



SHEET-BEAM TUBE

DESCRIPTION AND RATING

The 6HW8 is a miniature, double-plate, sheet-beam tube which incorporates a pair of balanced deflectors to direct the electron beam to either of the two plates, and a control grid to vary the intensity of the beam.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential		
Heater Voltage, AC or DC*	6.3 ± 0.6	Volts
Heater Current†	0.3	Amperes
Direct Interelectrode Capacitances, approximate‡		
Deflector-Number 1 to All	4.2	pf
Deflector-Number 2 to All	4.2	pf
Grid-Number 1 to All Except Plates	7.5	pf
Plate-Number 1 to All	4.4	pf
Plate-Number 2 to All	4.4	pf
Grid-Number 1 to Deflector-Number 1, maximum	0.05	pf
Grid-Number 1 to Deflector-Number 2, maximum	0.03	pf
Plate-Number 1 to Plate-Number 2	0.12	pf
Deflector-Number 1 to Deflector-Number 2	0.35	pf

MECHANICAL

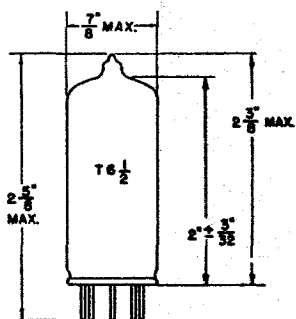
Mounting Position—Any	
Envelope—T-6½, Glass	
Base—E9-1, Small Button 9-Pin	
Outline Drawing—EIA 6-3	
Maximum Diameter	7⁄8 Inches
Maximum Over-all Length	2 5⁄8 Inches
Maximum Seated Height	2 3⁄8 Inches

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

Plate Voltage, Each Plate	330	Volts	Positive DC Grid-Number 1 Voltage	0	Volts
Accelerator Voltage	330	Volts	Plate Dissipation, Each Plate	2.0	Watts
Peak Positive Deflector Voltage, Each			DC Cathode Current	30	Milliamperes
Deflector	165	Volts	Grid-Number 1 Circuit Resistance		
Peak Negative Deflector Voltage, Each			With Cathode Bias	0.25	Megohms
Deflector	165	Volts			

PHYSICAL DIMENSIONS

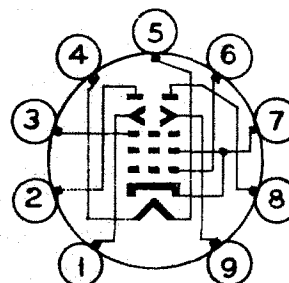


EIA 6-3

TERMINAL CONNECTIONS

- Pin 1—Deflector Number 2
- Pin 2—Plate Number 2
- Pin 3—Accelerator
- Pin 4—Heater
- Pin 5—Heater and Internal Shield
- Pin 6—Grid Number 1 (Control Grid)
- Pin 7—Cathode and Focus Electrode
- Pin 8—Plate Number 1
- Pin 9—Deflector Number 1

BASING DIAGRAM



EIA 9NQ

CHARACTERISTICS AND TYPICAL OPERATION (Continued)

Accelerator Current	1.4	Milliamperes
Grid-Number 1 Transconductance	4000	Micromhos
Grid-Number 1 Voltage, approximate Ib (total) = 10 Microamperes	-14	Volts

Average Deflector Characteristics

Plate-Number 1 Voltage	250	Volts
Plate-Number 2 Voltage	250	Volts
Accelerator Voltage	250	Volts
Cathode-Bias Resistor	270	Ohms
Deflector Switching Voltage, maximum#	40	Volts
Deflector-Bias Voltage for Minimum Deflector Switching Voltage#	12	Volts
Voltage Difference between Deflectors For Ib1 = Ib2, approximate	0	Volts
Plate-Number 1 Current, maximum Ed1 = +2 Volts, Ed2 = +32 Volts Ib2 = 18 ma	50	Microamperes
Plate-Number 2 Current, maximum Ed1 = +32 Volts, Ed2 = +2 Volts Ib1 = 18 ma	50	Microamperes
Deflector-Number 1 Current, maximum Ed1 = +2 Volts, Ed2 = +38 Volts Eb = 225 Volts, Eg1 = +3 Volts	55	Microamperes
Deflector-Number 2 Current, maximum Ed1 = +38 Volts, Ed2 = +2 Volts Eb = 225 Volts, Eg1 = +3 Volts	55	Microamperes

