

INDICATOR TUBE

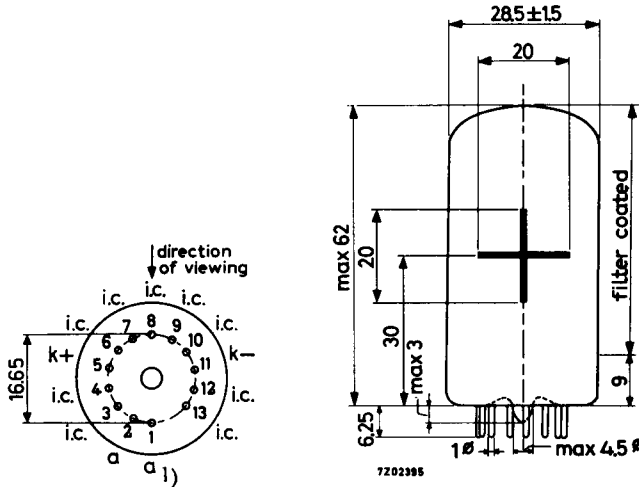
Cold cathode sign indicator tube for side viewing.

QUICK REFERENCE DATA	
Sign height	20 mm
Signs	+ -
Supply voltage	170 V
Cathode current	4.5 mA

DIMENSIONS AND CONNECTIONS

Dimensions in mm

Base: B13B



GENERAL

The tube has the same physical dimensions as the ZM1040 numeral indicator tube. The ZM1041 is provided with a red contrast filter.

1) Pins 1 and 2 to be interconnected externally.

CHARACTERISTICS

Ignition voltage	V_{ign}	max.	170	V
Maintaining voltage	V_m	see sheets 3 and 4		
Extinguishing voltage	V_{ext}	min.	120	V
"Off" cathode probe current characteristic		see sheet 4		

PRINCIPLE OF OPERATION

The tube contains two cathodes, in the form of the signs + and -, and a common anode. By applying a suitable voltage between the anode and one of the cathodes the corresponding sign will be covered by a red neon glow.

