

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

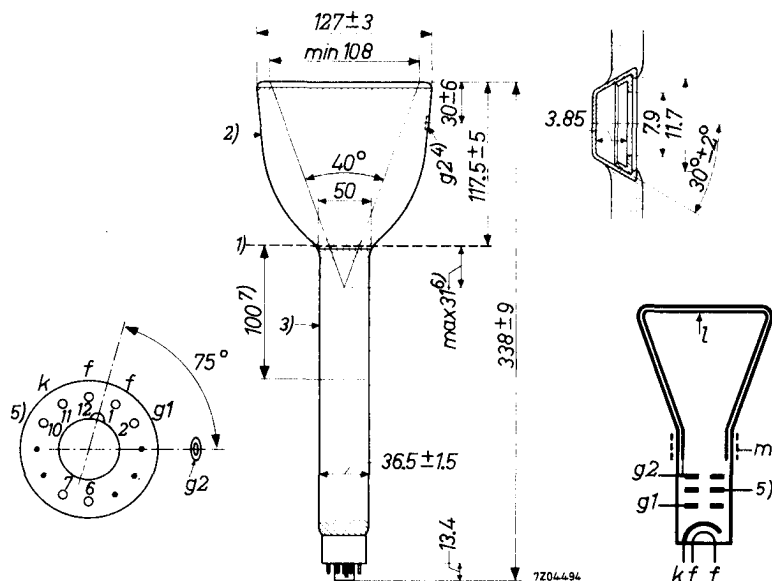
Grid No.1 to all other electrodes C_{g1} 6,5 pF

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.

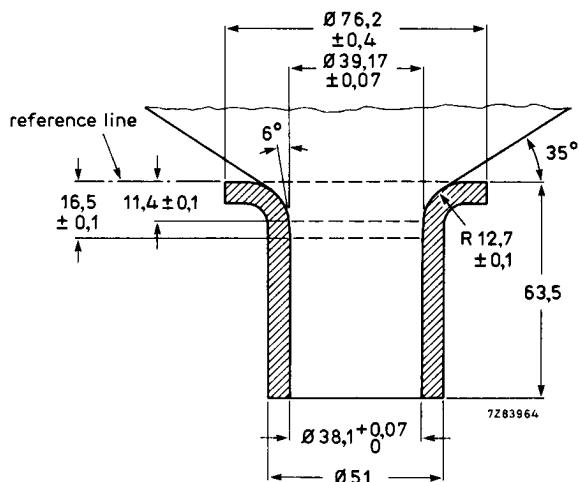
- 1) Reference line, determined by the plane of the upper edge of the reference line gauge when the gauge is resting on the cone.
- 2) Insulating outer coating; should not be in close proximity to any metal part.
- 3) Conductive outer coating; to be grounded.
- 4) Recessed cavity contact.
- 5) Spark 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	μA
Voltage between heater and cathode 1)				
cathode negative	$V_{kf} \text{ (k neg.)}$	max.	125	V
cathode positive	$V_{kf} \text{ (k pos.)}$	max.	200	V
peak value, cathode positive	$V_{kf_p} \text{ (k pos.)}$	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	$Z_{g1} \text{ (f = 50 Hz)}$	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.

