3	7	mA
Grid No.2 current	I_{g2}	2.1	1.7 - 2.5	1.25	mA
Mutual conductance	S	9	7.8 - 10.2	6.4	mA/V
Internal resistance	R_i	0.5	min. 0.3		M Ω
Amplification factor grid No.2 to grid No.1	μ_{g2g1}	38			
Equivalent noise resistance (R.F.)	R_{eq}	750	max. 1000		Ω
Equivalent noise resistance (A.F.)	R_{eq}		max. 36		k Ω
<u>Negative grid No.1 current</u>	$-I_{g1}$		max. 0.5	max. 1.0	μ A
<u>Hum voltage</u>	V_{g1}		max. 0.5		mVRMS
Grid resistor $R_{g1} = 0.5$ M Ω Cathode resistor by passed					
<u>Cut off voltage</u>	$-V_{g1}$	5	max. 5.25		V
Anode voltage	V_a	210			V
Grid No.3 voltage	V_{g3}	0			V
Grid No.2 voltage	V_{g2}	120			V
Anode current	I_a	0.5			mA

CHARACTERISTICS (continued)

Leakage current between
cathode and heater

Voltage between heater
and cathode $V_{kf} = 100$ V

	I	II	III	
I_{kf}		max. 15		μA

Insulation resistance between
two arbitrary electrodes

Voltage between electrodes $V = 250$ V

	I	II	III	
R		min. 100		$M\Omega$

CAPACITANCES

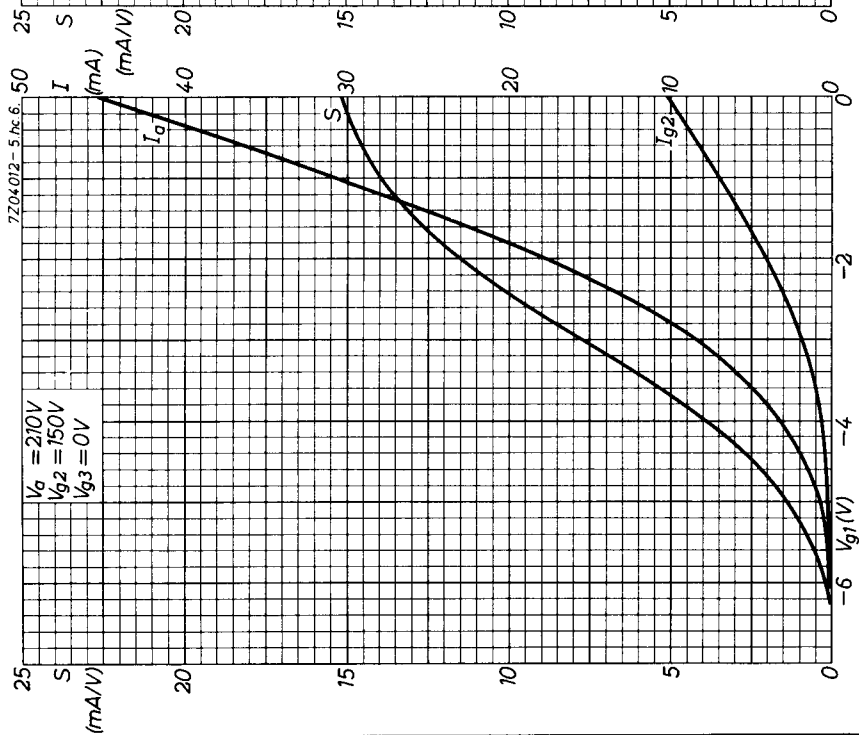
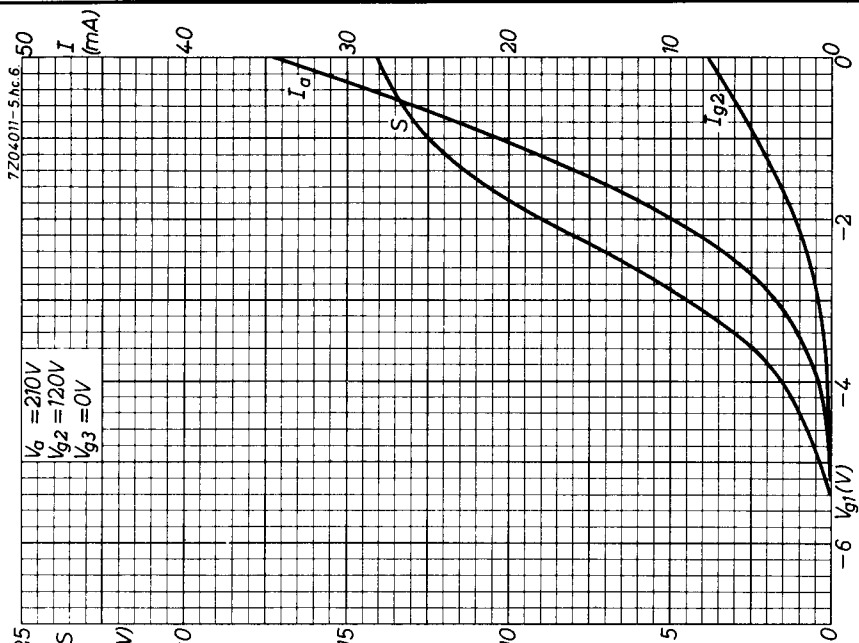
Radiation capacitances measured to a surrounding cylinder, internal diameter 52 mm, height 98 mm.

