

6BF5

Description and Rating

BEAM POWER AMPLIFIER

GENERAL DESCRIPTION

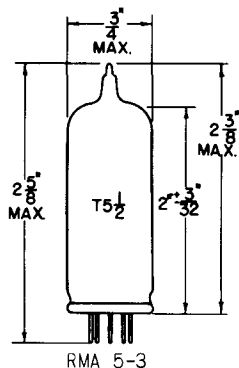
Principal Application: The 6BF5 is a miniature beam-power amplifier designed for use in the audio output stage of television and broadcast receivers. The 6BF5 features high sensitivity and is capable of

Cathode: Coated Unipotential
Heater Voltage (A-C or D-C) 6.3 Volts
Heater Current 1.2 Amperes

delivering relatively high power output at low plate and screen voltages. When connected as a triode, the 6BF5 may be used as a vertical-deflection amplifier in television receivers.

Envelope: T-5½ Glass
Base: E7-I, Miniature Button 7-Pin
Mounting Position: Any

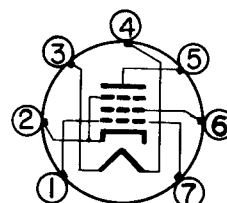
PHYSICAL DIMENSIONS



TERMINAL CONNECTIONS

- Pin 1 - Grid Number 1
- Pin 2 - Cathode and Beam Plates
- Pin 3 - Heater
- Pin 4 - Heater
- Pin 5 - Plate
- Pin 6 - Grid Number 2 (Screen)
- Pin 7 - Grid Number 1

BASING DIAGRAM



MAXIMUM RATINGS

DESIGN CENTER VALUES:

Plate Voltage	250	Volts
Peak Positive Pulse Plate Voltage *	700	Volts
Screen Voltage	250	Volts
Plate Dissipation		
For Class A ₁ Amplifier Service	5.5	Watts
For Vertical-Deflection Amplifier Service	5.0	Watts
Screen Dissipation	1.25	Watts
Heater-Cathode Voltage	100	Volts
Grid Number 1 Circuit Resistance		
With Fixed Bias	0.1	Megohm
With Cathode Bias	0.5	Megohm
With Cathode Bias Resistor of 820 Ohms Minimum	2.2	Megohms

CLASS A₁ AMPLIFIER

CHARACTERISTICS AND TYPICAL OPERATION

Plate Voltage	110	Volts
Screen Voltage	110	Volts
Grid Number 1 Voltage	-7.5	Volts
Peak A-F Grid Number 1 Voltage	7.5	Volts
Plate Resistance (Approx)	10000	Ohms
Transconductance	7500	Micromhos
Zero-Signal Plate Current	49	Milliamperes
Maximum-Signal Plate Current	50	Milliamperes
Zero-Signal Screen Current	4	Milliamperes
Maximum-Signal Screen Current	8.5	Milliamperes
Load Resistance	2500	Ohms
Total Harmonic Distortion	9	Per Cent
Power Output	1.9	Watts

