

Medium-Mu Triode— Sharp-Cutoff Pentode

9-Pin Miniature Type

For Use as a Burst Amplifier and 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	V
Heater Current	I_h	600	mA
Direct Interelectrode Capacitances: ^b			
<i>Triode Unit:</i>			
Grid to plate	c_{g-p}	2.2	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	2.2	pF
Heater to cathode	c_{h-k}	4.4	pF
<i>Pentode Unit:</i>			
Grid No. 1 to plate	c_{gl-p}	0.05	pF
Input: G_{1p} to (K_P + G_{3p} + IS, G_{2p} , H)	c_i	9.0	pF
Output: P_P to (K_P + G_{3p} + IS, G_{2p} , H)	c_o	3.6	pF
Heater to cathode	c_{h-k}	5.5	pF
Pentode grid No. 1 to triode plate	P_{gl-Tp}	0.17max.	0.2max. pF
Pentode plate to triode plate	P_p-Tp	0.09max.	0.008max pF
<i>For the following characteristics, see</i>			
Conditions	<i>Triode Unit</i>	<i>Pentode Unit</i>	
Amplification Factor	μ	35	-
Plate Resistance (Approx.)	r_p	5.8	165 k Ω
Transconductance	g_m	6000	9000 μ mho
DC Plate Current	I_b	11.5	19 mA
DC Grid-No.2 Current	I_{c2}	-	4.2 mA
Cutoff DC Grid-No.1 Voltage(Approx.):			
For $I_b=10\mu A$	$E_{c1(co)}$	-5.8	V
For $I_b=20\mu A$	$E_{c1(co)}$	-	-9.5 V

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Conditions		Triode Unit	Pentode Unit	
Heater Voltage	E_h	6.3	6.3	V
DC Plate Voltage	E_b	125	150	V
DC Grid-No.2 voltage	E_{c2}	-	150	V
DC Grid-No.1 voltage	E_{c1}	-1	-	V
Cathode Resistance	R_k	-	150	Ω

MECHANICAL CHARACTERISTICS

Maximum Overall Length	2.625 in (66.67 mm)
Maximum Seated Length	2.375 in (60.32 mm)
Maximum Diameter (<i>See Dimensional Outline</i>)	0.875 in (22.12 mm)
Envelope	JEDEC T6-1/2
Base	Small-Button Noval 9-Pin(JEDEC E9-1)
Dimensional Outline	JEDEC 6-3
Terminal Diagram	JEDEC 9AE
Type of Cathodes	Coated Unipotential
Operating Position	Any

MAXIMUM RATINGS - Design-Maximum Values

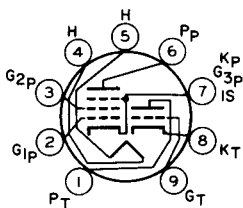
		Triode Unit	Pentode Unit	
DC Plate Voltage	E_b	330	330	V
DC Grid-No.2 Supply Voltage	E_{c2}	-	330	V
DC Grid-No.2 Voltage	<i>See Grid-No.2 Input Rating Chart at front of Receiving Tube Section</i>			
DC Grid-No.1 Voltage: Positive-bias value	E_{c1}	0	0	V
Heater-Cathode Voltage: Peak	e_{hkm}	± 200	± 200	V
DC	E_{hk}	100	100	V
Heater Voltage, ac or dc	E_h	5.7	to 6.9	V
Grid-No.2 Input: For grid-No.2 voltages up to 165 volts	P_{g2}	-	1.1	W
For grid-No.2 voltages between 165 and 330 volts	<i>See Grid-No.2 Input Rating Chart at front of Receiving Tube Section</i>			
Plate Dissipation	P_b	2.5	3.75	W

MAXIMUM CIRCUIT VALUES

Grid-No.1 Circuit Resistance:			
For fixed-bias operation	R_{g1}	0.5	0.25 $M\Omega$
For cathode-bias operation	R_{g1}	1.0	1.0 $M\Omega$

- ^a Unless otherwise specified.
- ^b Measured in accordance with the current issue of EIA Standard RS-191.
- ^c With external shield JEDEC No. 315 connected to cathode of unit under test except as noted.
- ^d With external shield JEDEC No. 315 connected to ground.
- ^e As defined in the current issue of EIA Standard RS-239.

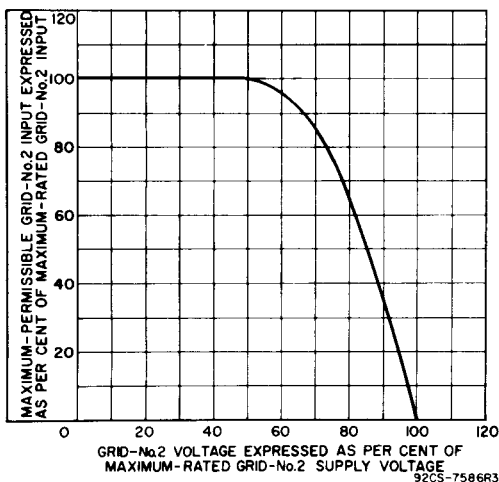
TERMINAL DIAGRAM(Bottom View)



JEDEC 9AE

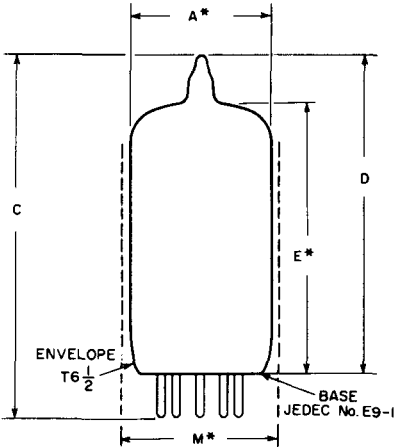
- Pin 1 - Triode Plate
- Pin 2 - Pentode Grid No.1
- Pin 3 - Pentode Grid No.2
- Pin 4 - Heater
- Pin 5 - Heater
- Pin 6 - Pentode Plate
- Pin 7 - Pentode Cathode,
Grid No.3 and
Internal Shield
- Pin 8 - Triode Cathode
- Pin 9 - Triode Grid

GRID-NO. 2 INPUT RATING CHART



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DIMENSIONAL OUTLINE JEDEC 6-3



92CS-11893R2

DIMENSION	INCHES			MILLIMETERS		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A*	0.800	-	0.845	20.32	-	21.46
C	-	-	2.625	-	-	66.67
D	-	-	2.375	-	-	60.32
E*	1.906	2.000	2.094	48.41	50.80	53.19
M*	-	-	0.875	-	-	22.22
MILLIMETER DIMENSION DERIVED FROM INCH DIMENSION						
* As defined in the current issue of EIA standards RS-209-A1						