Electronic TUBE
KEN-RAD

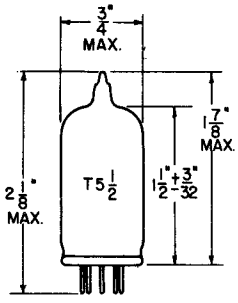
1S5
Description and Rating
DIODE-PENTODE

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-frequency voltage amplifier in compact battery-operated equipment.

Cathode:	Coated Filament
Filament Voltage (D-C)	1.4 Volts
Filament Current	0.05 Ampere
Envelope:	T-5½, Glass
Base:	E7-1, Miniature Button 7-Pin
Mounting Position:	Any
Direct Interelectrode Capacitance: #	
Diode Plate to Grid 1 (Max)	0.1 μμf

PHYSICAL DIMENSIONS

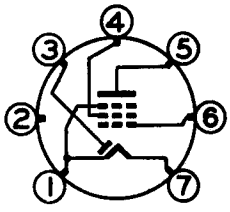


RTMA 5-2

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

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A_1 AMPLIFIER

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

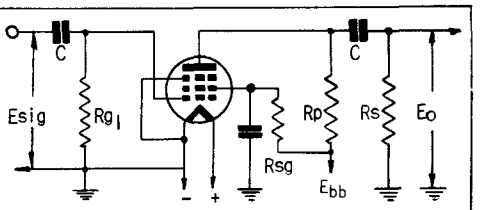
 # With or without external shield #316 connected to pin 1

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

Supersedes ET-T231A dated 6-46

CLASS A RESISTANCE-COUPLED AMPLIFIER

Rp Meg.	Rs Meg.	Rg1 Meg.	Ebb = 45 Volts				Ebb = 90 Volts				Ebb = 135 Volts			
			Rk	Rsg	Gain	Eo	Rk	Rsg	Gain	Eo	Rk	Rsg	Gain	Eo
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

