



**ELECTRONIC
INNOVATIONS**
IN ACTION

—PRODUCT INFORMATION—

Page 1 11-67

Twin Pentode

6LE8

TUBES

FOR COLOR DEMODULATOR APPLICATIONS

- COLOR TV TYPE
- HIGH LEVEL OUTPUT
- INTERNAL MATRIXING
- 11000 MICROMHOS

The 6LE8 is a miniature twin pentode having separate plates and number-3 grids for the two sections with a common screen, number-1 grid, and cathode. It is primarily designed for use as a color demodulator in color television receivers.

The high current of the 6LE8 provides enough voltage output to drive the grids of color picture tubes without further amplification. The common screen grid provides internal matrixing of the red and blue information to provide sufficient drive to the green gun.

The characteristics of the 6LE8 are such that it may be used in either of two modes; (1) chroma information to grid number 1 and two phases of reference signal to the two number-3 grids, or (2) reference signal to grid number 1 and two different phases of chroma information to the two number-3 grids.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC* . . . 6.3±0.6 Volts

Heater Current†. 0.75 Amperes

Direct Interelectrode Capacitances‡

Grid-Number 1 to Plate,

Each Section. 2.9 pf

Grid-Number 1 to All. 15 pf

Grid-Number 3 to All,

Each Section. 6.5 pf

Plate (Each Section) to All. . . . 4.2 pf

Grid-Number 3 (Section 1) to

Grid-Number 3 (Section 2),
maximum 0.12 pf

MECHANICAL

Operating Position - Any

Envelope - T-6 1/2, Glass

Base - E9-1, Small Button 9-Pin

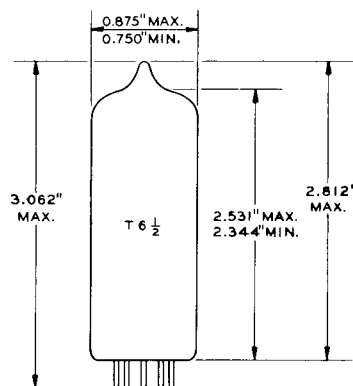
Outline Drawing - EIA 6-4

Maximum Diameter 0.875 Inches

Maximum Over-all Length 3.063 Inches

Maximum Seated Height. 2.813 Inches

PHYSICAL DIMENSIONS



EIA 6-4

TERMINAL CONNECTIONS

Pin 1 - Plate (Section 2)

Pin 2 - Grid Number 3 (Section 2)

Pin 3 - Cathode

Pin 4 - Heater

Pin 5 - Heater

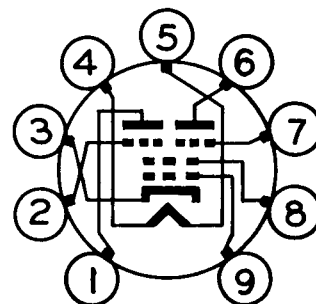
Pin 6 - Plate (Section 1)

Pin 7 - Grid Number 3 (Section 1)

Pin 8 - Grid Number 2 (Screen)

Pin 9 - Grid Number 1

BASING DIAGRAM



EIA 9QZ

GENERAL ELECTRIC

Supersedes Pages 1 and 2 of 6LE8 PI Sheet dated 5-66

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

Plate Voltage, Each Section	300	Volts
Screen Voltage	150	Volts
Plate Dissipation, Each Section.	2.0	Watts
Screen Dissipation	2.0	Watts
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode		
DC Component	100	Volts
Total DC and Peak	200	Volts
Heater Negative with Respect to Cathode		
Total DC and Peak	300	Volts