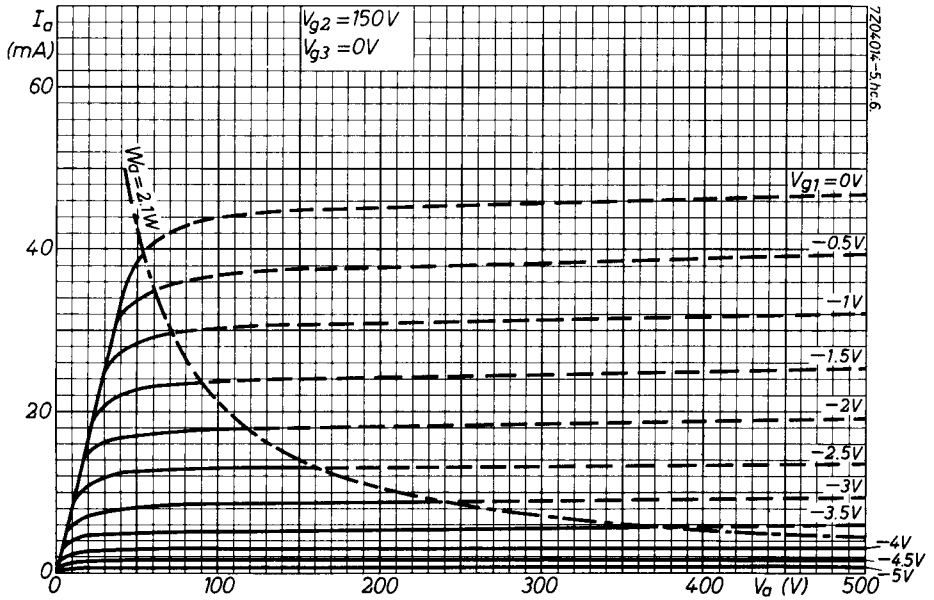
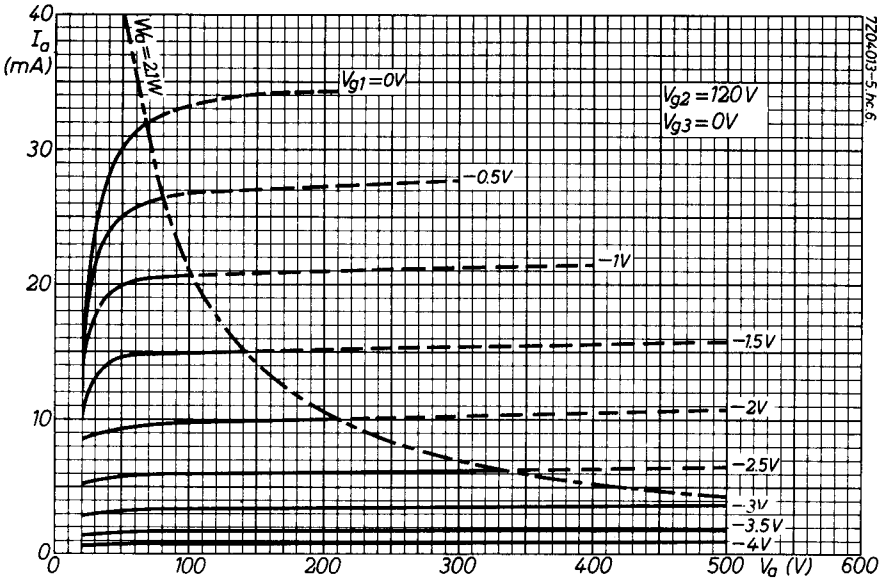
	I	II	
Grid No.1 to grid No.2, grid No.3, cathode, heater and screen	C_{g_1/g_2g_3kfs}	8	8.7 pF
Grid No.1 to grid No.2, grid No.3, cathode, heater and screen Cathode current = 12.1 mA	C_{g_1/g_2g_3kfs}	10.8	pF
Anode to grid No.2, grid No.3, cathode, heater and screen	C_{a/g_2g_3kfs}	3.5	max. 4.1 pF
Anode to grid No.1	C_{ag_1}		max. 15 mpF
Grid No.1 to heater	C_{g_1f}		max. 0.15 pF
Cathode to heater	C_{kf}	4	pF
Grid No.1 radiation capacitance	C_{rg_1}	max. 25	mpF
Anode radiation capacitance	C_{ra}	max. 25	mpF

