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"MECTRON" TAKATSUKI

1.5"-36°, RECTANGULAR PICTURE TUBE
40CB4

The 40CB4 is an 1.5"-36°, rectangular picture tube of the electro-static focus and magnetic deflection type. The 40CB4 employs a very small diameter neck of 0.512"ϕ (13mm). The 40CB4 has a 2.8 volt 107milliampere heater and its maximum overall length is 4.488"maximum thus very suitable for micro portable T.V.set and view finder in compact T.V. camera.

GENERAL DATA

ELECTRICAL DATA

Heater Current at 2.8 volts	107 mA
Direct Interelectrode Capacitance:	
Grid No.1 to all other electrodes	10 pF
Cathode to all other electrodes	4 pF
External conductive coating to anode	45 max. pF
	25 min. pF
Focusing Method	Electrostatic
Deflection Method	Magnetic
Deflection Angles (Approx.)	
Diagonal	36 degrees
Horizontal	29 degrees
Vertical	24 degrees
Electron Gun:	
Ion trap	Not Required
Focus lens	Bipotential

OPTICAL DATA

Faceplate	Filterglass
Light transmission at center (Approx.)	88%
Phosphor	P4-Sulfide Type
	Aluminized
Fluorescence	White
Persistence	Medium short

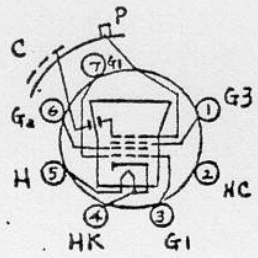
MECHANICAL DATA

Tube Dimensions:	
Overall length	4.488" max. (114 mm)
Greatest dimensions of tube:	
Diagonal	1.654"± 0.059"(42.0±1.5 mm)
Width	1.339"± 0.059"(34.0±1.5 mm)
Height	1.102"± 0.059"(28.0±1.5 mm)

Minimum screen dimensions (projected)	
Diagonal	1.417" (36 mm)
Width	1.142" (29 mm)
Height	0.906" (23 mm)
Weight (Approx.)	35 gr.
Operating Position	Any
Anode Cap	Small Cavity (J1-32)
Base	Small-Button Special miniature 7 pin
Basing	

Pin 1-Grid No.3
Pin 2-NC
Pin 3-Grid No.1
Pin 4-Heater. Cathode
Pin 5-Heater
Pin 6-Grid-No.2
Pin 7-Grid-No.1

Bottom view



Cap-Anode (Grid No.4 screen collector)

C-External conductive coating

GRID-DRIVE SERVICE

Unless otherwise specified, voltage values are positive with respect to cathode.

MAXIMUM AND MINIMUM RATINGS
(Design-Maximum Values)

Anode Voltage	6000 max. volts 4000 min. volts
Grid-No.3 (Focusing) Voltage:	
Positive value	750 max. volts 250 min. volts
Grid-No.2 Voltage	100 max. volts 70 min. volts
Grid-No.1 Voltage:	
Negative-bias value	100 max. volts
Positive-bias value	0 max. volts
Positive-peak value	2 max. volts
Heater Voltage	3.1 max. volts 2.5 min. volts

EQUIPMENT DESIGN RANGES

Grid-No.3 Current	-25 to +25 μA
Grid-No.2 Current	-15 to +15 μA
Field Strength of Adjustable Centering magnet	0 to 10 gausses

TYPICAL OPERATING CONDITIONS

Anode Voltage	5000 volts
Grid-No.2 Voltage	80 volts
Grid-No.3 Voltage for focus 1)	400 to 530 volts
Grid-No.1 Voltage for visual extinction of focused raster	-13 to -43 volts

MAXIMUM CIRCUIT VALUES

Grid-No.1 Circuit Resistance	1.0 max. megohms

CATHODE-DRIVE SERVICE

Unless otherwise specified, voltage values are positive with respect to Grid-No.1

MAXIMUM AND MINIMUM RATINGS
(Design-Maximum Values)

Anode Voltage	6000 max. volts 4000 min. volts
Grid-No.3 (Focusing) Voltage:	
Positive value	750 max. volts 250 min. volts
Grid-No.2 Voltage	100 max. volts 70 min. volts
Cathode Voltage:	
Positive-bias value	100 max. volts
Negative-bias value	0 max. volts
Negative-peak value	2 max. volts
Heater Voltage	3.1 max. volts 2.5 min. volts