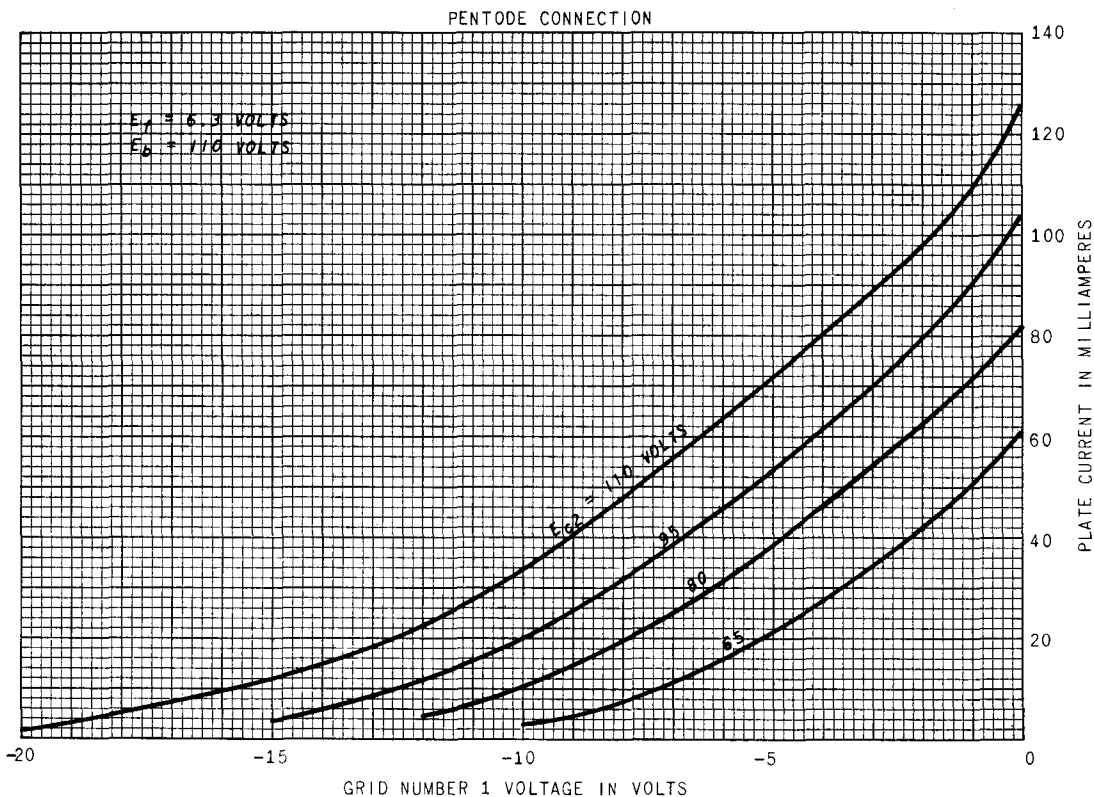
VERTICAL-DEFLECTION AMPLIFIER - TRIODE CONNECTION

Plate Voltage	225	Volts
Cathode Bias Resistor	1200	Ohms
Grid Input Voltage		
Peak-to-Peak Sawtooth Component (Approx)	40	Volts
Negative Peaking Component (Approx)	56	Volts
Amplification Factor	6.7	
Transconductance	4200	Micromhos
Plate Current	20	Milliamperes
Plate Output Voltage		
Peak Positive Pulse Component (Approx)	500	Volts
Peak-to-Peak Sawtooth Component	140	Volts
Deflection Angle	53	Degrees
Picture Tube Anode Voltage	14	Kilovolts
Sweep Height (for 16-inch Picture Tube)	11½	Inches

* The duty cycle of the pulse voltage must not exceed 7% of one scanning cycle and the pulse duration must not exceed 1.2 milliseconds.

