Thomas

INDUSTRIAL & MILITARY TUBES

ENGINEERING DATA

TYPE 5DYP-

BRIEF DESCRIPTION

The Thomas 5DYP- is a 5-inch diameter magnetic deflection cathode-ray tube designed for applications where minimum space and power supply requirements are important considerations. The tube incorporates a low voltage electrostatic focus lens designed to operate at or near cathode potential, a tight tolerance low grid drive characteristic, low heater current, and a short overall length. An aluminized phosphor screen is employed to increase light output and minimize screen charging effects.

GENERAL CHARACTERISTICS

ELECTRICAL DATA

Focusing Method	Electrostatic
Deflection Method	Magnetic
Deflection Angle, Approximately	53 Degrees
Direct Interelectrode Capacitances	
Cathode to All	6 uuf Max.
Grid No. 1 to All	8 uuf Max.
Grid No. 2 to All	6 uuf Max.

OPTICAL DATA

Phosphor Number (Note 1)	2	7	19	31
Fluorescence	Yel-Green	White	Orange	Green
Phosphorescence	Yel-Green	Yellow	Orange	Green
Persistence	Medium	Long	Long (Note 2)	Med-Short

Faceplate: Spherical, Clear

MECHANICAL DATA

Overall Length	8 7/8 ± 1/4 Inches
Greatest Diameter of Bulb	4 15/16 ± 1/32 Inches
Minimum Useful Screen Diameter	4 1/4 Inches
Bulb Number	J39½L1
Bulb Contact	J1-22
Base	B6-203
Basing	12M
Mounting Position	Any
Bulb Contact Alignment	
J1-22 Contact Aligns with Vacant Pin No. 3	±10 Degrees
J1-22 Contact on same side as Vacant Pin No. 3	
Weight	1 Pound

from JEDEC release #3673, April 9, 1962

TYPE 5DYP-

RATINGS (Absolute Maximum Values)

Heater Voltage	6.3 Volts
Heater Current @ 6.3 Volts	0.3 ± 10% Ampere
Accelerator Voltage	11,000 Max. Volts DC
Accelerator Input	6 Max. Watts
Focusing Electrode Voltage	1,100 Max. Volts DC
Grid No. 1 Voltage	770 Max. Volts DC
Grid No. 1 Voltage	
Negative Bias Value	180 Max. Volts DC
Positive Bias Value	0 Max. Volts DC
Positive Peak Value	2.0 Max. Volts
Peak Heater-Cathode Voltage	
Heater Negative with respect to cathode	180 Max. Volts
Heater Positive with respect to cathode	180 Max. Volts

TYPICAL OPERATING CONDITIONS

Accelerator Voltage	7,000 Volts DC
Focusing Electrode Voltage	0 to +250 Volts DC
Grid No. 2 Voltage	250 Volts DC
Grid No. 1 Voltage (Note 3)	-15 to -25 Volts DC
Line Width "A" (Note 4)	.013 Inch Max.
Modulation (Note 4)	12 Volts Max.
Spot Position (Note 5)	Within a 5/16 Inch Radius Circle