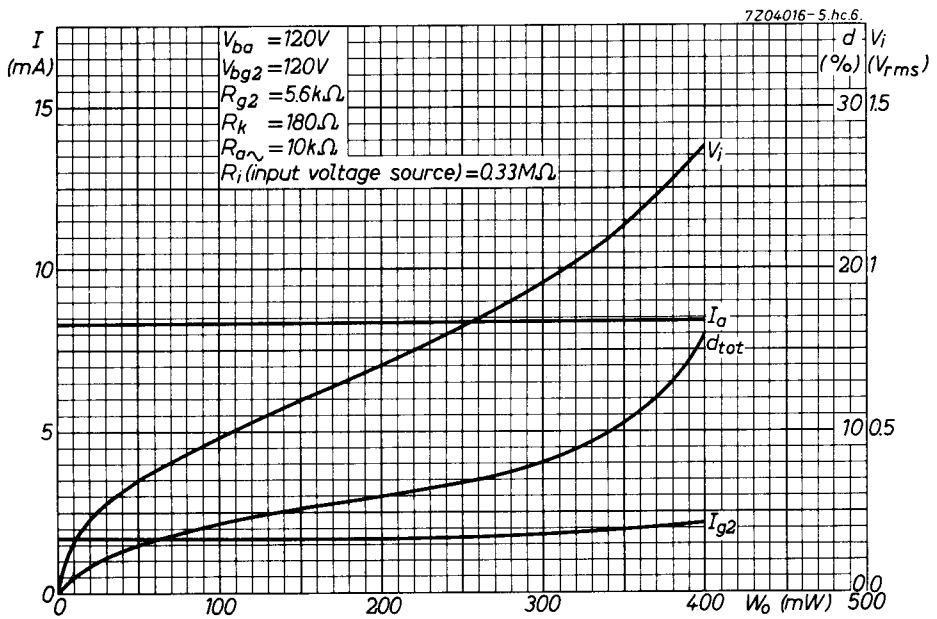
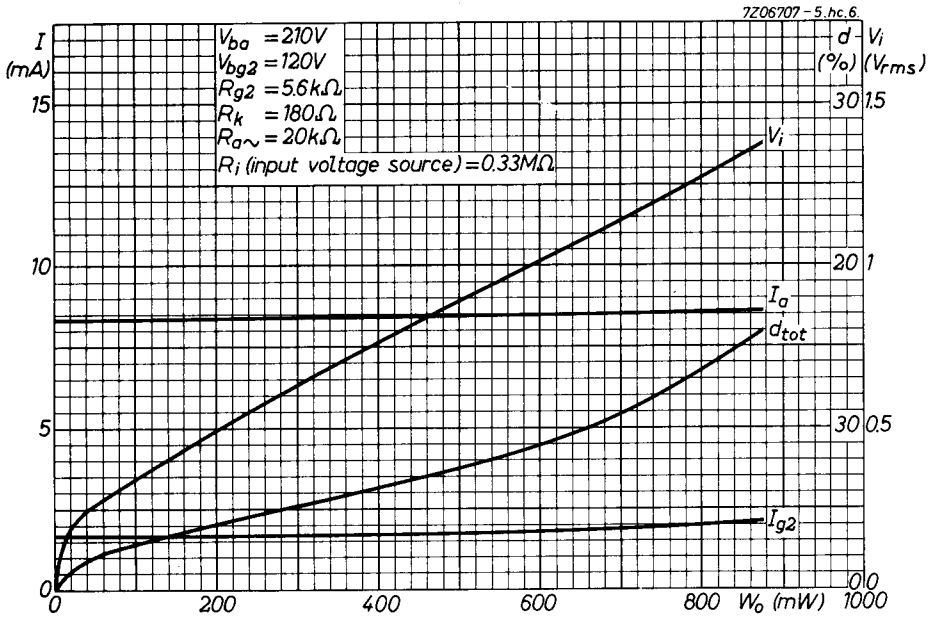
LIFE EXPECTANCY

