



FRAME-GRID TRIODE

DESCRIPTION AND RATING

The 6GK5 is a frame-grid, gain-controlled triode designed for use as a VHF RF amplifier.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential	
Heater Characteristics and Ratings	
Heater Voltage, AC or DC*	6.3 $\pm$ 0.6 Volts
Heater Current†	0.18 Amperes
Direct Interelectrode Capacitances‡	
Grid to Plate: (g to p)	0.52 pf
Input: g to (h+k+i.s.)	5.0 pf
Output: p to (h+k+i.s.)	3.5 pf
Heater to Cathode: (h to k)	2.5 pf

MECHANICAL

Mounting Position—Any	
Envelope—T-5½, Glass	
Base—E7-1, Miniature Button 7-Pin	
Outline Drawing—EIA 5-2	
Maximum Diameter	¾ Inches
Maximum Over-all Length	2½ Inches
Maximum Seated Height	1⅞ Inches

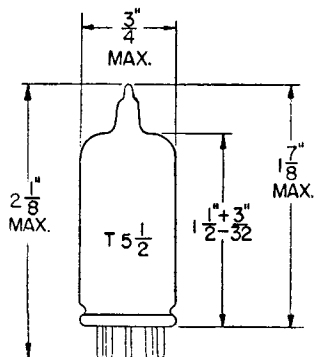
MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

Plate Voltage	200 Volts
Negative DC Grid Voltage	50 Volts
Plate Dissipation	2.5 Watts
DC Cathode Current	22 Milliampere

Heater-Cathode Voltage	
Heater Positive with Respect to	
Cathode	100 Volts
Heater Negative with Respect to	
Cathode	100 Volts
Grid Circuit Resistance	
With Cathode Bias	1.0 Megohms

PHYSICAL DIMENSIONS

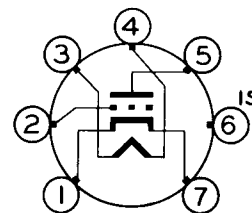


EIA 5-2

TERMINAL CONNECTIONS

Pin 1	Cathode
Pin 2	Grid
Pin 3	Heater
Pin 4	Heater
Pin 5	Plate
Pin 6	Internal Shield
Pin 7	Cathode

BASING DIAGRAM



EIA 7FP

MAXIMUM RATINGS (Cont'd)

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

CLASS A₁ AMPLIFIER

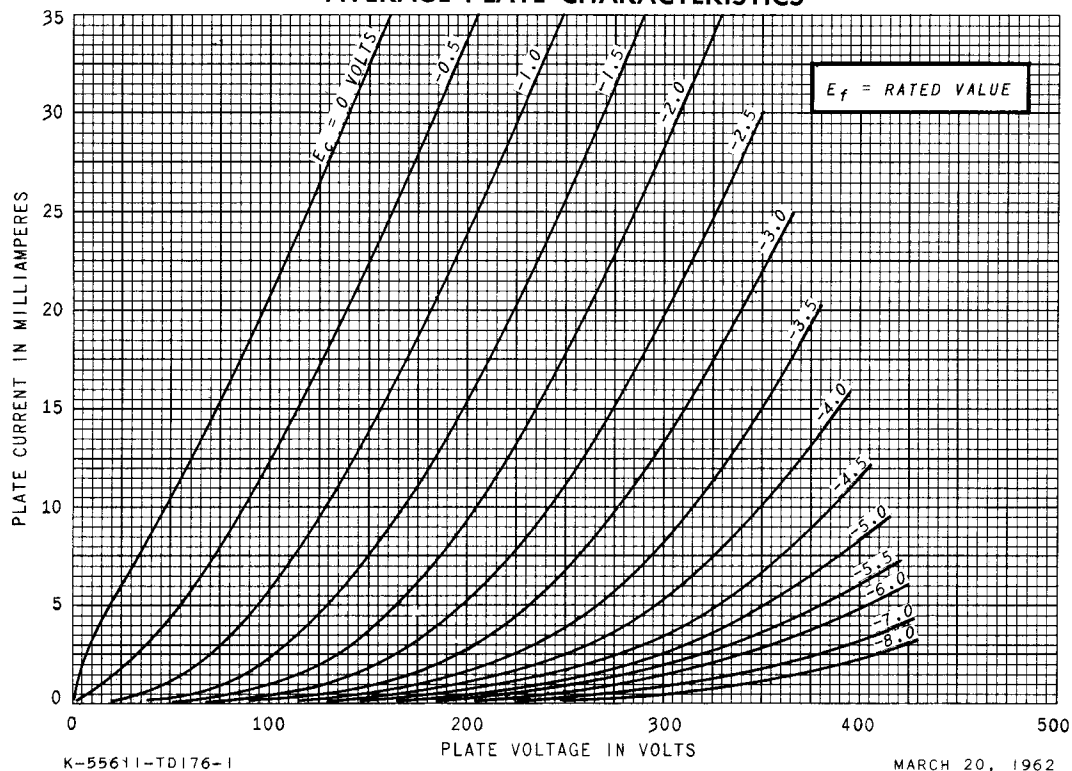
Plate Voltage.....	135	Volts
Grid Voltage.....	-1.0	Volts
Amplification Factor.....	78	
Plate Resistance, approximate.....	5400	Ohms
Transconductance.....	15000	Micromhos
Plate Current.....	11.5	Milliamperes