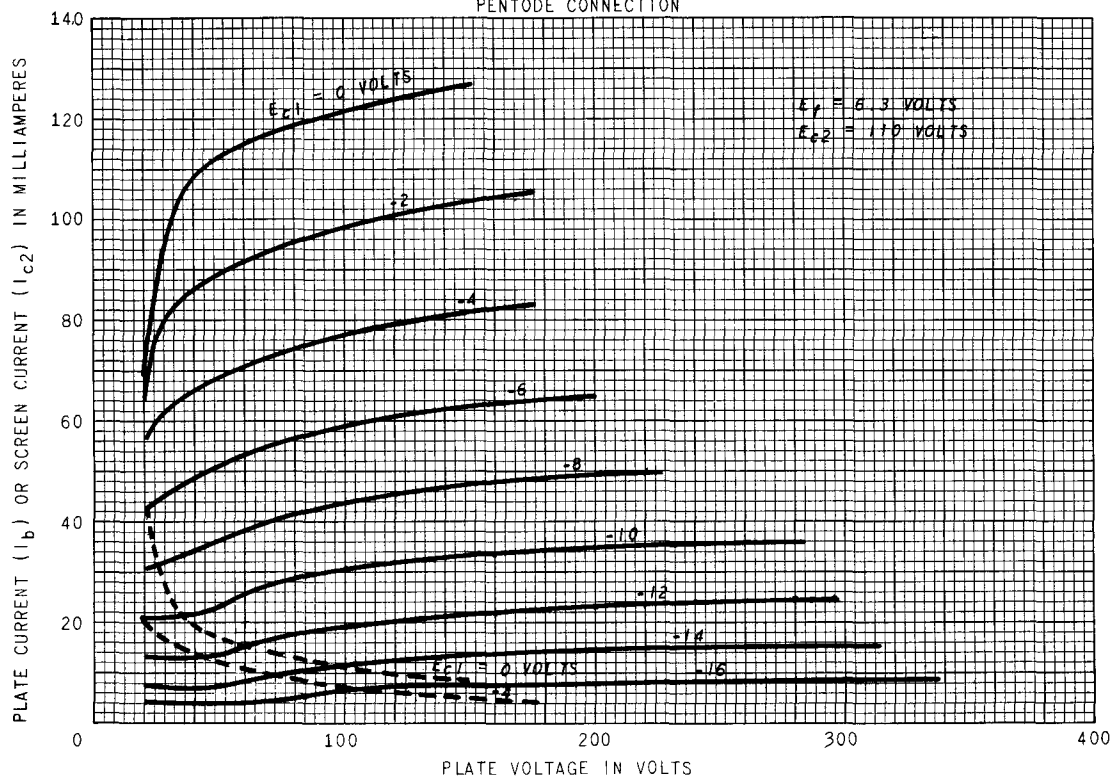
With screen tied to plate

AVERAGE CHARACTERISTICS



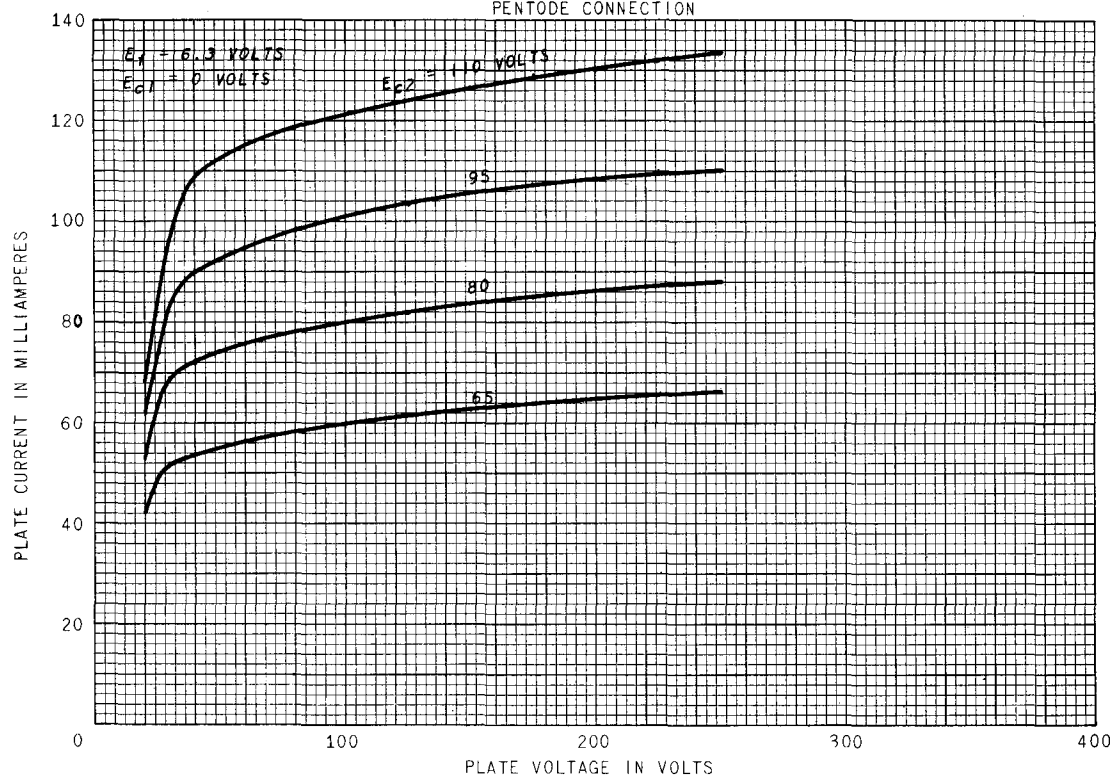
AVERAGE PLATE CHARACTERISTICS

