6EU7
TWIN TRIODE

DESCRIPTION AND RATING

The 6EU7 is a miniature, high-mu, twin triode primarily designed for use in low-level stages of high-gain audio-frequency amplifiers. Isolation of the heater pins in the new basing employed and inherent low hum properties make use of the 6EU7 in this application advantageous.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential
Heater Characteristics and Ratings

Heater Voltage, AC or DC*	6.3 ± 0.6	Volts
Heater Current†	0.3	Amperes
Direct Interelectrode Capacitances‡		
Grid to Plate, Each Section: (g to p)	1.5	pf
Input, Each Section: g to (h+k)	1.6	pf
Output, Each Section: p to (h+k)	0.2	pf

MECHANICAL

Mounting Position—Any
Envelope—T-6 ½, Glass
Base—E9-1, Small Button 9-Pin
Outline Drawing—EIA 6-2

Maximum Diameter	7/8	Inch
Maximum Over-all Length	2 3/16	Inches
Maximum Seated Height	1 15/16	Inches

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES, EACH SECTION

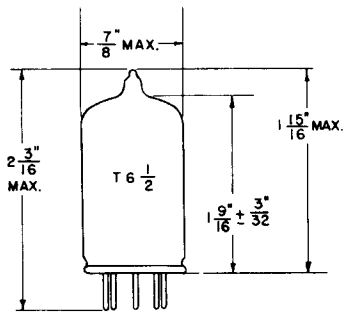
Plate Voltage	330	Volts
Positive DC Grid Voltage	0	Volts
Negative DC Grid Voltage	55	Volts
Plate Dissipation	1.2	Watts
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode		
DC Component	100	Volts
Total DC and Peak	200	Volts
Heater Negative with Respect to Cathode		
Total DC and Peak	200	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.

PHYSICAL DIMENSIONS

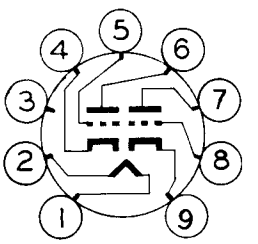


EIA 6-2

TERMINAL CONNECTIONS

Pin 1—Heater
Pin 2—Heater
Pin 3—No Connection
Pin 4—Cathode (Section 2)
Pin 5—Grid (Section 2)
Pin 6—Plate (Section 2)
Pin 7—Plate (Section 1)
Pin 8—Grid (Section 1)
Pin 9—Cathode (Section 1)

BASING DIAGRAM



EIA 9LS

CHARACTERISTICS AND TYPICAL OPERATION

Class A_1 Amplifier, Each Section

Plate Voltage	100	250	Volts
Grid Voltage	−1.0	−2.0	Volts
Amplification Factor	100	100	
Plate Resistance, approximate	80000	62500	Ohms
Transconductance	1250	1600	Micromhos
Plate Current	0.5	1.2	Milliamperes
Equivalent Noise and Hum Voltage, Each Section, Average, True RMS§	1.8		Microvolts