Grid Voltage, approximate	
Gm = 150 Micromhos.....	-4.2 Volts
Grid Voltage, approximate	
Gm = 1500 Micromhos.....	-2.5 Volts
Hot Input Resistance (200 MC)§.....	275 Ohms
Hot Input Capacitance (200 MC)§.....	11.2 pf
Noise Figure (200 MC)¶.....	4.7 db

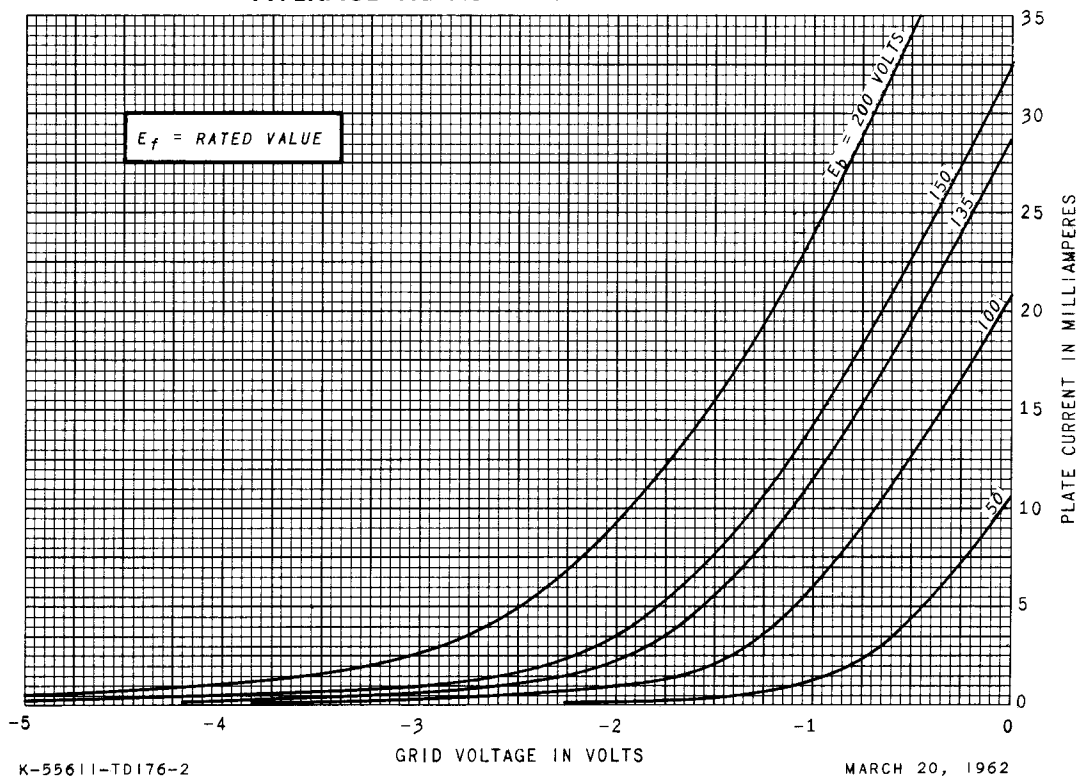
- * The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.
- † Heater current of a bogey tube at Ef = 6.3 volts.
- ‡ With external shield (EIA 316) connected to cathode.
- § Measured under grounded-plate conditions.
- ¶ Optimized neutralized triode RF amplifier stage, noise matched.

