

TENTATIVE DATA

QUICK REFERENCE DATA

Cold cathode, neon-filled, side viewing indicator tube with long life expectancy. This device incorporates a red filter to improve the visual contrast and will form a compatible display with the ZM1040 numerical indicator tube.

Character height	20	mm
	0.8	in
Characters	+	-
Cathode current	4.5	mA
Minimum supply voltage	170	V

CHARACTERISTICS AND OPERATING CONDITIONS (measured at room temperature unless otherwise stated)

Minimum anode-to-cathode voltage necessary for ignition	170	V
---	-----	---

Anode-to-cathode voltage below which all tubes will extinguish	120	V
--	-----	---

D.C. operation

Recommended cathode current	4.5	mA
-----------------------------	-----	----

Nominal anode-to-cathode maintaining voltage at 4.5mA (see page C1)	140	V
---	-----	---

Minimum positive bias on non-conducting cathode (see note 1 and page C2)	60	V
--	----	---

Half-wave a.c. supply

Recommended cathode current

Average	2.0	mA
---------	-----	----

Peak	8.0	mA
------	-----	----

Minimum positive bias on non-conducting cathode (see note 1)	40	V
--	----	---

LIFE EXPECTANCY

This tube uses the same techniques as other established tubes in the same range and it is confidently expected that the life will be similar.

RATINGS (ABSOLUTE MAXIMUM SYSTEM)

Cathode current (each character)

Maximum average (averaging time = 20ms)	6.0	mA
Maximum peak	20	mA
Minimum average during conduction	3.0	mA

Bulb temperature

Maximum	+70	°C
Minimum (see note 2)	-50	°C

MOUNTING POSITION

Any

The characters are viewed through the side of the envelope and will appear upright (within $\pm 1.5^\circ$) when the tube is mounted vertically.

ACCESSORIES

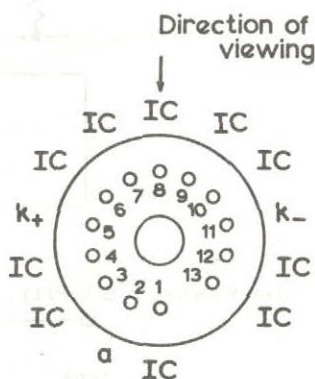
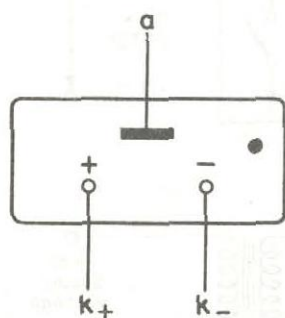
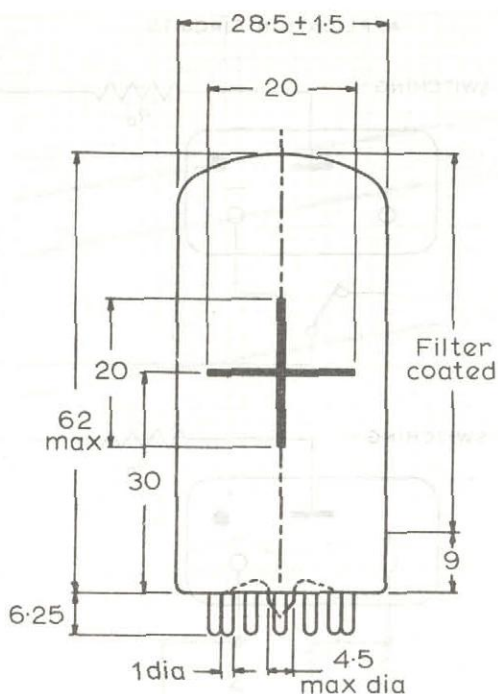
Valve holder	B8 702 28
--------------	-----------

OPERATING NOTES

1. To obtain a good indication over life the voltage between the conducting and remaining cathode should be greater than the values specified. These conditions are automatically satisfied when the non-conducting cathode is isolated by, for example, mechanical contacts.
2. Bulb temperatures below 10°C result in a reduced life expectancy and changes in characteristics.
For operation in equipment to be used within a wide temperature range, the use of constant current operation (high supply voltage and high anode resistor) is recommended.

