

FLYING SPOT SCANNER TUBE

The Q13-110GU is a 13 cm diameter cathode-ray tube intended for flying spot applications.

QUICK REFERENCE DATA	
Accelerator voltage	25 kV
Deflection angle	40°
Resolution	1000 lines

SCREEN

Metal backed phosphor

Type : GU

Colour : white

Persistence : very short

Useful screen diameter min. 108 mm

HEATING

Indirect by A.C. or D.C.; series or parallel supply

Heater voltage V_f 6,3 V

Heater current I_f 300 mA

CAPACITANCES

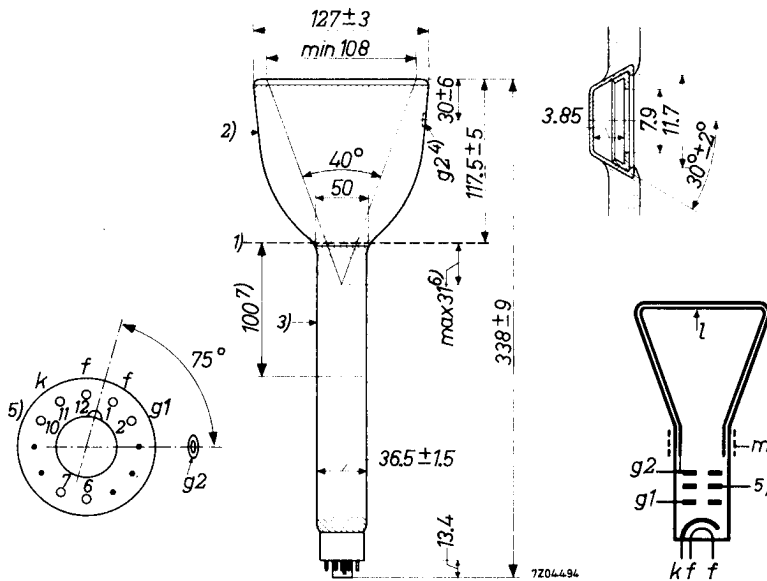
Grid No.1 to all other electrodes C_{g1} 6,5 pF

Cathode to all other electrodes C_k 6,5 pF

Accelerator to outer conductive coating $C_{g2(\ell)/m}$ 250 to 450 pF

MECHANICAL DATA

Dimensions in mm



Mounting position: any, except with screen downwards and the axis of the tube making an angle of less than 50° with the vertical.

Base

Duodecal 7p.

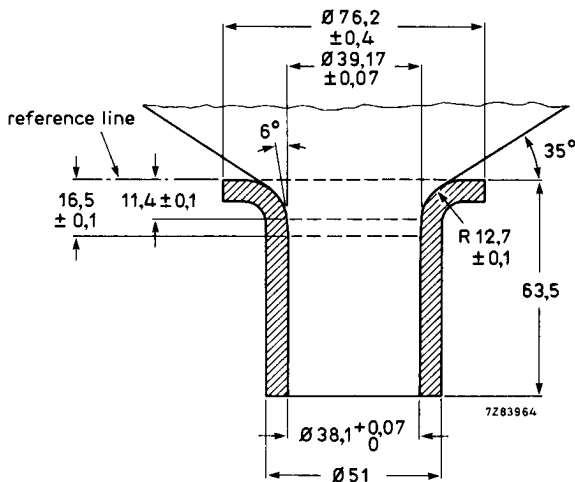
- 1) Reference line, determined by the plane of the upper edge of the reference line gauge when the gauge is resting on the cone.
- 2) Insulating outer coating; should not be in close proximity to any metal part.
- 3) Conductive outer coating; to be grounded.
- 4) Recessed cavity contact.
- 5) Spark trap; to be grounded.
- 6) The distance between the deflection centre and the reference line should not exceed 31 mm.
- 7) Distance between the centre of the magnetic length of the focusing unit and the reference line.

FOCUSING magnetic

DEFLECTION magnetic

REFERENCE LINE GAUGE

Dimensions in mm



OPERATING CHARACTERISTICS

Accelerator voltage

$V_{g2(l)}$ 25 kV

Beam current

I_l 50 to 150 μA

Negative grid No. 1 cut-off voltage

$-V_{g1}(I_l=0)$ 50 to 100 V

Resolution at centre of screen better than 1000 lines

LIMITING VALUES (Absolute max. rating system)

Accelerator voltage	$V_{g2(\ell)}$	max. 27 kV min. 20 kV
Grid No.1 voltage,		
negative value	$-V_{g1}$	max. 200 V
positive value	$+V_{g1}$	max. 0 V
peak positive value	$+V_{g1p}$	max. 2 V
Cathode current	I_k	max. 150 μ A
Voltage between heater and cathode ¹⁾		
cathode negative	V_{kf} (k neg.)	max. 125 V
cathode positive	V_{kf} (k pos.)	max. 200 V
peak value, cathode positive	V_{kfp} (k pos.)	max. 410 V ²⁾
External resistance between heater and cathode	R_{kf}	max. 1 M Ω
External grid No.1 resistance	R_{g1}	max. 1.5 M Ω
External grid No.1 impedance at a frequency of 50 Hz	Z_{g1} (f = 50 Hz)	max. 0.5 M Ω

REMARKS

Measures should be taken for the beam current to be switched off immediately when one of the time-base circuits becomes defective.

An X-ray radiation shielding with an equivalent lead thickness of 0.5 mm is required to protect the observer.

¹⁾ In order to avoid excessive hum, the A.C. component of the heater to cathode voltage should be as low as possible and should not exceed 20 V_{RMS}.

²⁾ During a heating-up period not exceeding 45 sec.

