



6681

6681/12AX7

HIGH-MU TWIN TRIODE

9-PIN MINIATURE TYPE

For use in mobile communications equipment

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Heater arrangement	Series	Parallel	
Voltage.	12.6 $\pm$ 20%*	6.3 $\pm$ 20%*	ac or dc volts

Current:

At 12.6 volts. . .	0.15	-	amp
At 6.3 volts. . .	-	0.3	amp

Direct Interelectrode Capacitances (Approx.):

	Without External Shield	With External Shield ^o	
Grid to plate (Each unit). . . .	1.7	1.7	μ f
Grid to cathode and heater (Each unit).	1.6	1.8	μ f
Plate to cathode and heater:			
Unit No.1.	0.46	1.9	μ f
Unit No.2.	0.34	1.9	μ f

Characteristics, Class A₁ Amplifier (Each Unit):

Heater Voltage:

For series connection.	12.6	12.6	volts
For parallel connection.	6.3	6.3	volts

Plate Voltage.	100	250	volts
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Grid Voltage.	-1	-2	volts
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Amplification Factor.	100	100	
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Plate Resistance (Approx.)	0.08	0.0625	megohm
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Transconductance.	1250	1600	μ hos
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Plate Current.	0.5	1.2	ma
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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"

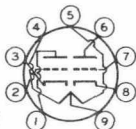
Dimensional Outline. See General Section

Bulb. T6-1/2

Base. Small-Button Noval 9-Pin (JEDEC No.E9-1)

Basing Designation for BOTTOM VIEW. 9A

Pin 1-Plate of Unit No.2	Pin 6-Plate of Unit No.1
Pin 2-Grid of Unit No.2	Pin 7-Grid of Unit No.1
Pin 3-Cathode of Unit No.2	Pin 8-Cathode of Unit No.1
Pins 4 & 9-Heater of Unit No.2	Pin 9-Heater Mid-Tap
Pins 5 & 9-Heater of Unit No.1	



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AMPLIFIER — Class A₁

Values are for Each Unit

Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE	330 max. volts
GRID VOLTAGE:	
Negative-bias value	55 max. volts
Positive-bias value	0 max. volts
PLATE DISSIPATION	1.1 max. watts
PEAK HEATER-CATHODE VOLTAGE:	
Heater negative with respect to cathode.	200 max. volts
Heater positive with respect to cathode.	200 [▲] max. volts

* When the heater is operated from storage-battery-with-charger supply or similar supplies, the normal battery-voltage fluctuation may be as much as 35 per cent or more. Although such variation in heater voltage is permissible for short periods, reliability can be increased with improved supply-voltage regulation.

○ With external shield JEDEC No. 315 connected to cathode of unit under test.

▲ The dc component must not exceed 100 volts.

SPECIAL RATINGS & PERFORMANCE DATA

Heater-Cycling Life Performance:

This test is performed on a sample lot of tubes from each production run. A minimum of 2000 cycles of intermittent operation is applied under the following conditions: heater volts = 15 (Series connection) cycled one minute on and one minute off, heater 135 volts positive with respect to cathode, and all other elements connected to ground. At the end of this test, tubes are checked for heater-cathode shorts and open circuits.