CHARACTER INDICATOR TUBE

ZM1041



B13B Base

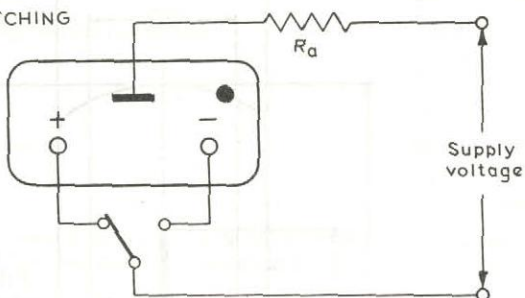
B4815

All dimensions in mm

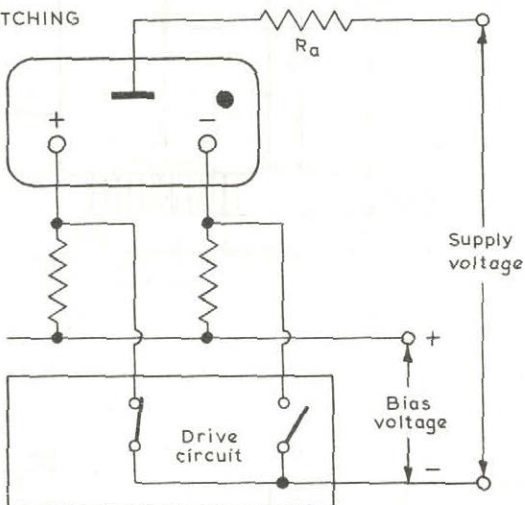


APPLICATION CIRCUITS

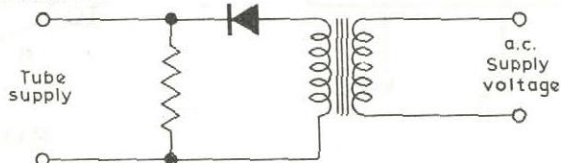
MECHANICAL SWITCHING



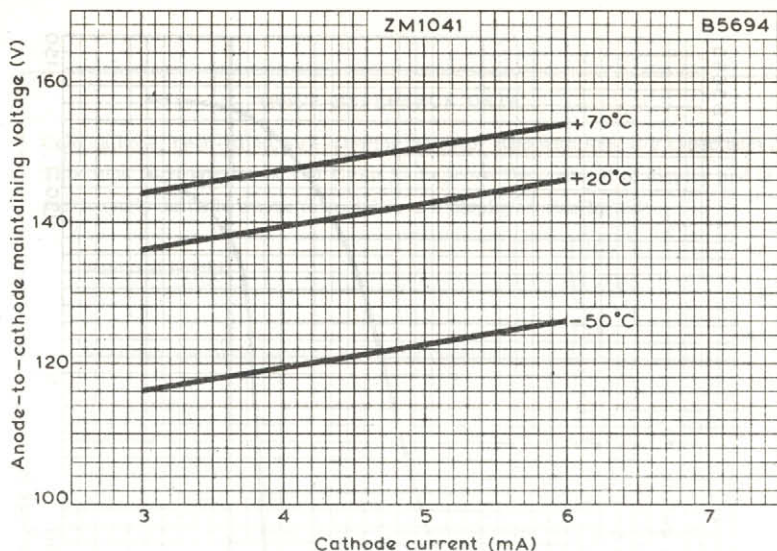
ELECTRONIC SWITCHING



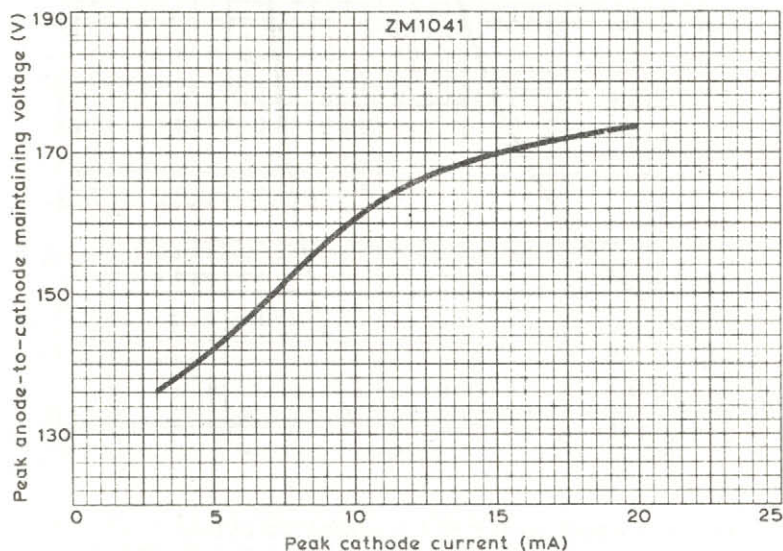