MAXIMUM CIRCUIT VALUES

Grid No. 1 Circuit Resistance	1.5 Max. Megohms

NOTES

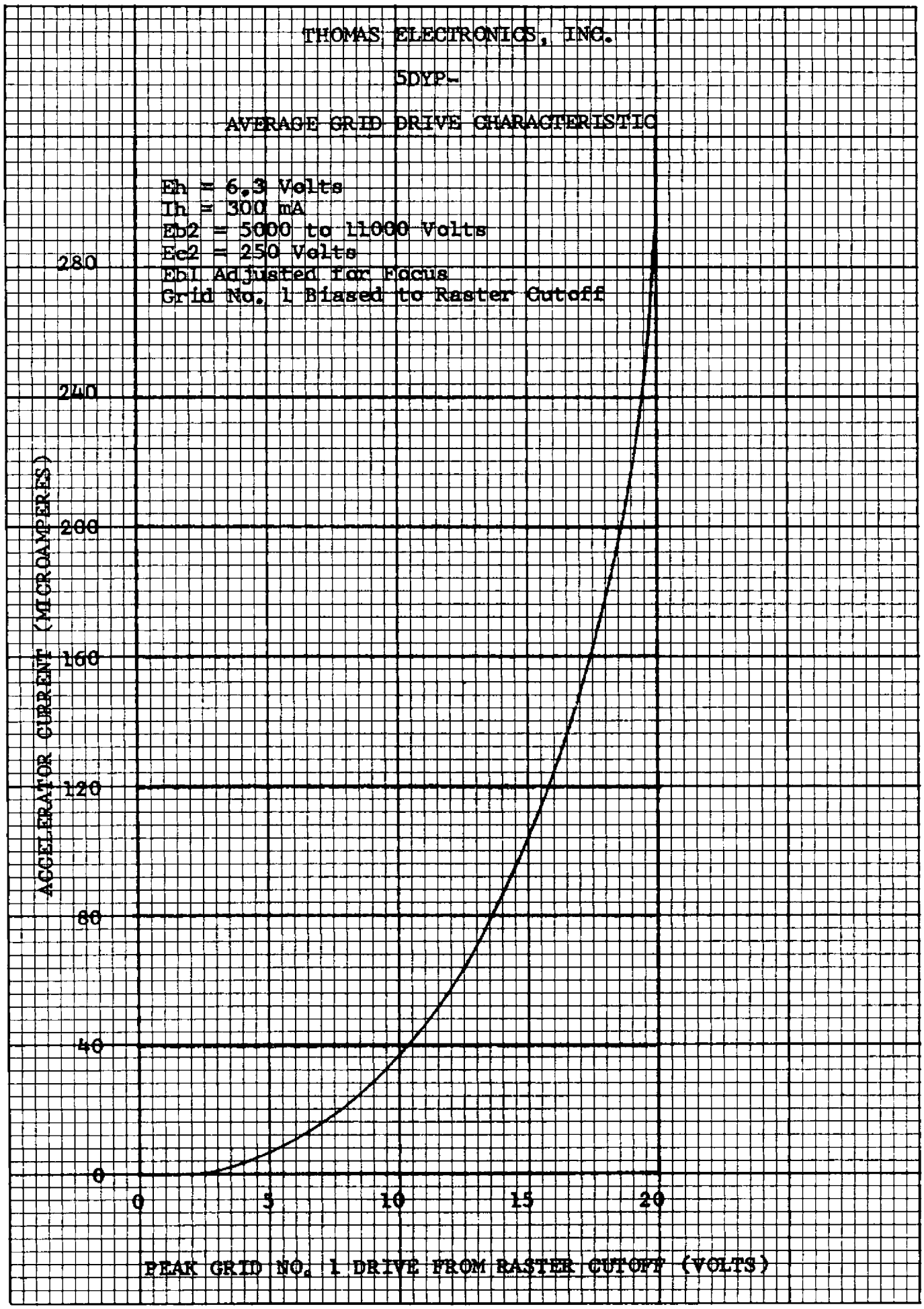
1. Other screen phosphors can be supplied upon request.
2. The P19 screen can be permanently damaged should the current density be permitted to rise too high. To prevent burning, minimum beam current densities should be employed.
3. Visual extinction of the undeflected, focused raster.
4. Measured in accordance with MIL-E-1 specifications at an accelerator current of 25 uAdc.
5. With the tube shielded against external influences, the undeflected and focused spot will fall within a 5/16 inch radius circle concentric with the tube face center.

THOMAS ELECTRONICS, INC.

