

1S5

Description and Rating

DIODE-PENTODE

GENERAL DESCRIPTION

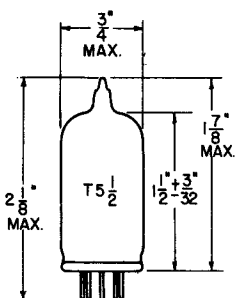
Principal Application: The 1S5 is a miniature tube containing a diode and a sharp-cutoff pentode. It is designed for use as a combined detector and audio-

Cathode: Coated Filament
Filament Voltage (D-C) 1.4 Volts
Filament Current 0.05 Ampere
Envelope: T-5½, Glass

frequency voltage amplifier in compact battery-operated equipment.

Base: E7-1, Miniature Button 7-Pin
Mounting Position: Any
Direct Interelectrode Capacitance: #
Diode Plate to Grid 1 (Max) 0.1 μ f

PHYSICAL DIMENSIONS

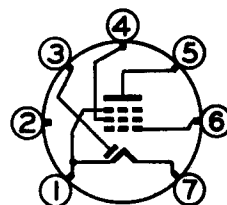


RTMA 5-2

TERMINAL CONNECTIONS

Pin 1 - Negative Filament
 and Grid Number 3
Pin 2 - No Connection
Pin 3 - Diode Plate *
Pin 4 - Grid Number 2 (Screen)
Pin 5 - Plate
Pin 6 - Grid Number 1
Pin 7 - Positive Filament

BASING DIAGRAM



RTMA 6AU
BOTTOM VIEW

MAXIMUM RATINGS

DESIGN CENTER VALUES:

Plate Voltage	90	Volts
Screen Voltage	90	Volts
Positive D-C Grid Number 1 Voltage	0	Volts
Negative D-C Grid Number 1 Voltage	-50	Volts
Total Cathode Current	3	Milliamperes
Diode Current for Continuous Operation	0.25	Milliampere

CLASS A₁ AMPLIFIER

CHARACTERISTICS AND TYPICAL OPERATION

Plate Voltage	67.5	Volts
Screen Voltage	67.5	Volts
Grid Number 1 Voltage	0	Volts
Plate Resistance (Approx)	0.6	Megohm
Transconductance	625	Micromhos
Plate Current	1.6	Milliamperes
Screen Current	0.4	Milliampere
Grid Number 1 Voltage (Approx) for $I_b = 10$ Microamperes	-5	Volts

Average Diode Current:

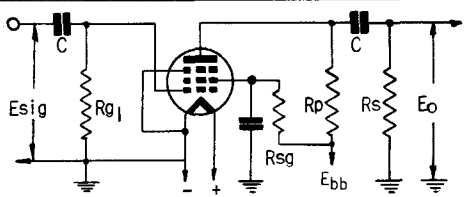
Measured with 10 Volts D-C Applied	1.5	Milliamperes
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With or without external shield #316 connected to pin 1

* The diode is located at the negative end of the filament

CLASS A RESISTANCE-COUPLED AMPLIFIER

R _p Meg.	R _s Meg.	R _{g1} Meg.	E _{bb} = 45 Volts				E _{bb} = 90 Volts				E _{bb} = 135 Volts			
			R _k	R _{sg}	Gain	E _o	R _k	R _{sg}	Gain	E _o	R _k	R _{sg}	Gain	E _o
0.24	0.24	10	-	0.5	18	6.4	-	0.8	29	13	-	1.0	38	20
0.24	0.51	10	-	0.5	24	8.0	-	0.9	38	15	-	1.1	40	25
0.24	1.0	10	-	0.6	28	8.4	-	1.0	45	17	-	1.2	55	28
0.51	0.51	10	-	1.1	25	5.9	-	1.9	40	12	-	2.3	52	19
0.51	0.75	10	-	1.2	29	6.5	-	2.0	46	13	-	2.0	61	22
0.51	1.0	10	-	1.4	32	6.6	-	2.2	51	14	-	2.5	65	22
0.75	0.75	10	-	1.9	29	5.1	-	2.9	47	11	-	3.2	61	18
0.75	1.0	10	-	2.0	32	5.2	-	3.0	52	11	-	3.4	67	18
1.0	1.0	10	-	2.7	31	4.3	-	3.9	50	9	-	4.6	66	15