EQUIPMENT DESIGN RANGES

Grid-No.3 Current	-25 to +25 μA
Grid-No.2 Current	-15 to +15 μA
Field Strength of Adjustable Centering magnet	0 to 10 gausses

TYPICAL OPERATING CONDITIONS

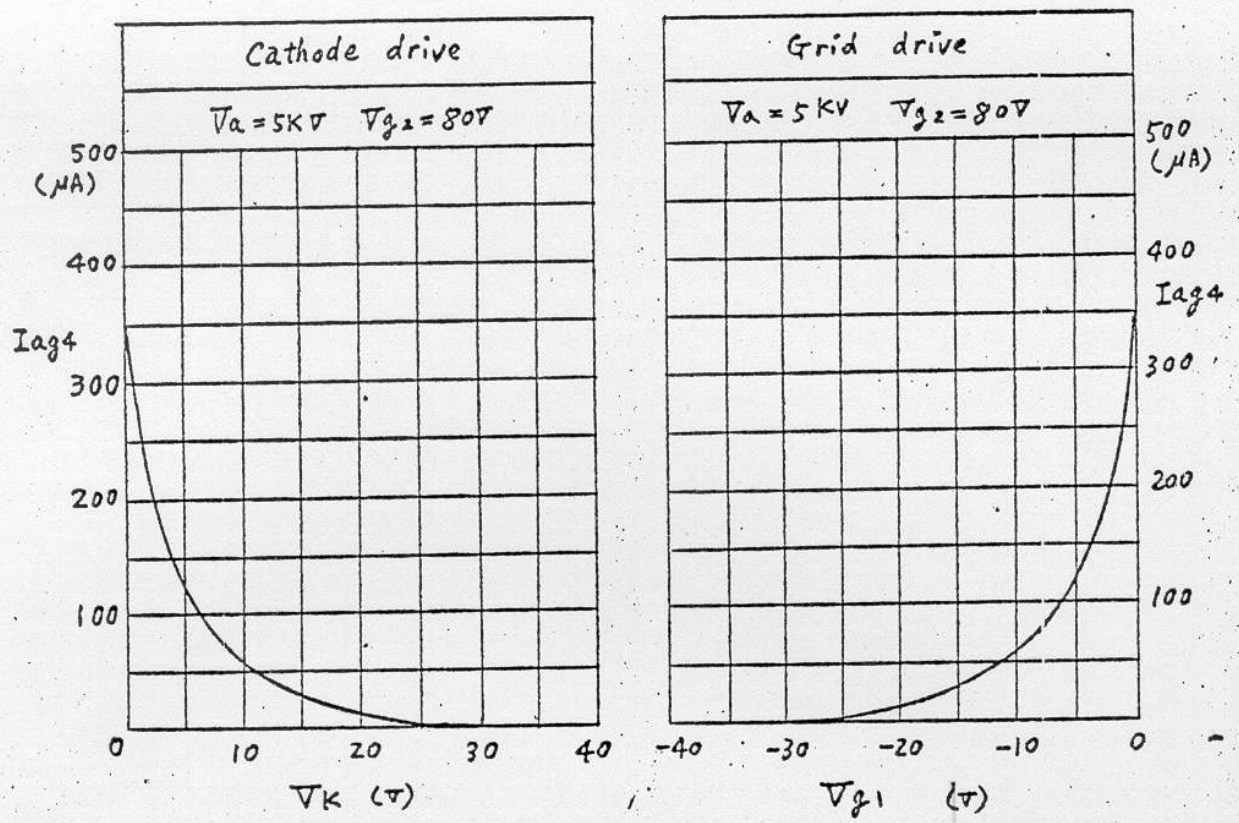
Anode Voltage	5000 volts
Grid-No.2 Voltage	80 volts
Grid-No.3 Voltage for focus 1)	400 to 580 volts
Cathode Voltage for visual extinction of focused raster	12 to 34 volts

