SYLVANIA engineering data service

SYLVANIA
3BMP1
3BMP-

CHARACTERISTICS

GENERAL DATA

Focusing Method			Electrostatic
Deflection Method			Electrostatic
Types*	Fluorescence	Phosphorescence	Persistence
3BMP1	Green	——	Medium
3BMP2	Blue - Green	Green	Long
3BMP7	Blue - White	Yellow	Long
3BMP11	Blue	——	Short
3BMP12	Orange	Orange	Medium Long
Faceplate			Flat, Clear

* In addition to the types shown, the 3BMP- can be supplied with several other screen phosphors.

ELECTRICAL DATA

Heater Voltage	1.5 Volts
Heater Current	0.14 ±10% Ampere
Direct Interelectrode Capacitances (Maximum)	
Cathode to All Other Electrodes	4.2 μμf
Grid to All Other Electrodes	5.8 μμf
Between Deflecting Plates 1-2	2.1 μμf
Between Deflecting Plates 3-4	1.5 μμf
Deflecting Plate 1 to All Other Electrodes	5.8 μμf
Deflecting Plate 2 to All Other Electrodes	5.8 μμf
Deflecting Plate 3 to All Other Electrodes	4.5 μμf
Deflecting Plate 4 to All Other Electrodes	4.5 μμf

MECHANICAL DATA

Minimum Useful Screen Diameter	2.68 Inches
Bulb Contact (Recessed Small Ball Cap)	J1-22
Bulb	J24V
Base (Medium-Shell Diheptal 12-Pin)	B12-37
Basing	14J
Base Alignment	
D1-D2 trace aligns with Pin No. 5 and Tube Axis	±10 Degrees
Positive Voltage on D1 deflects beam approx. toward Pin No. 5	
Positive Voltage on D3 deflects beam approx. toward Pin No. 2	
Angle between traces D1-D2 and D3-D4	90 ±1 Degrees
Bulb Contact Alignment	
J1-22 contact aligns with D1-D2 trace	±10 Degrees
J1-22 contact on same side as Pin No. 5	

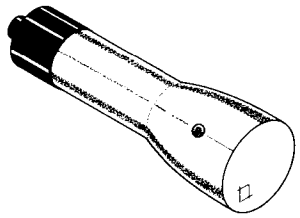
RATINGS

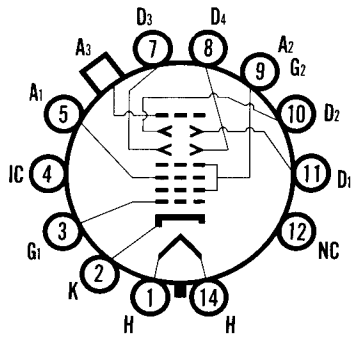
MAXIMUM RATINGS (Absolute Maximum Values)

Anode No. 3 Voltage	6600 Volts	dc
Anode No. 2 Voltage	2200 Volts	dc
Ratio Anode No. 3 to Anode No. 2 Voltage[1]	3.0	
Anode No. 2 Input (Av. except for 3BMP12)[2]	6.0 Watts	
Anode No. 1 Voltage (Focusing Electrode)	1500 Volts	dc
Grid No. 1 Voltage		
Negative Bias Value	200 Volts	dc
Positive Bias Value	0 Volts	dc
Positive Peak Value	0 Volts	
Peak Heater-Cathode Voltage		
Heater Negative with Respect to Cathode	50 Volts	
Heater Positive with Respect to Cathode	0 Volts	
Peak Voltage Between Anode No. 2 and Deflection Plate	550 Volts	

QUICK REFERENCE DATA

3" Direct Viewed
Round Glass Type
Electrostatic Deflection
Electrostatic Focus
Close Tolerances
Flat Face Plate
Post Deflection Acceleration
Very Low Heater Power





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SYLVANIA
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SPECIAL AND GENERAL PURPOSE
CATHODE RAY TUBES

TYPICAL OPERATING CONDITIONS[2]

Anode No. 3 Voltage	4000 Volts	dc
Anode No. 2 Voltage	2000 Volts	dc
Anode No. 1 Voltage for Focus	375 to 575 Volts	dc
Grid No. 1 Voltage Required for Cutoff[3]	−45 to −75 Volts	dc
Deflection Factor		
Deflecting Plates 1-2	180 to 220 Volts	dc/Inch
Deflecting Plates 3-4	133 to 163 Volts	dc/Inch
Deflection Factor Uniformity[4]	2%	Max.
Pattern Distortion[5]	2%	Max.
Modulation at Anode No. 3 Current = 25μAdc[4]	38 Volts	dc Max.
Line Width "A" at Anode No. 3 Current = 25μAdc	.016 Inches	Max.
Light Output at Anode No. 3 Current = 25μAdc[6] (3BMP1)	20 Foot Lamberts	Min.
Spot Position[7]	Within a 10 mm Square	

CIRCUIT VALUES

Grid Circuit Resistance	1.5 Megohms	Max.
Deflection Circuit Resistance[8]	1.0 Megohms	Max.

NOTES:

1. *These types are designed for optimum performance when operating at EB3/EB2 ratio of 2.0.*
2. *Type 3BMP12 can be severely and permanently damaged if current density is allowed to rise too high. Test and operate at minimum usable currents.*
3. *Visual extinction of undeflected focused spot.*
4. *Per MIL-E-1 specifications.*
5. *All portions of a raster pattern, adjusted so its widest points just touch the sides of a 1.938 inch square, will fall within the area bounded by the 1.938 inch square and an inscribed 1.862 inch square.*
6. *Measured in accordance with MIL-E-1 specifications using a raster size of 1⅞ x 1⅞ inches.*
7. *With tubes magnetically shielded, deflecting plates connected to Anode No. 2, and spot focused. Limit square centered on tube face, with sides parallel to deflection axes.*
8. *It is recommended that the deflecting electrode circuit resistance be approximately equal. Higher resistance values up to five megohms may be used for low beam current operation.*

OUTLINE