

12AZ7A

High-Mu Twin Triode

9-PIN MINIATURE TYPE
With Heater Having Controlled Warm-Up Time

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Heater arrangement	Series	Parallel	
Voltage (AC or DC)	12.6 ± 10%	6.3	volts
Current	0.225	0.45 ± 6%	amp
Warm-up time (Average)	-	11	sec

Direct Interelectrode Capacitances (Approx.):

	Without External Shield	With External Shield ^a	
<i>Unit No. 1:</i>			
Grid to plate	2	1.9	μf
Grid to cathode and heater.	2.6	2.8	μf
Plate to cathode and heater	0.44	1.4	μf
<i>Unit No. 2:</i>			
Grid to plate	2	1.9	μf
Grid to cathode and heater.	2.6	2.8	μf
Plate to cathode and heater	0.36	1.6	μf

Characteristics, Class A₁ Amplifier (Each Unit):

Plate Supply Voltage.	100	250	volts
Cathode Resistor.	270	200	ohms
Amplification Factor.	60	60	
Plate Resistance (Approx.)	15000	10900	ohms
Transconductance.	4000	5500	μmhos
Plate Current	3.7	10	ma
Grid Voltage (Approx.) for plate $\mu_a = 10$	-5	-12	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" ± 3-32"
Diameter.	0.750" to 0.875"
Dimensional Outline	See <i>General Section</i>
Bulb.	T6-1/2
Base.	Small-Button Noval 9-Pin (JEDEC No. E9-1)



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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 Tap
Pins 5 & 9 - Heater of Unit No.1		

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
PLATE DISSIPATION	2.5 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	200 max.	volts
Heater positive with respect to cathode.	200 ^b max.	volts

Maximum Circuit Values:

Grid-Circuit Resistance:

For fixed-bias operation.	0.25 max.	megohm
For cathode-bias operation.	1 max.	megohm

^a With external shield JEDEC No. 315 connected to cathode of unit under test.
^b The dc component must not exceed 100 volts.

CURVES

shown under Type 12AT7 also apply to the 12AZ7A