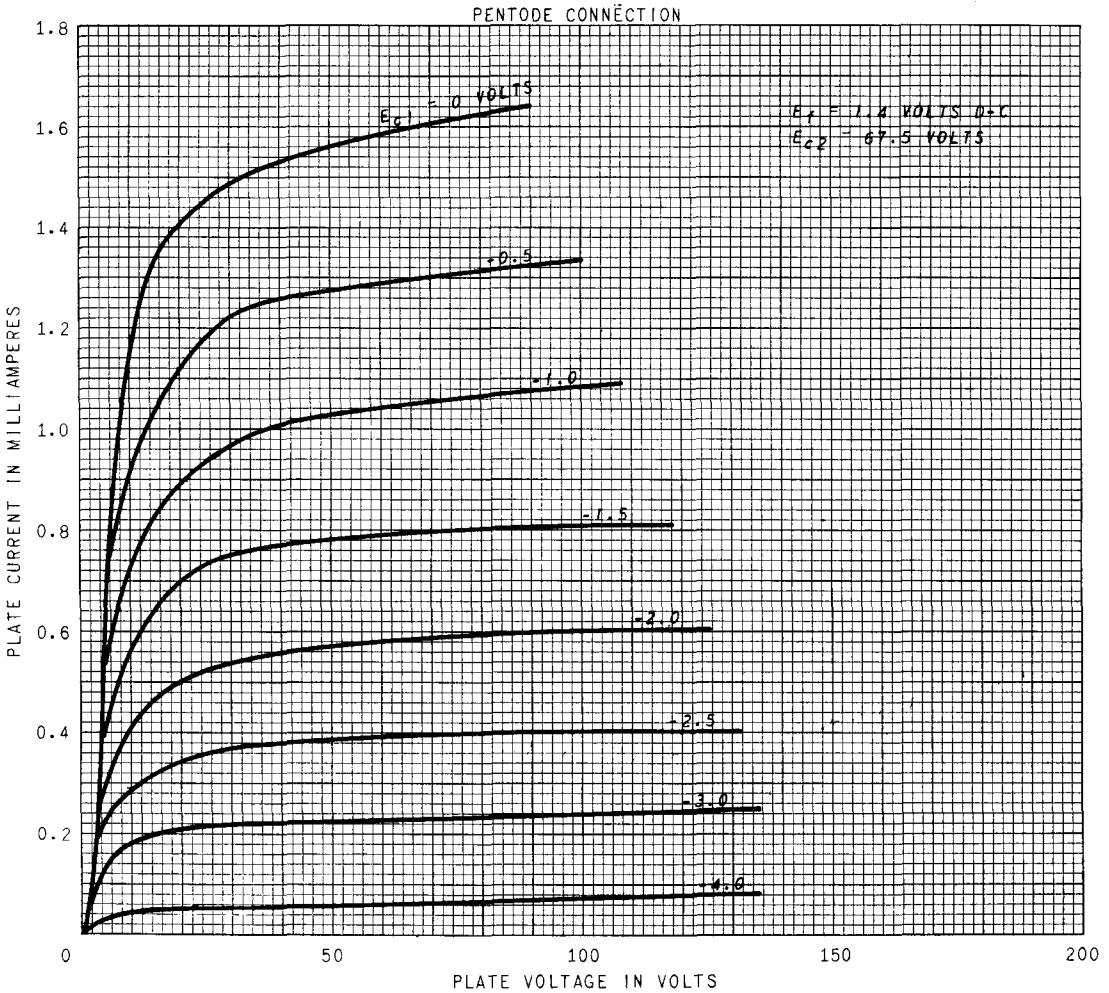


Note: Coupling capacitors (C) should be adjusted to give desired frequency response. Rk and Rsg should be adequately by-passed.

