

Medium-Mu Triode— Sharp-Cutoff Pentode

9-Pin Miniature Type

For Use as a General-Purpose Amplifier

Tube in Color- and Black-and-White TV Receivers

ELECTRICAL CHARACTERISTICS — Bogey Values^a

Heater Voltage, ac or dc	E_h	$6.3 \pm 10\%$	V
Heater Current	I_h	535	mA

Direct Interelectrode Capacitances:^b (Without External Shield)

Triode Unit:

Grid to plate	c_{g-p}	1.7	pF
Input: G_T to (K_T , G_{3P} + K_P + IS, H)	c_i	3.0	pF
Output: P_T to (K_T , G_{3P} + K_P + IS, H).	c_o	1.4	pF

Pentode Unit:

Grid No.1 to plate . .	c_{g1-p}	0.045	pF
Input: G_{1P} to (K_P + G_{3P} + IS, G_{2P} , H) .	c_i	7.5	pF
Output: P_P to (K_P + G_{3P} + IS, G_{2P} , H).	c_o	2.2	pF

For the following characteristics, see Conditions below:

		Triode Unit	Pentode Unit	
Amplification Factor . .	μ	40	-	
Plate Resistance (Approx.)	r_p	5	150	k Ω
Transconductance	g_m	8500	10000	μ mho
DC Plate Current	I_b	18	12	mA
DC Grid-No.2 Current. .	I_{c2}	-	4.5	mA
Cutoff DC Grid-No.1				

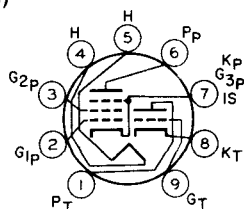
Voltage for $I_b = 20 \mu A$.	$E_{c1(co)}$	-12	-7	V
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Conditions:

Heater Voltage	E_h	6.3	6.3	V
DC Plate Voltage . . .	E_b	150	125	V
DC Grid-No.2 Voltage.	E_{c2}	-	125	V
Cathode Resistance. .	R_k	56	62	Ω

TERMINAL DIAGRAM (Bottom View)

- Pin 1 - Triode Plate
- Pin 2 - Pentode Grid No.1
- Pin 3 - Pentode Grid No.2
- Pin 4 - Heater
- Pin 5 - Heater
- Pin 6 - Pentode Plate
- Pin 7 - Pentode Cathode, Grid No.3 and Internal Shield
- Pin 8 - Triode Cathode
- Pin 9 - Triode Grid



JEDEC 9AE

6MQ8

MECHANICAL CHARACTERISTICS

Maximum Overall Length	2.187 in (55.54 mm)
Maximum Seated Length	1.937 in (49.19 mm)
Maximum Diameter	0.875 in (22.12 mm)
Envelope	JEDEC T6-1/2
Base	Small-Button Noval 9-Pin (JEDEC E9-1)
Dimensional Outline	JEDEC 6-2
Terminal Diagram	JEDEC 9AE
Type of Cathodes	Coated Unipotential
Operating Position	Any

MAXIMUM RATINGS - Design-Maximum Values^c

	Triode Unit	Pentode Unit	
DC Plate Voltage E_b	330	330	V
DC Grid-No.2 Supply Voltage E_{c2}	-	330	V
DC Grid-No.2 Voltage	See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section.		
DC Grid-No.1 Voltage:			
Positive-bias value E_{c1}	0	0	V
Heater-Cathode Voltage:			
Peak e_{hkm}	+200	+200	V
DC E_{hk}	100	100	V
Heater Current I_h	500 to 570		mA
Grid-No.2 Input: For grid-No.2 voltages up to 165 volts P_{g2}	-	0.55	W
For grid-No.2 voltages between 165 and 330 volts	See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section.		
Plate Dissipation P_b	2.7	2.5	W

MAXIMUM CIRCUIT VALUES

Grid-No.1 Circuit Resistance:			
For fixed-bias operation $R_{g1(ckt)}$	0.5	0.25	$M\Omega$
For cathode-bias operation $R_{g1(ckt)}$	0.5	0.5	$M\Omega$