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION

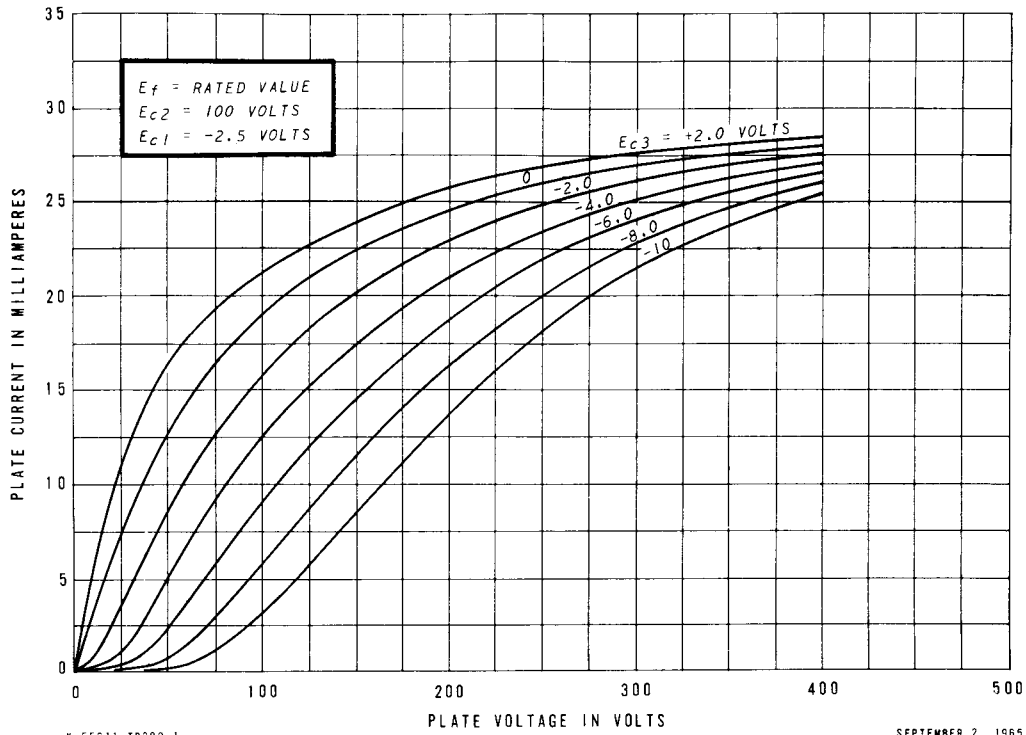
AVERAGE CHARACTERISTICS

Plate Voltage, plates tied	100	Volts
Screen Voltage	100	Volts
Grid-Number 1 Voltage	-2.5	Volts
Grid-Number 3 Voltage	0	Volts
Transconductance.	11000	Micromhos
Plate Current.	17	Milliamperes
Screen Current	10.5	Milliamperes
Grid-Number 1 Voltage, approximate		
I _b = 100 Microamperes	-7	Volts
Plate Current, maximum		
E _b = 250 volts, E _{c2} = 100 volts, E _{c1} = -2.5 volts, E _{c3} = -35 volts	2.0	Milliamperes

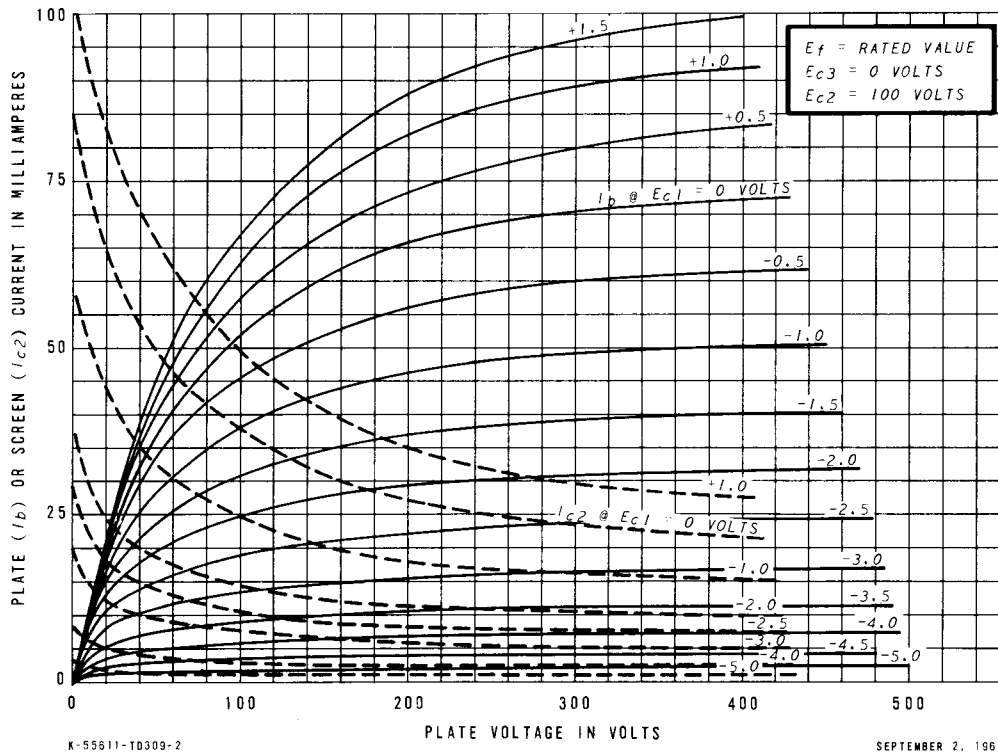
NOTES

- * 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 E_f = 6.3 volts.
- § Without external shield.