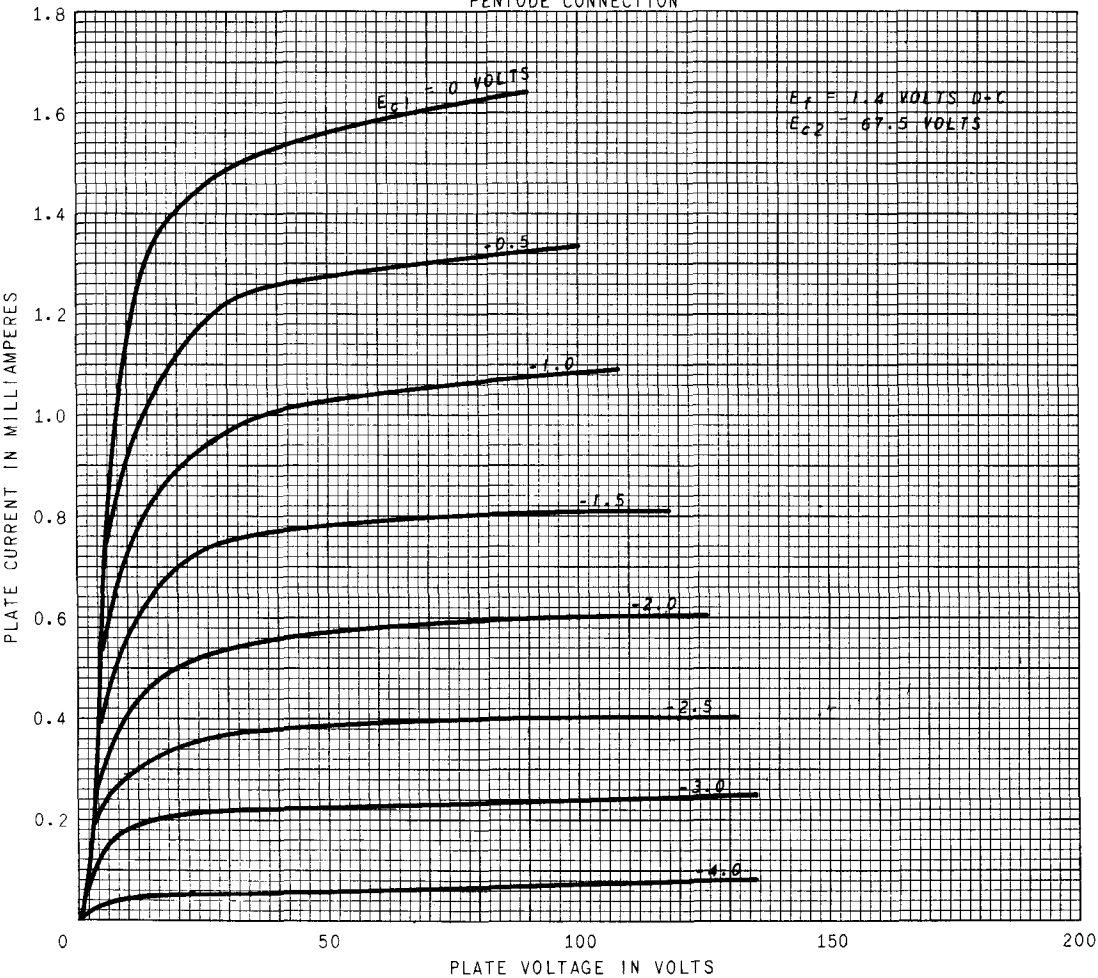


Note: Coupling capacitors (C) should be adjusted to give desired frequency response. R_k and R_{sg} should be adequately by-passed.