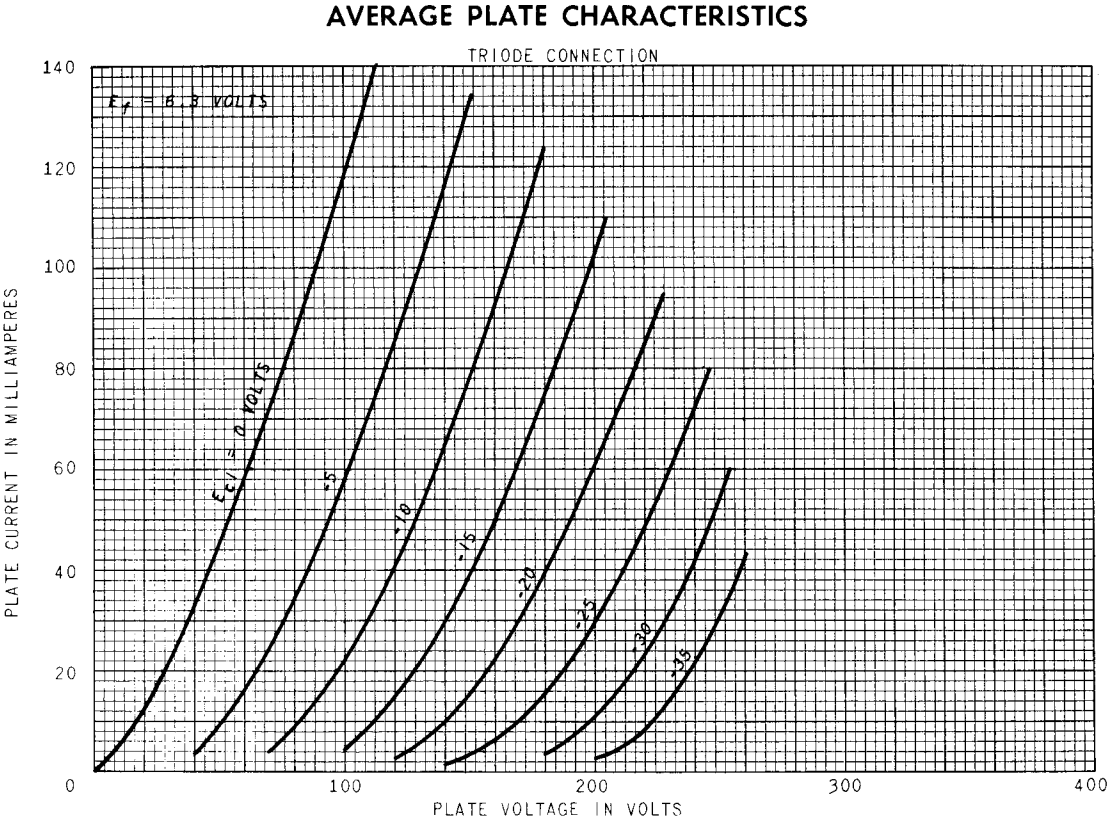
PENTODE CONNECTION



AVERAGE PLATE CHARACTERISTICS

PENTODE CONNECTION





Tube Divisions, Electronics Department



Schenectady, N. Y.