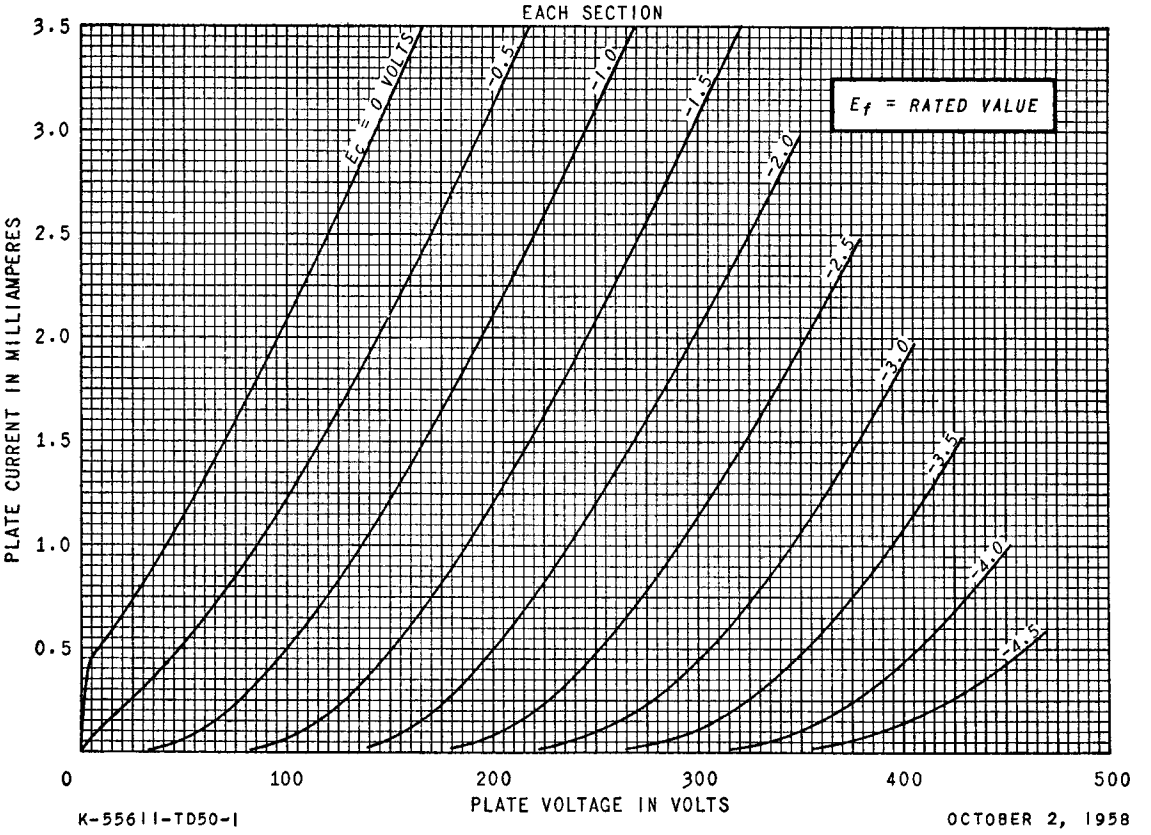
* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

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

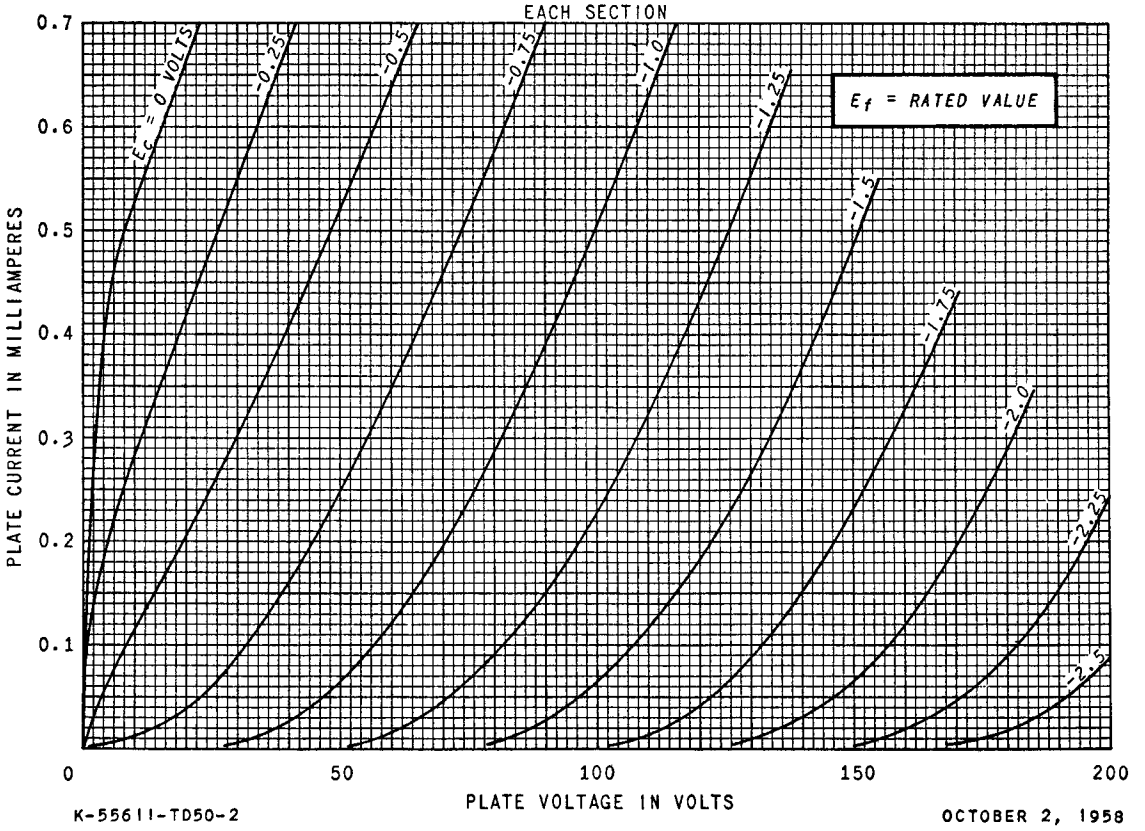
‡ Without external shield.

