



5687

MEDIUM-MU TWIN TRIODE

9-PIN MINIATURE TYPE

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GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Heater arrangement	Series	Parallel	
Voltage	12.6	6.3	ac or dc volts
Current	0.45	0.9	amp

Direct Interelectrode Capacitances (Approx.):⁰

Grid to plate (Each unit)	4	$\mu\mu\text{f}$
Grid to cathode and heater (Each unit)	4	$\mu\mu\text{f}$
Plate to cathode and heater:		
Unit No.1	0.6	$\mu\mu\text{f}$
Unit No.2	0.5	$\mu\mu\text{f}$
Heater to cathode (Each unit)	7	$\mu\mu\text{f}$
Grid to grid	0.025	$\mu\mu\text{f}$
Plate to plate	0.75	$\mu\mu\text{f}$

Characteristics, Class A₁ Amplifier (Each Unit):

Plate Voltage	120	180	250	volts
Grid Voltage	-2	-7	-12.5	volts
Amplification Factor	18	17	16	
Plate Resistance (Approx.)	1560	2000	3000	ohms
Transconductance	11500	8500	5400	μmhos
Plate Current	36	23	12	ma
Grid Voltage (Approx.) for plate $\mu\text{a} = 100$	-9	-14	-19	volts

Mechanical:

Operating Position	Any
Maximum Overall Length	2-3/16"
Maximum Seated Length	1-15/16"
Length, Base Seat to Bulb Top (Excluding tip)	1-9/16" \pm 3/32"
Diameter	0.750" to 0.875"
Dimensional Outline	See General Section
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JEDEC No. E9-1)
Basing Designation for BOTTOM VIEW9H

- Pin 1 - Plate of Unit No.2
- Pin 2 - Grid of Unit No.2
- Pin 3 - Cathode of Unit No.2
- Pins 4 & 8 - Heater of Unit No.2
- Pins 5 & 8 - Heater of Unit No.1



- Pin 6 - Cathode of Unit No.1
- Pin 7 - Grid of Unit No.1
- Pin 8 - Heater Mid-Tap
- Pin 9 - Plate of Unit No.1

⁰: See next page.

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AMPLIFIER — Class A₁

Values are for Each Unit

Maximum Ratings, Absolute Values:

PLATE VOLTAGE	330 max.	volts
GRID CURRENT	6.6 max.	ma
PLATE DISSIPATION:		
Either plate	4.2 max.	watts
Both plates (Both units operating) . . .	7.5 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	100 max.	volts
Heater positive with respect to cathode.	100 max.	volts
BULB TEMPERATURE (At hottest point on bulb surface)	220 max.	°C.

Maximum Circuit Values:

Grid-Circuit Resistance	1 max.	megohm
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° without external shield.

Table W

	Ebb = 300 VOLTS						Ebb = 400 VOLTS								
	.022		.047		.10		.022		.047		.10				
Rb	0.1	0.27	0.1	0.27	0.1	0.27	0.1	0.27	0.1	0.27	0.1	0.27	0.1	0.27	0.47
Rd	820	820	1500	1800	2700	3900	4700	820	820	1500	1800	2700	3900	4700	
Rk	7.22	7.22	3.8	3.54	1.94	1.74	1.63	9.75	9.75	5.09	4.8	2.64	2.34	2.2	
Ib	-5.92	-5.92	-5.7	-6.38	-5.24	-6.88	-7.66	-8.0	-8.0	-7.64	-8.64	-7.13	-9.3	-9.3	10.34
Eci	135.3	135.3	115.7	127.0	100.8	119.1	129.3	177.5	177.5	155.9	165.7	128.9	156.9	169.7	
Eb	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Edg	13.5	13.8	13.4	13.6	13.0	13.0	13.0	13.5	13.8	13.5	13.7	13.3	13.4	13.3	
Eout	13.5	13.8	13.4	13.6	13.0	13.0	13.0	13.5	13.8	13.5	13.7	13.3	13.4	13.3	
Gain	1.1	0.9	1.1	0.8	1.2	0.8	0.8	0.8	0.8	0.8	0.7	0.9	0.7	0.7	
% Dist.	4.19	4.19	4.03	4.51	3.7	4.86	5.42	5.66	5.66	5.4	6.12	5.04	6.44	7.31	
Eout	56.5	58.0	54.0	61.5	48.0	63.0	69.8	76.2	78.2	73.0	83.8	66.5	85.5	97.5	
Gain	13.5	13.8	13.4	13.6	13.0	13.0	12.9	13.5	13.8	13.5	13.7	13.2	13.3	13.3	
% Dist.	4.8	4.4	4.6	4.4	4.8	4.6	4.8	4.9	4.4	4.8	4.5	5.0	4.7	5.0	

5687 (7119/E182CC similar)