S.Q. TUBE

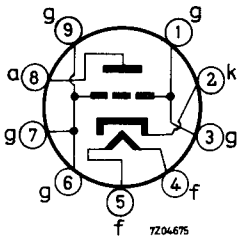
Special quality U.H.F. triode designed for use as R.F. amplifier and oscillator (max. frequency 1000 MHz).

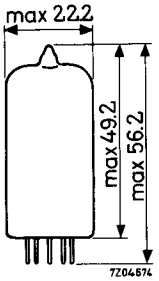
QUICK REFERENCE DATA			
Life test	10 000 hours		
Low interface resistance			
Mechanical quality	Shock and vibration resistant		
Base	Noval		
Heating	Indirect A.C. or D.C.; parallel supply		
Heater voltage	V_f	6.3	V
Heater current	I_f	280	mA
Anode current	I_a	25	mA
Mutual conductance	S	28	mA/V

DIMENSIONS AND CONNECTIONS

Dimensions in mm

Base: Noval





CHARACTERISTICS

Anode supply voltage	V_{ba}	200	V
Anode resistor	R_a	2.4	kΩ
Cathode resistor	R_k	47	Ω
Anode current	I_a	25	mA
Mutual conductance	S	28	mA/V
Amplification factor	μ	60	

CAPACITANCES

Without shield

Anode to cathode and heater	$C_{a/kf}$	0.1	pF
Grid to cathode and heater	$C_{g/kf}$	7	pF
Anode to grid	C_{ag}	1.4	pF

With external shield

Anode to cathode and heater	$C_{a/kf}$	0.09	pF
Grid and screen to cathode and heater	$C_{gs/kf}$	7.5	pF
Anode to grid and shield	$C_{a/gs}$	1.9	pF

SHOCK AND VIBRATION RESISTANCE

The following test conditions are applied to assess the mechanical quality of the tube. These conditions are not intended to be used as normal operating conditions.

Shock

The tube is subjected 5 times in each of 4 positions to an acceleration of 500 g supplied by an NRL shock machine with the hammer lifted over an angle of 30^{o}.

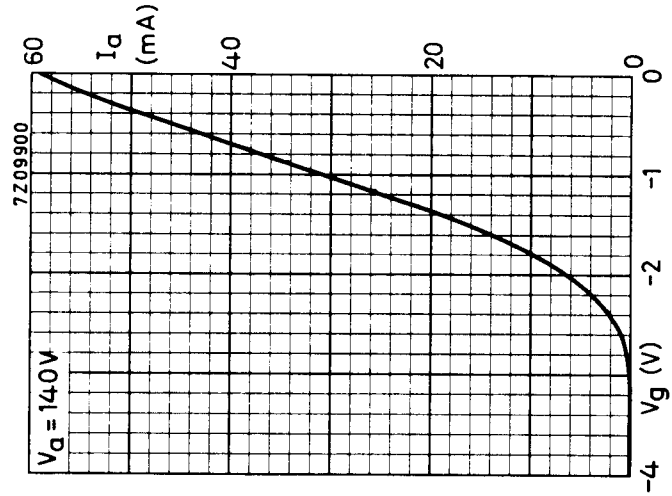
Vibration

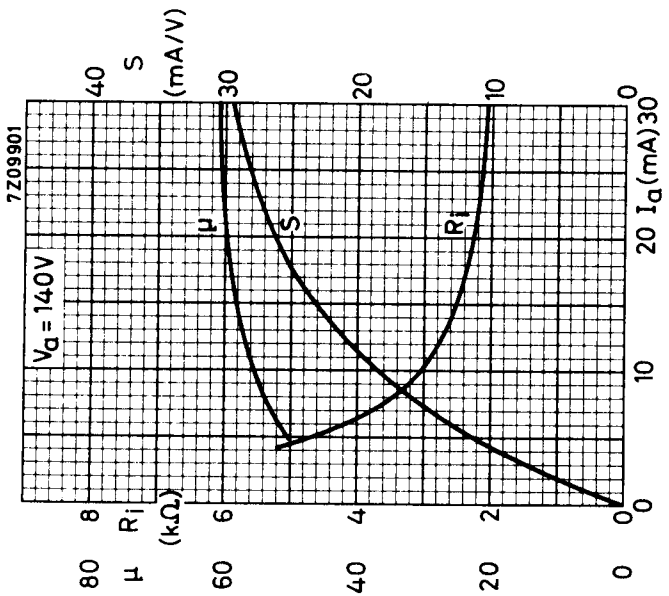
The tube is subjected during 32 hours in each of 3 positions to a vibration frequency of 50 Hz with an acceleration of 2.5 g.

LIMITING VALUES (Absolute max. rating system)

Anode voltage	V_{a_o}	max. 400	V
	V_a	max. 200	V
Anode dissipation	W_a	max. 4.5	W
Grid voltage	$-V_g$	max. 20	V
Cathode current	I_k	max. 35	mA
Grid resistor	R_g	max. 500	kΩ
Voltage between cathode and heater	V_{kf}	max. 100	V

Heater voltage: The average heater voltage should be 6.3 V.
Variations of the heater voltage exceeding the range of 6.0 V to 6.6 V will shorten the tube life.


7Z09900
V_a = 140V
I_a (mA)
60
40
20
0
0
-1
-2
-4
V_g (V)


7Z09901
V_a = 140V
S (mA/V)
40
30
20
10
0
μ
S
R_i
0
10
20
30
I_a(mA)
μ
80
60
40
20
0
R_i (kΩ)
8
6
4
2
0

PHILIPS

Data handbook

Electronic components and materials

EC8010

page	sheet	date
1	1	1968.12
2	2	1968.12
3	3	1968.12
4	4	1968.12
5	FP	2001.04.13