Notes: 1. Eo 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



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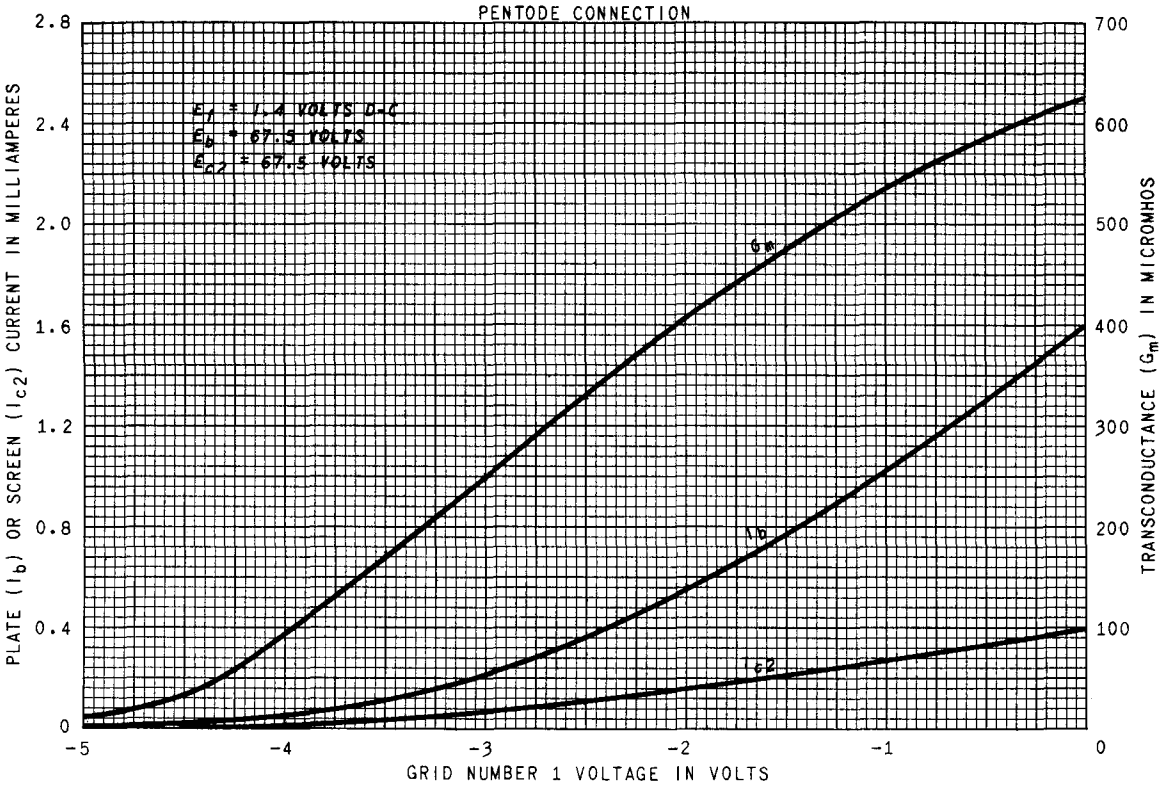
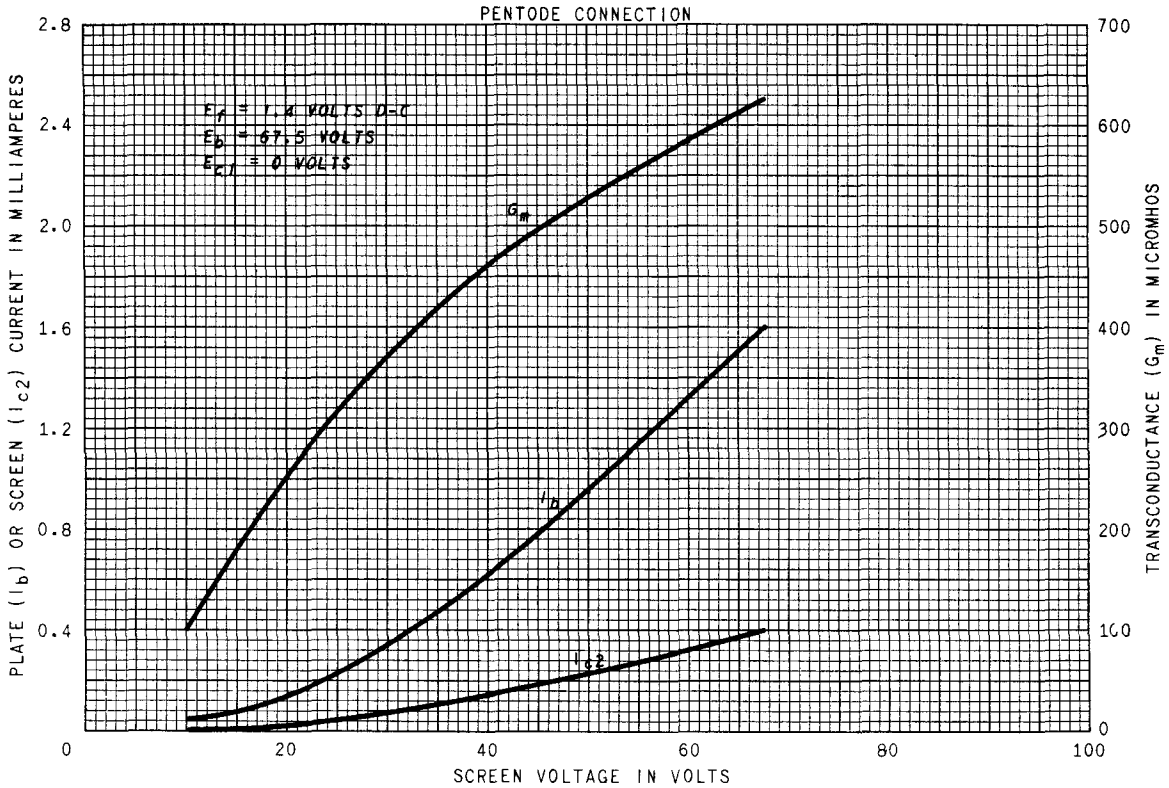