Notes: 1. E_o is maximum RMS voltage output for five percent (5%) total harmonic distortion. 2. Gain measured at 2.0 volts RMS output. 3. For zero-bias data, generator impedance is negligible.

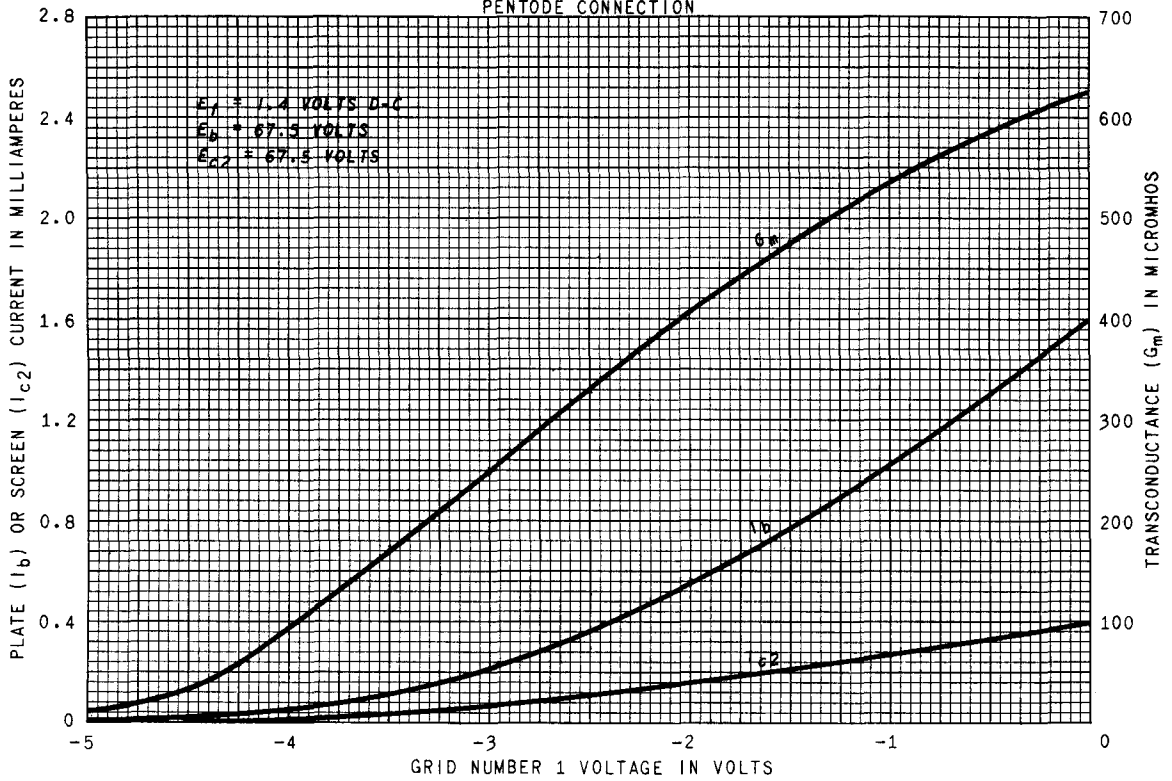
AVERAGE PLATE CHARACTERISTICS

PENTODE CONNECTION



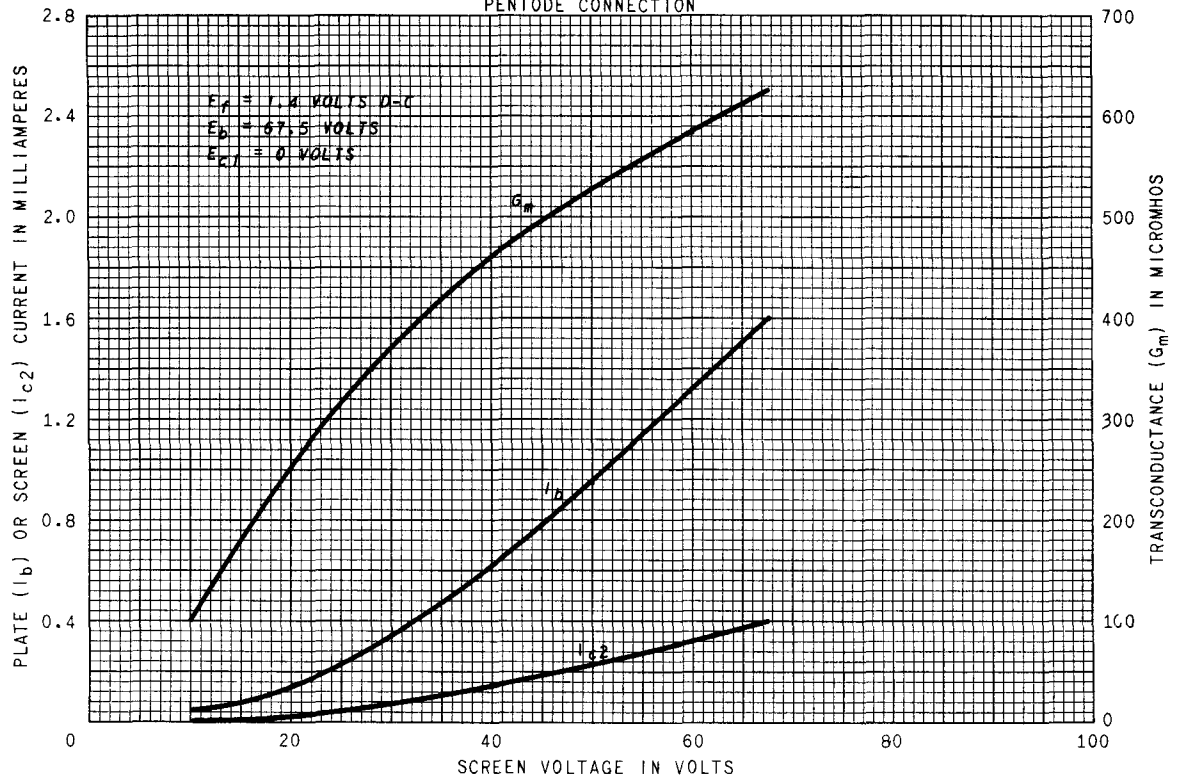
AVERAGE CHARACTERISTICS

PENTODE CONNECTION

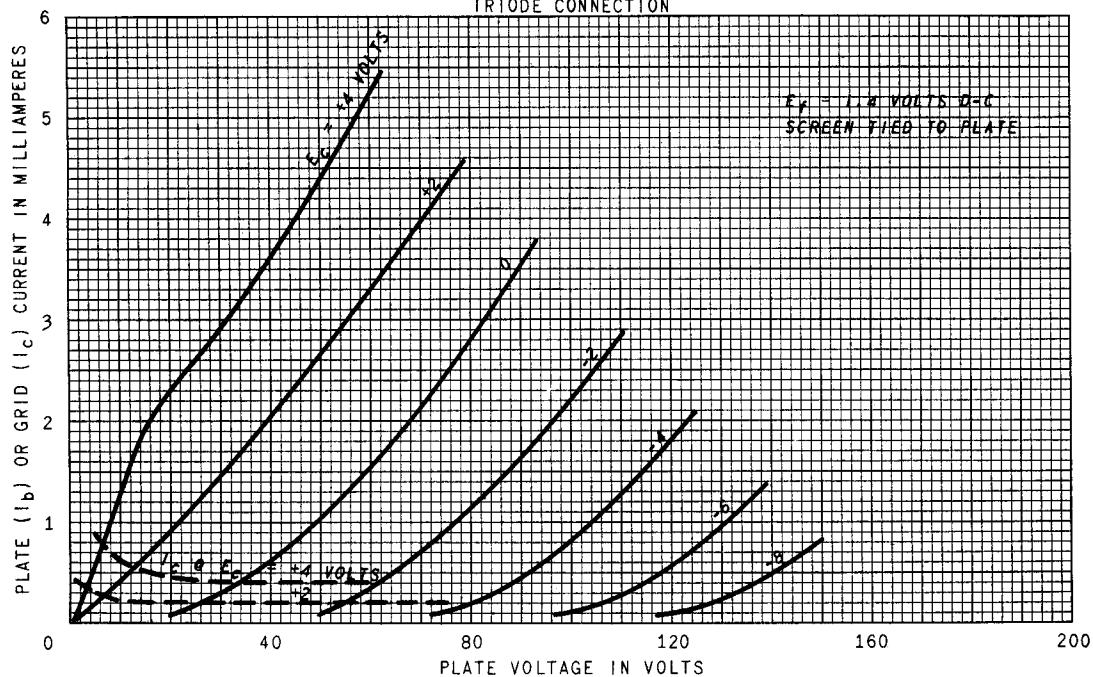