INTERELECTRODE LEAKAGE

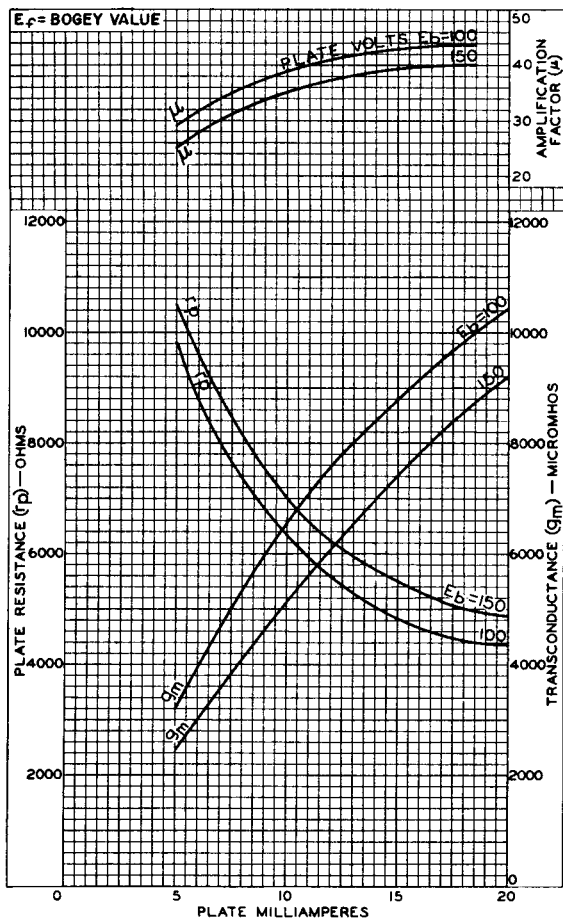
Minimum Leakage Resistance between grid No.1 of each unit and all other electrodes of both units tied together R_{g1-all}	100	$M\Omega$
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Conditions:

E_h = bogey value, E_{c1} = -100 V with respect to all other electrodes tied together.

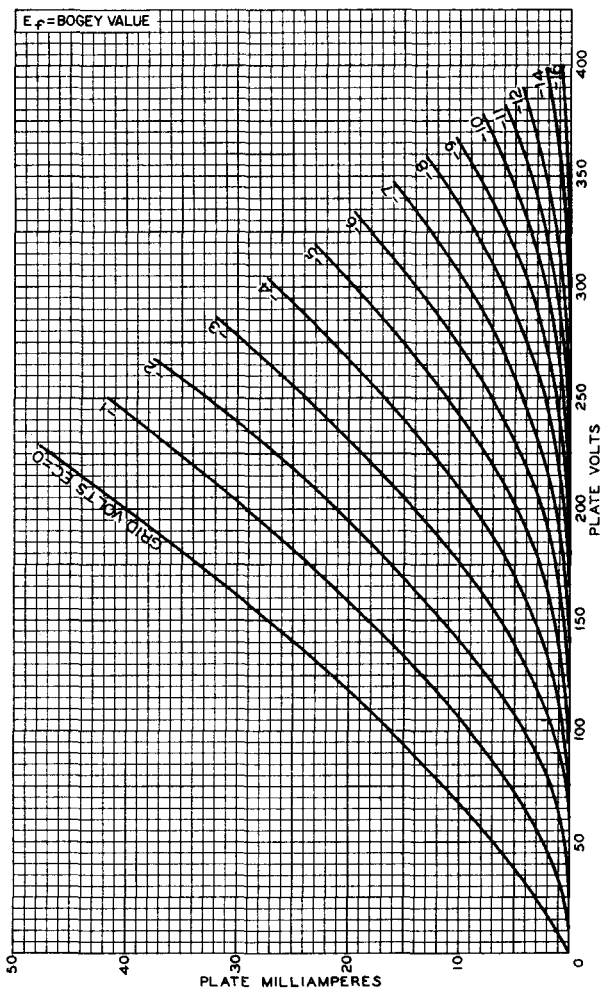
- a Unless otherwise specified.
 b Measured in accordance with the current issue of EIA Standard RS-191.
 c As defined in the current issue of EIA Standard RS-239.