§ Referred to grid and measured under the following conditions: Ef = 6.3 volts AC, CT of heater transformer grounded; Ebb = 250 volts; Rb = 100000 ohms; Rk = 2700 ohms, bypassed by 100 μf; Rg = 0 ohms; Amplifier frequency range = 25 to 1000 cps.

AVERAGE PLATE CHARACTERISTICS



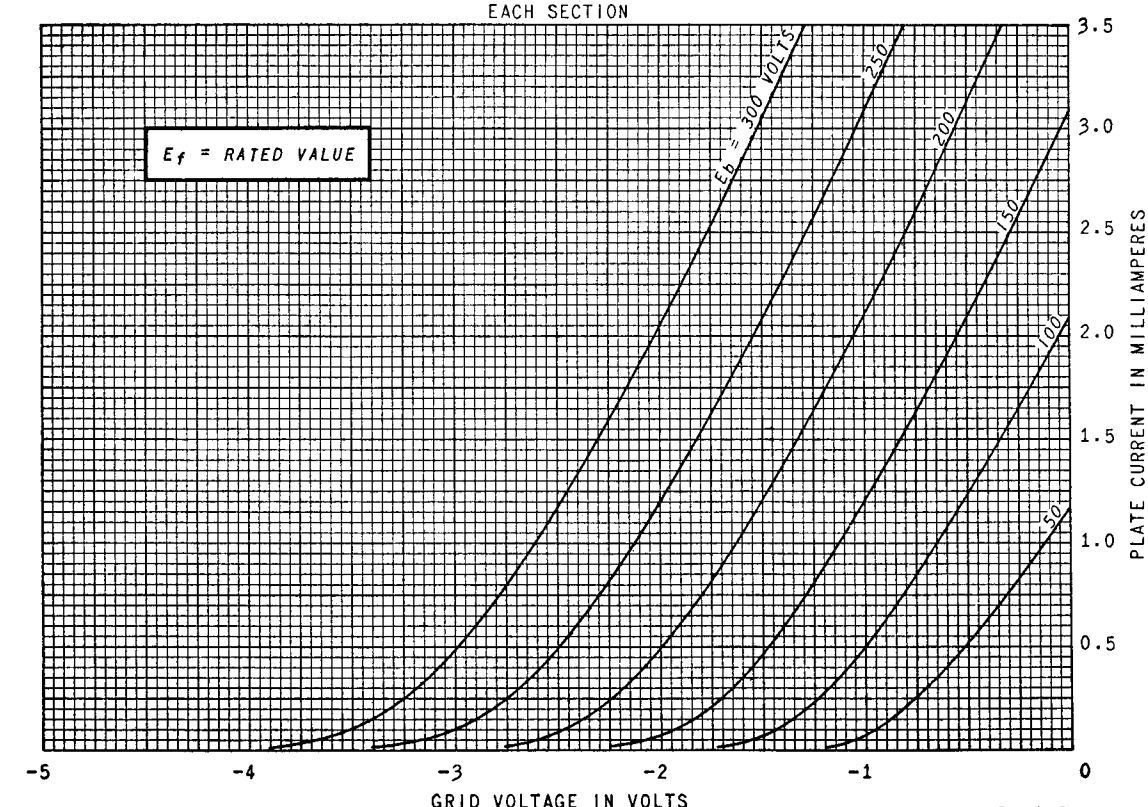
AVERAGE PLATE CHARACTERISTICS



K-55611-TD50-2

OCTOBER 2, 1958

AVERAGE TRANSFER CHARACTERISTICS



K-55611-TD50-3

OCTOBER 2, 1958

AVERAGE CHARACTERISTICS