HALF-WAVE A.C. SUPPLY



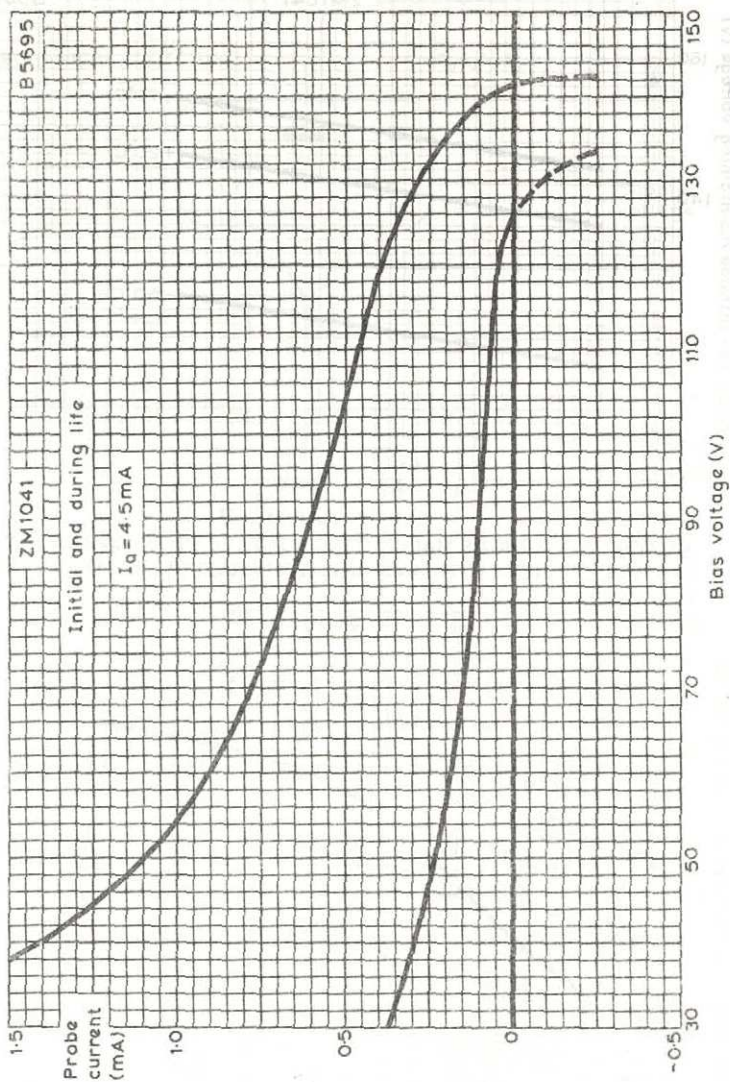
B5698



ANODE-TO-CATHODE MAINTAINING VOLTAGE PLOTTED AGAINST CATHODE CURRENT WITH AMBIENT TEMPERATURE AS PARAMETER



PEAK ANODE-TO-CATHODE MAINTAINING VOLTAGE PLOTTED AGAINST PEAK CATHODE CURRENT



PROBE CURRENT TO THE NON-ILLUMINATED CATHODE PLOTTED AGAINST CATHODE BIAS VOLTAGE (D.C. OPERATION)