TYPICAL CHARACTERISTICS - Triode Unit



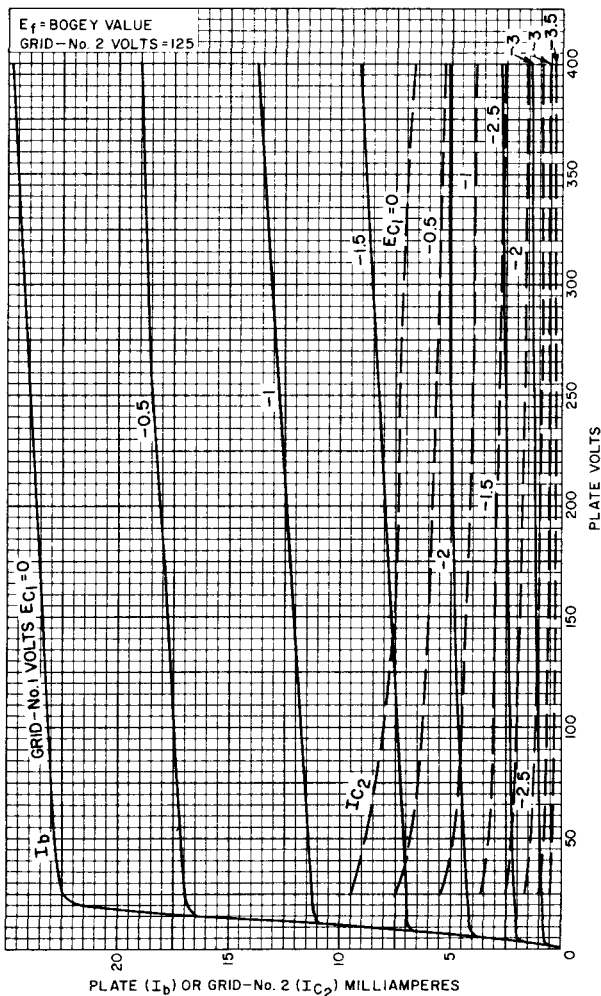
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TYPICAL CHARACTERISTICS – Triode Unit



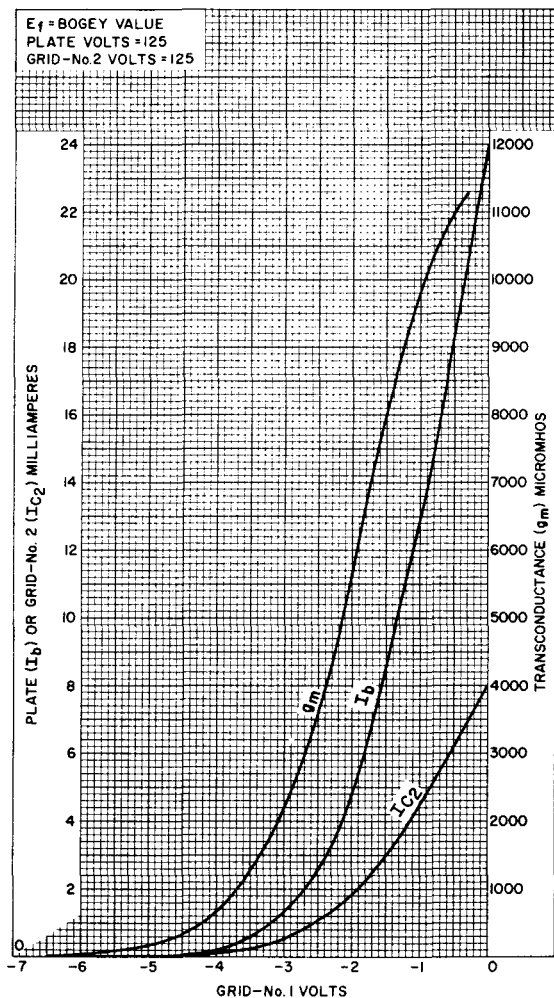
92CM-9866RI

TYPICAL CHARACTERISTICS - Pentode Unit



92CM-15102

TYPICAL CHARACTERISTICS – Pentode Unit



92CM-15107