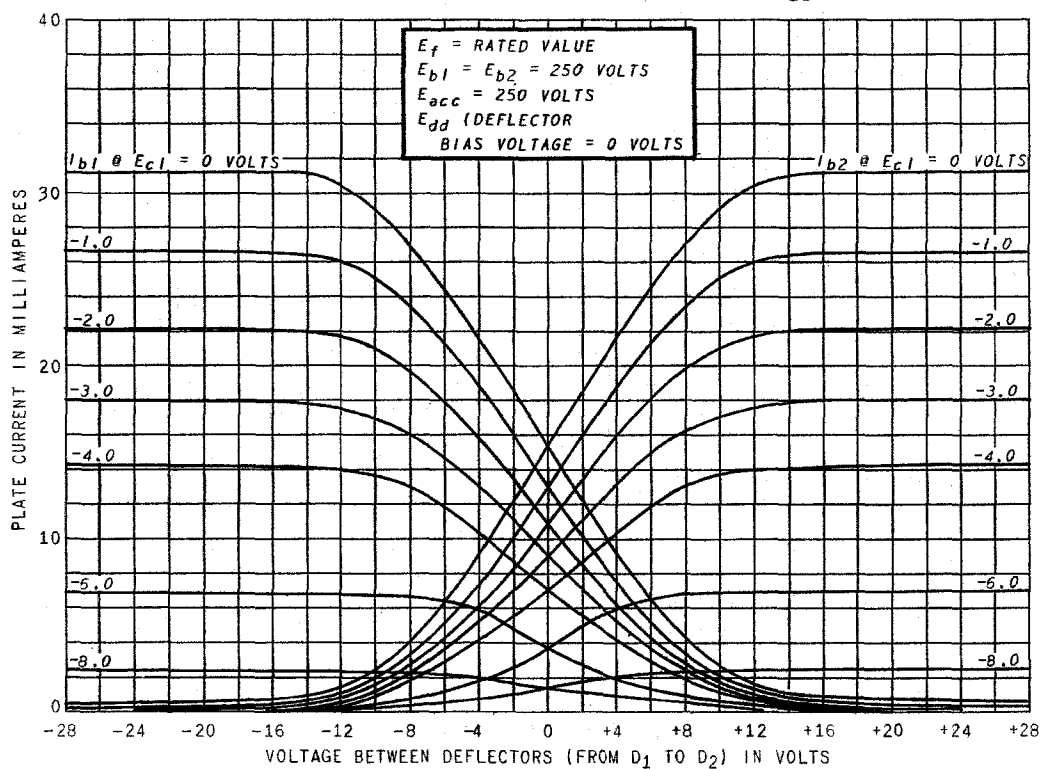
* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

+ Heater current of a bogey tube at Ef = 6.3 volts.

Without external shield.

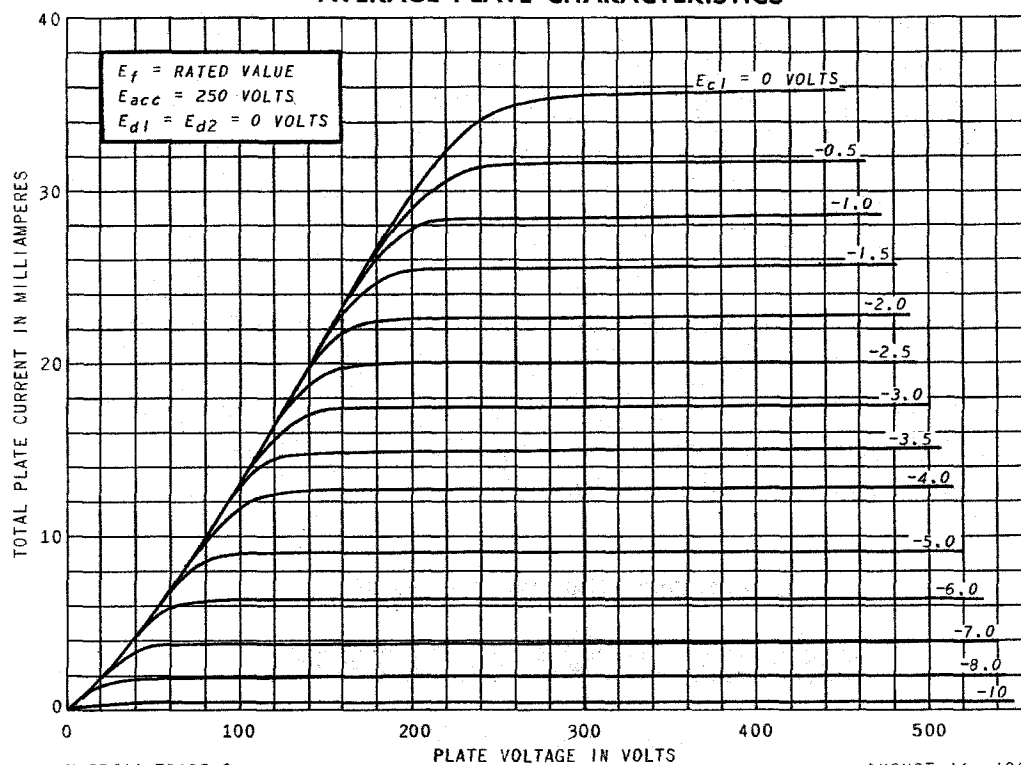
Deflector switching voltage is defined as the total voltage change on either deflector with an equal and opposite change on the other deflector required to switch the plate current from one plate to the other.

AVERAGE TRANSFER CHARACTERISTICS



AUGUST 14, 1962

AVERAGE PLATE CHARACTERISTICS



AUGUST 14, 1962