ACCESSORIES

Socket 2422 505 00001, 2422 505 00002 or 2422 505 00003

MOUNTING POSITION

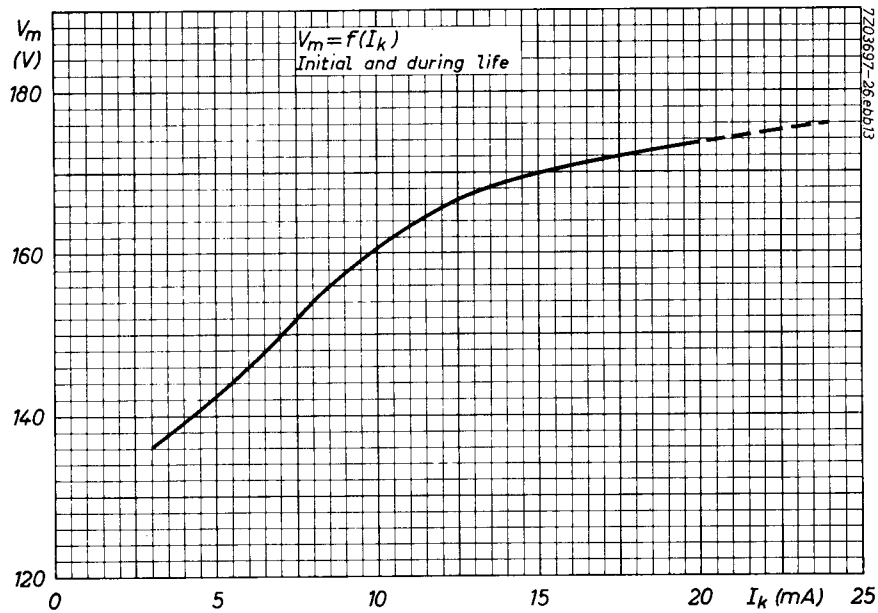
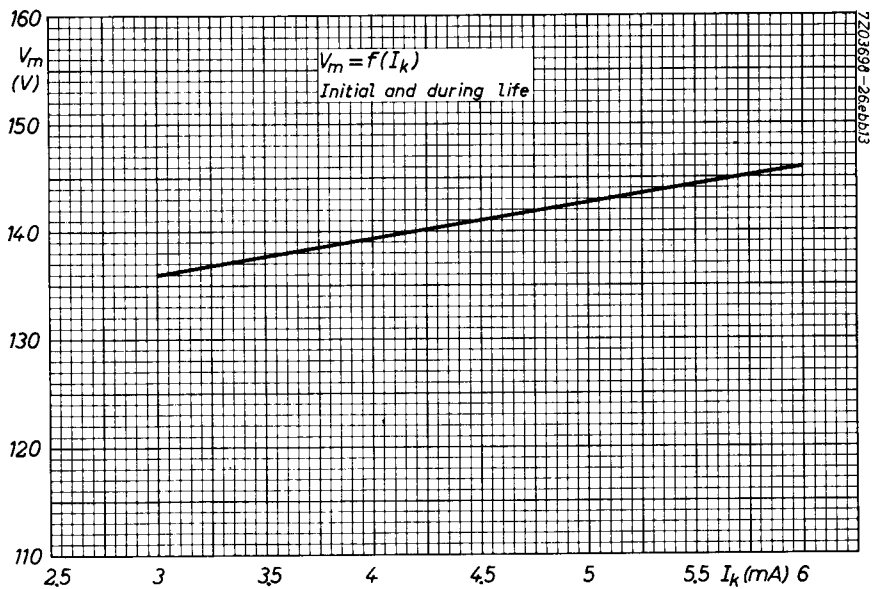
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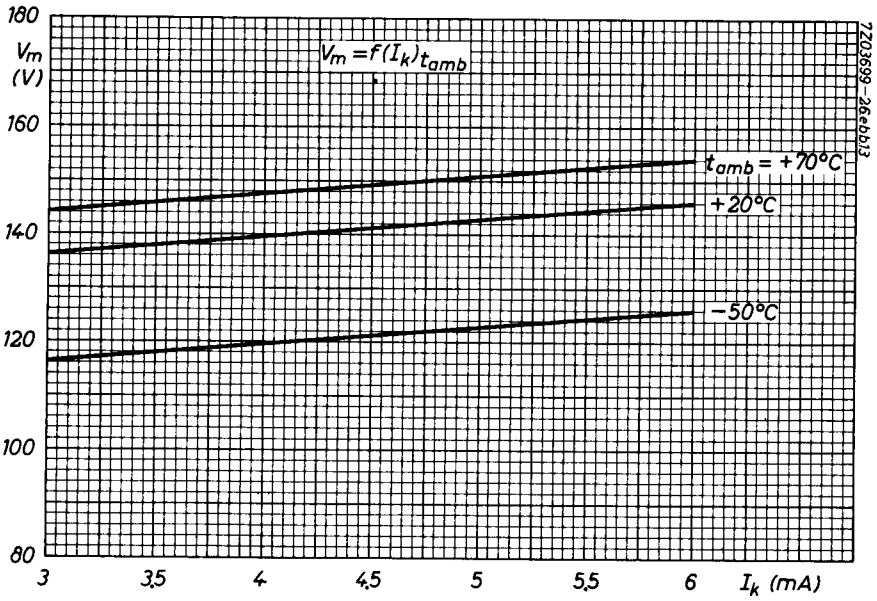
The signs are viewed through the side of the envelope.

LIMITING VALUES (Absolute max. rating system)

Anode voltage necessary for ignition	V_a	min.	170	V
Cathode current,				
average during any conduction period	I_k	min.	3	mA
average ($T_{av} = 20$ ms)	I_k	max.	6	mA
peak	I_{kp}	max.	20	mA
Impulse duration	T_{imp}	min.	80	μ s
Cathode selecting voltage	V_{kk}	min.	60	V
Bias voltage between anode and "off" cathode	V_{bias}	max.	120	V
Bulb temperature	t_{bulb}	max.	+70	$^{\circ}$ C ¹⁾
		min.	-50	$^{\circ}$ C

¹⁾ Bulb temperatures below 10 $^{\circ}$ C result in a reduced life expectancy and changes in characteristics (see sheet 4).
 In designing equipment to be used within a wide temperature range the use of "constant current operation" (high supply voltage with a high anode series resistor) is recommended.





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PHILIPS

Data handbook



Electronic
components
and materials

ZM1041

page	sheet	date
1	1	1969.09
2	2	1969.09
3	3	1969.03
4	4	1969.03
5	FP	2000.04.21