AVERAGE CHARACTERISTICS

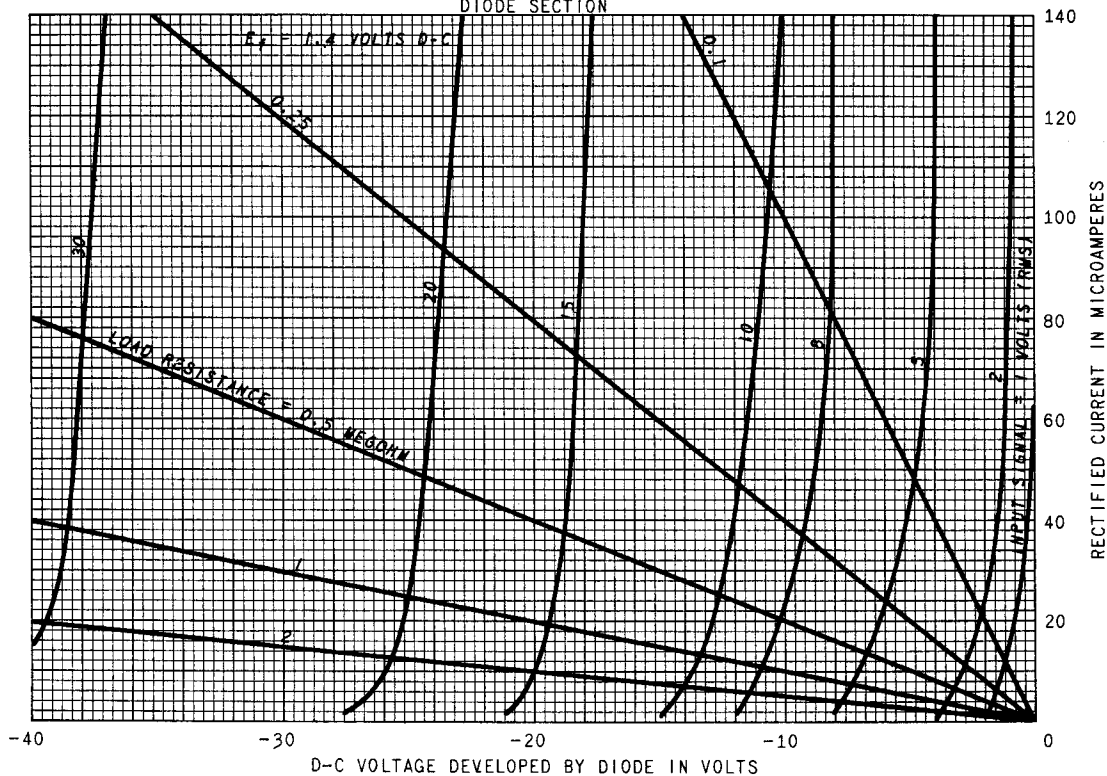
PENTODE CONNECTION



TRIODE CONNECTION



DIODE SECTION



Tube Divisions, Electronics Department

GENERAL  ELECTRIC

Schenectady, N. Y.