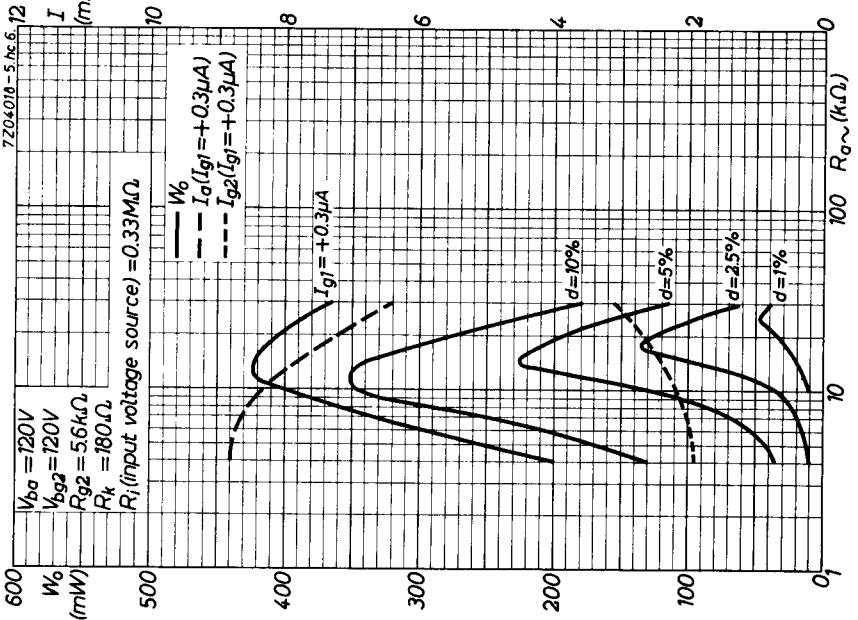
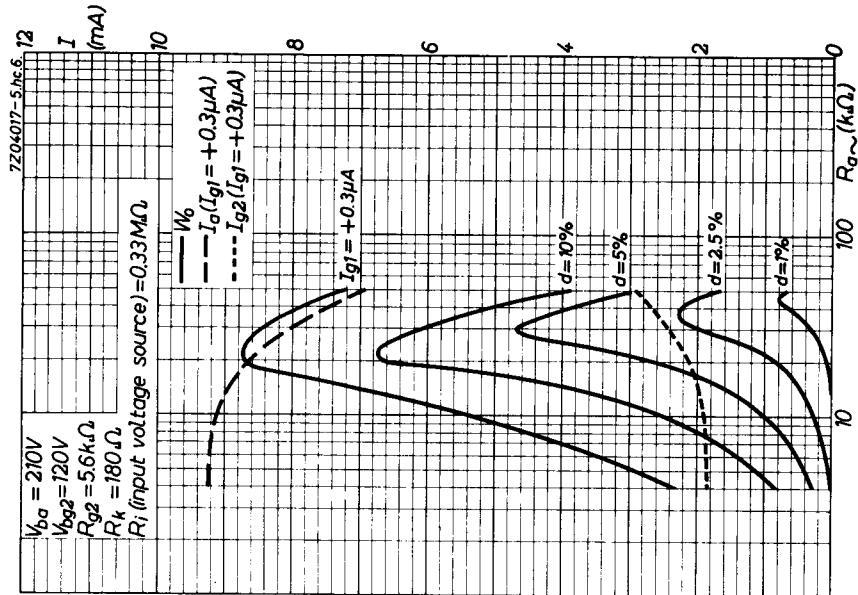
When the tube is operated under the following conditions the range values of the characteristics in column III may be expected not to be exceeded during an operation period of 10 000 hours.