5DYP-

AVERAGE GRID DRIVE CHARACTERISTIC

Eh = 6.3 Volts
Ih = 300 mA
Eb2 = 5000 to 11000 Volts
Ec2 = 250 Volts
Eb1 Adjusted for Focus
Grid No. 1 Biased to Raster Cutoff

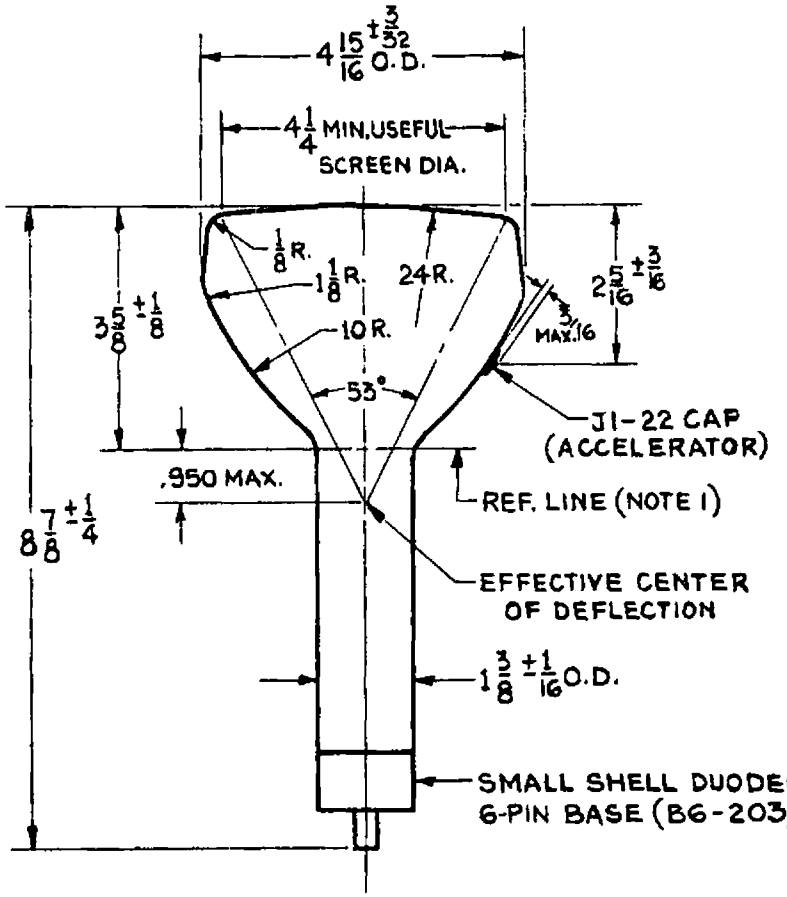


Thomas

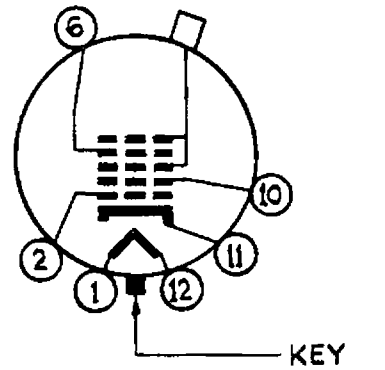
INDUSTRIAL & MILITARY TUBES

ENGINEERING DATA

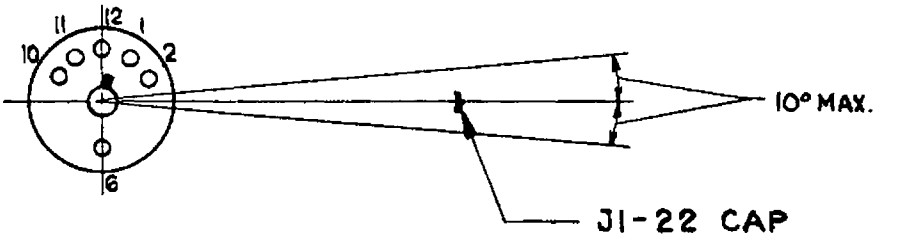
5DYP



BOTTOM VIEW OF BASE



PIN No.	ELEMENT
1	HEATER
2	GRID No. 1
6	FOCUSING ELECTRODE
10	GRID No. 2
11	CATHODE
12	HEATER



NOTE:

1. POINT WHERE JEDEC № 124 REF. LINE GAUGE WILL STOP.