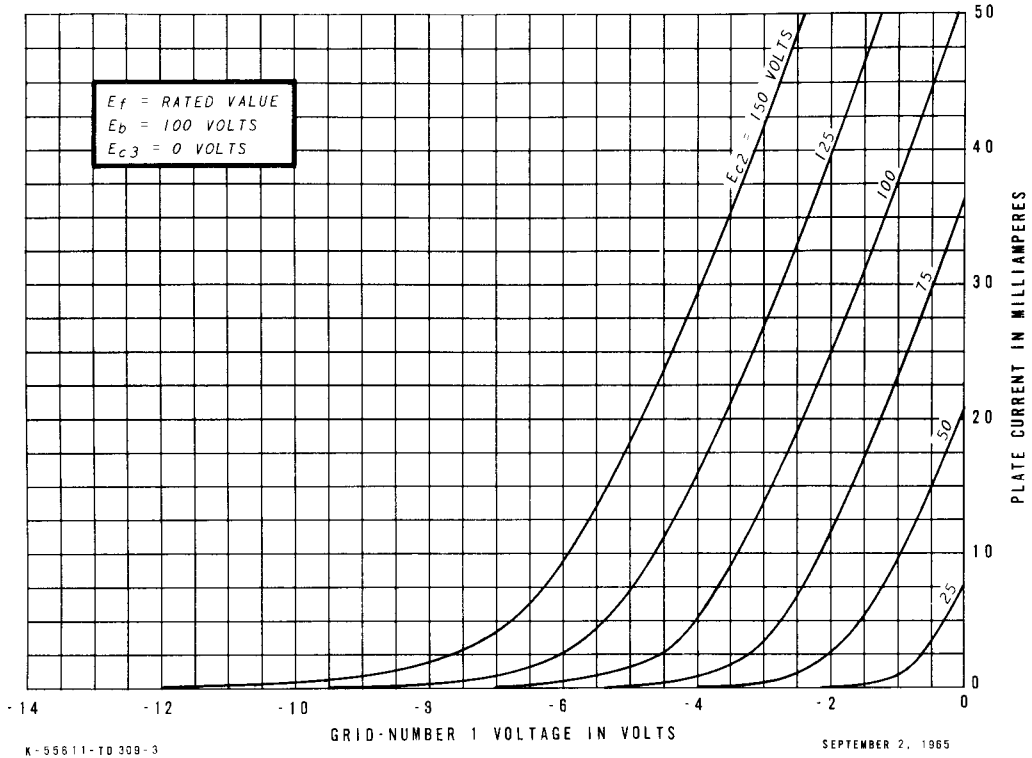
AVERAGE PLATE CHARACTERISTICS



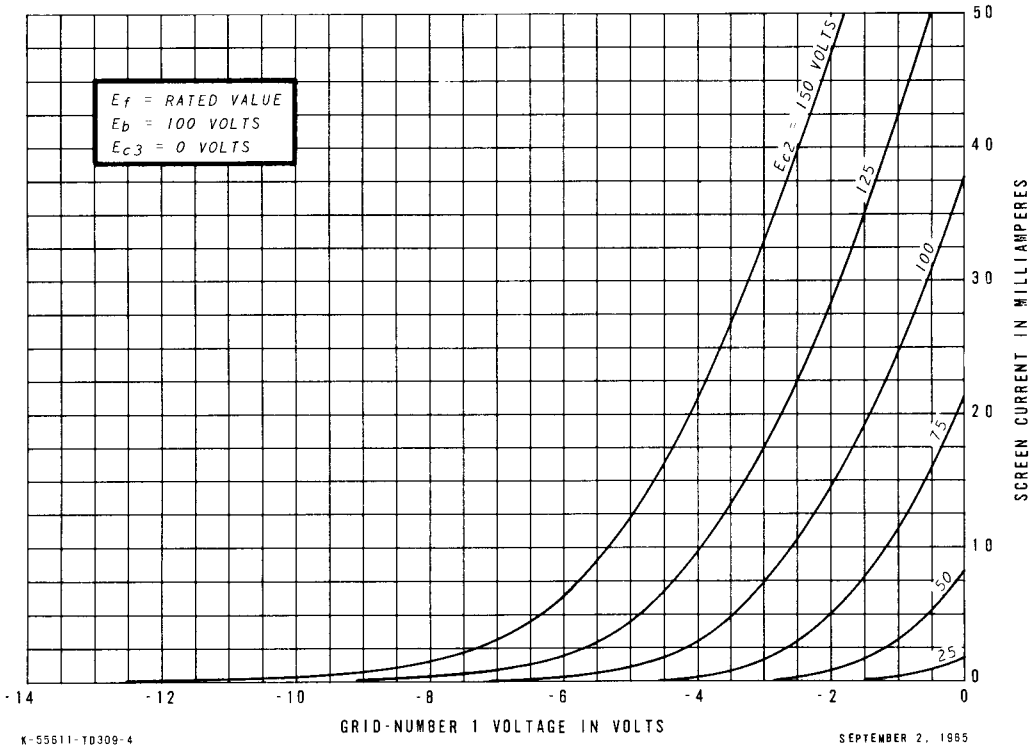
AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



TUBE DEPARTMENT

GENERAL  ELECTRIC

Owensboro, Kentucky