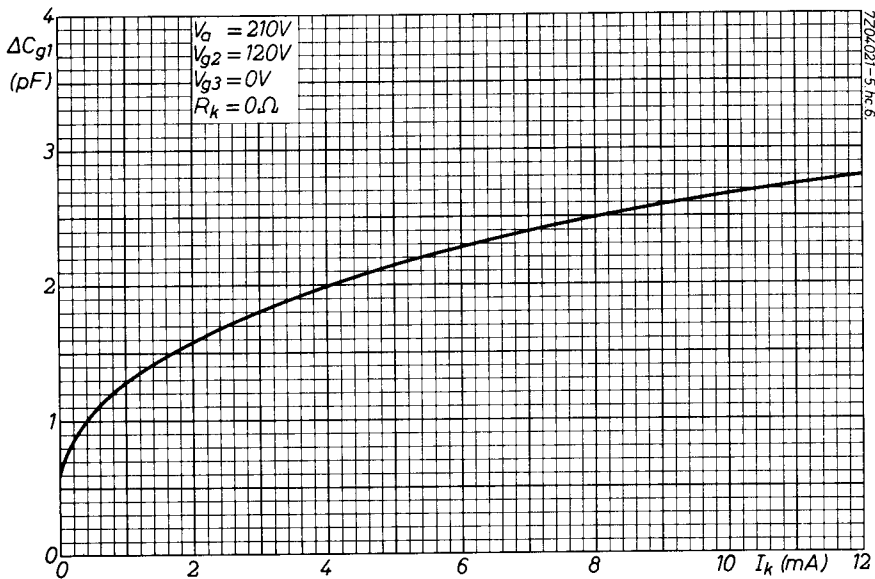
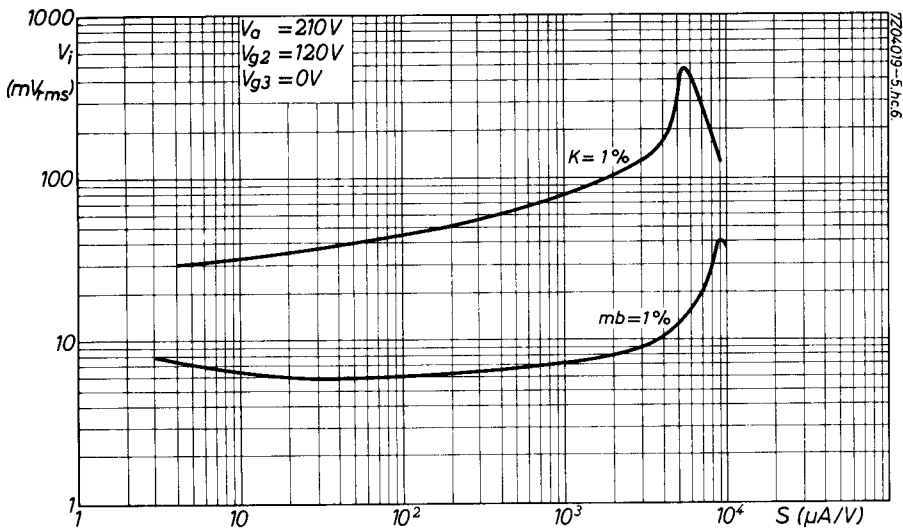
Anode voltage	V_a	210 V
Grid No.3 voltage	V_{g_3}	0 V
Grid No.2 voltage	V_{g_2}	120 V
Cathode resistor	R_k	165 Ω

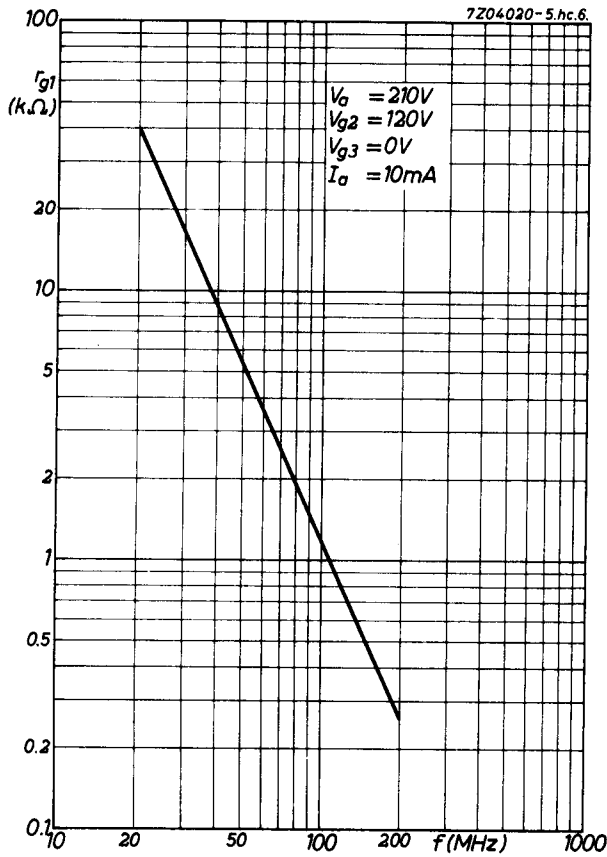












PHILIPS

Data handbook



Electronic
components
and materials

E83F

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