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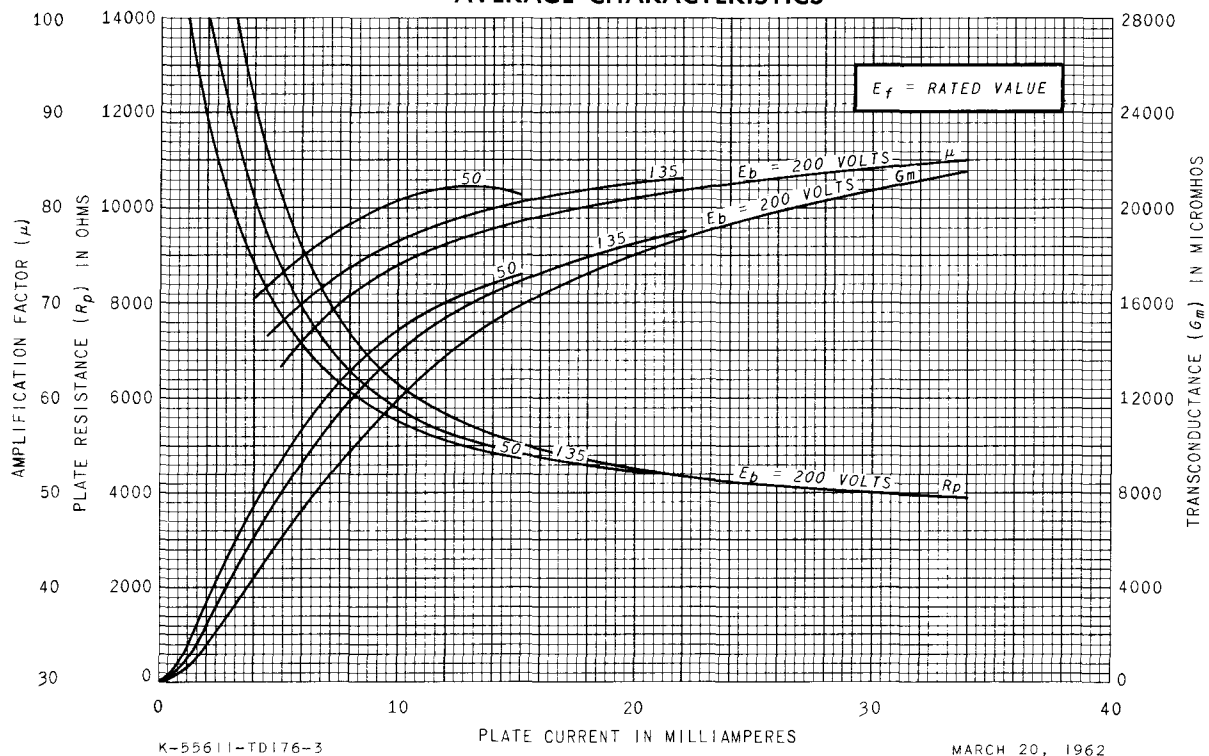
AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



AVERAGE CHARACTERISTICS



MARCH 20, 1962

RECEIVING TUBE DEPARTMENT

GENERAL  **ELECTRIC**

Owensboro, Kentucky