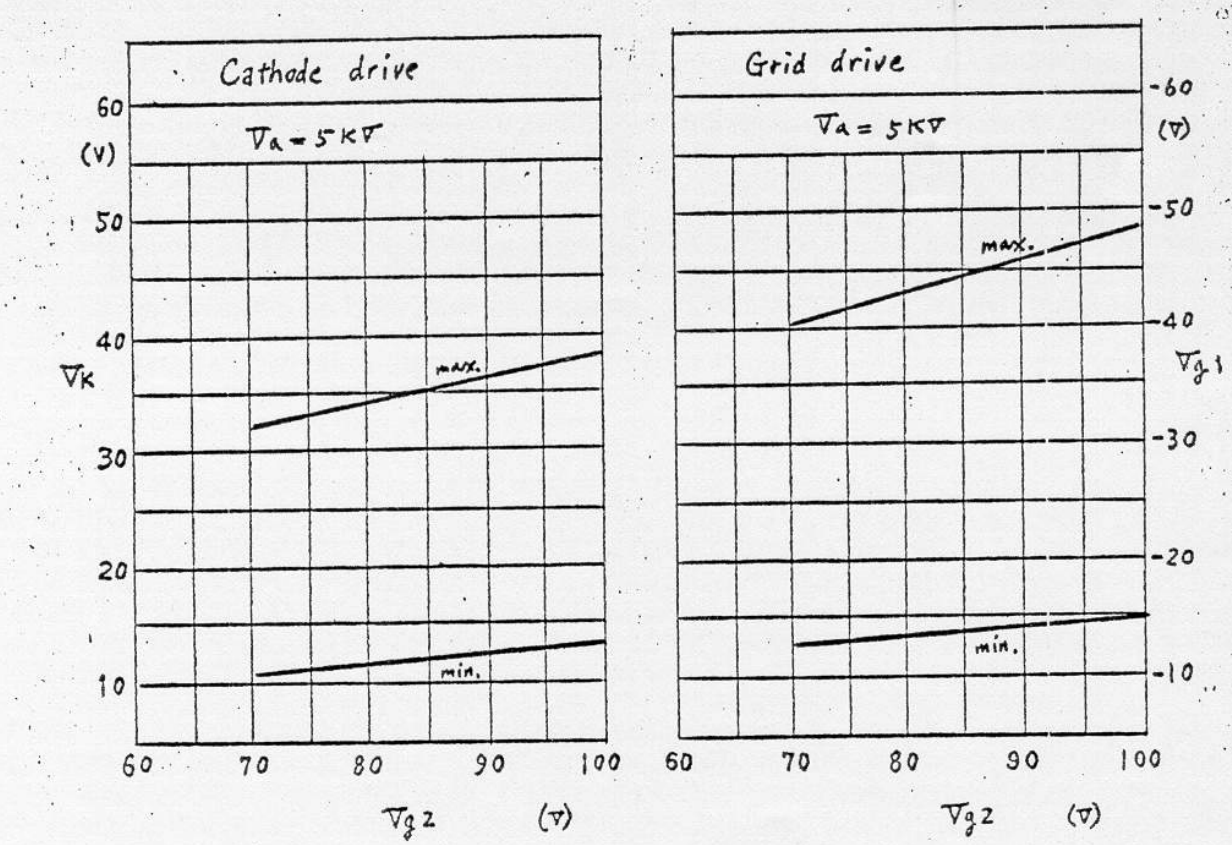
MAXIMUM CIRCUIT VALUES

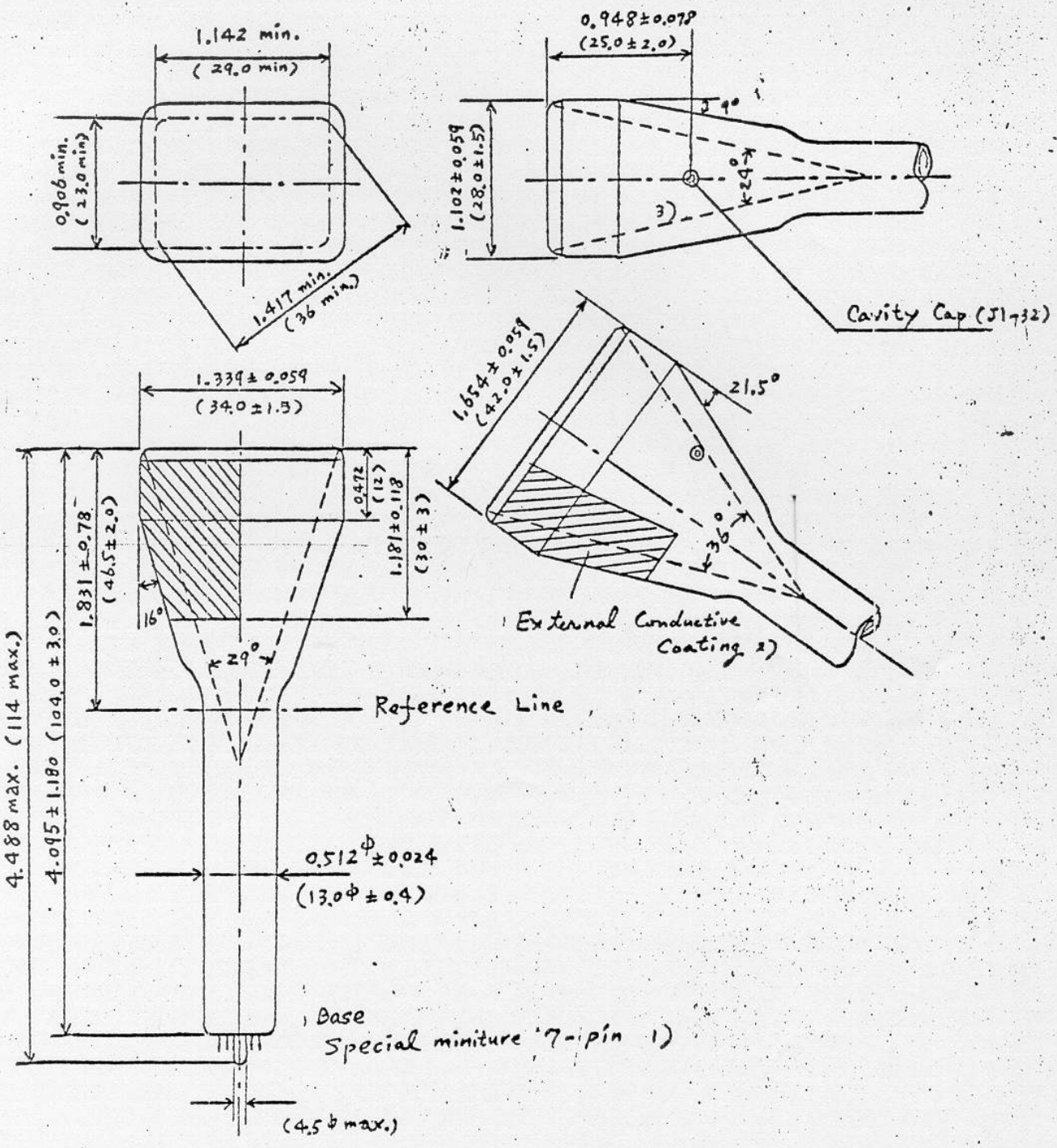
Grid-No.1 Circuit Resistance	1.0 max. megohm s

NOTES

1) Voltage range necessary to obtain optimum overall focus at a beam current of 2 μA.


Cathode drive
Va = 5KV Vg2 = 80V
500 (μA)
400
Iag4
300
200
100
0 10 20 30 40
VK (V)
Grid drive
Va = 5 KV Vg2 = 80V
500 (μA)
400
Iag4
300
200
100
-40 -30 -20 -10 0
Vg1 (V)


Cathode drive
Va = 5KV
60 (V)
50
40
VK
30
20
10
max.
min.
60 70 80 90 100
Vg2 (V)
Grid drive
Va = 5KV
-60 (V)
-50
-40
Vg1
-30
-20
-10
max.
min.
60 70 80 90 100
Vg2 (V)



Dimension in Inch (mm)

NOTES (Concerning Sheet 6)

1) The socket for this base should not be rigidly mounted; it should have flexible leads and be allowed to move freely.

2) The configuration of the outer coating is optional, but must contain the contact area as shown in the drawing.
The external coating must be earthed.

3) This area must be kept clean.