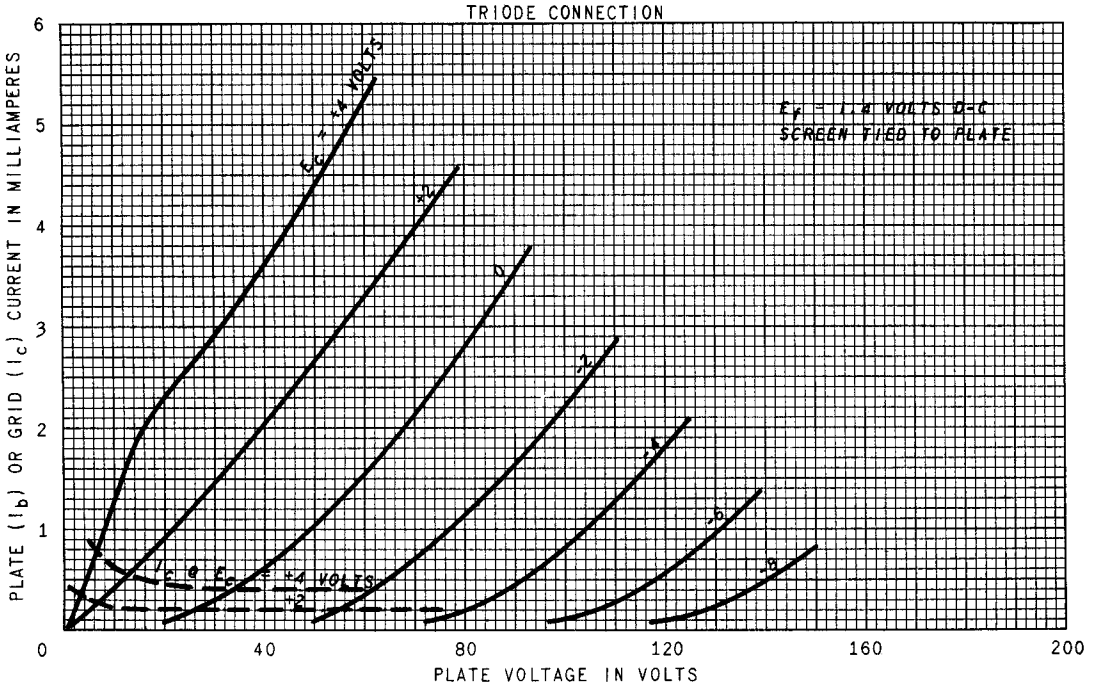
AVERAGE CHARACTERISTICS

PENTODE CONNECTION



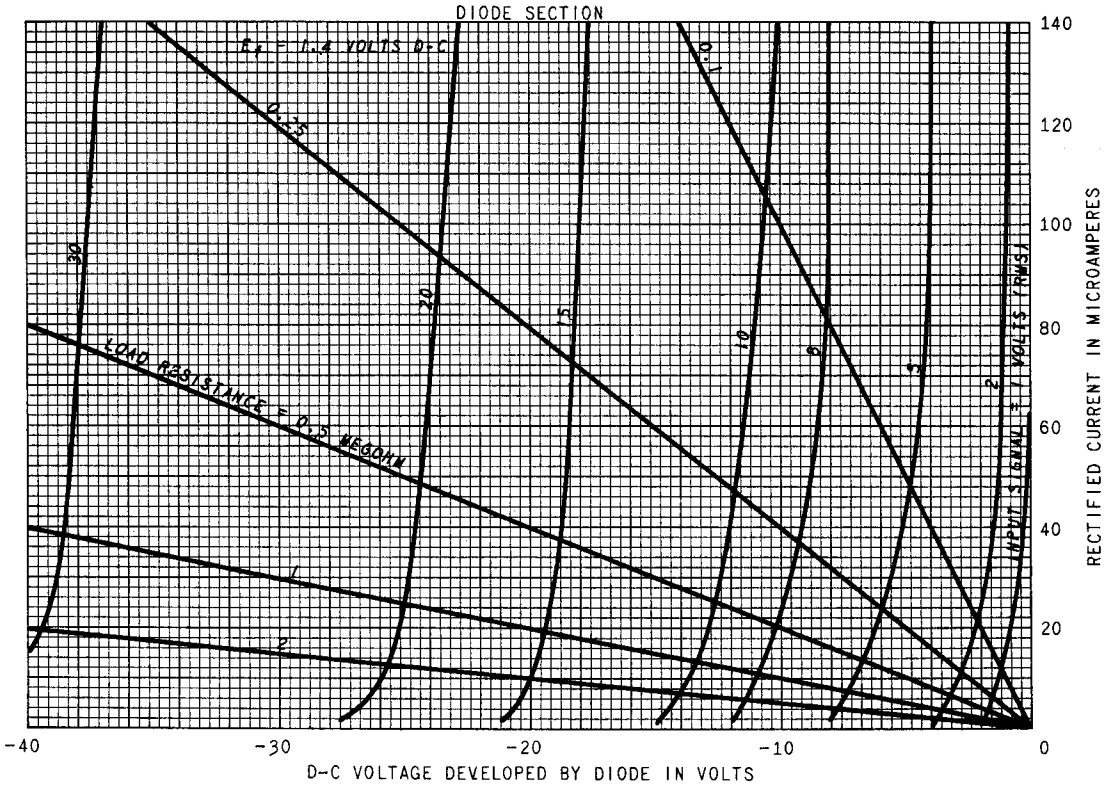
AVERAGE PLATE CHARACTERISTICS

TRIODE CONNECTION



OPERATION CHARACTERISTICS

DIODE SECTION



Tube Divisions, Electronics Department

GENERAL ELECTRIC

Schenectady, N. Y.

ET-T231B
9-51