

High-Mu Twin Triode

9-PIN MINIATURE TYPE

For Use in Mobile-Communications Equipment
Operating from 6-Cell Storage-Battery Systems

GENERAL DATA

Electrical:

Heater Characteristics and Ratings (*Absolute-Maximum Values*):

Voltage (AC or DC)^a 13.5 ± 1.5 volts

Current at heater volts = 13.5 0.150 amp

Peak heater-cathode voltage (Each unit):

Heater negative with respect to cathode 100 max. volts

Heater positive with respect to cathode 100 max. volts

Direct Interelectrode Capacitances (Approx.):

	<i>Without External Shield</i>	<i>With External Shield^b</i>	
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Grid-Drive Operation:

Grid to plate (Each unit) . .	1.6	1.6	μf
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Grid to cathode and heater (Each unit)	2.5	2.5	μf
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Plate to cathode and heater (Unit No.1)	0.45	1.2	μf
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Plate to cathode and heater (Unit No.2)	0.38	1.3	μf
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Cathode-Drive Operation:

Cathode to plate (Unit No.1)	0.2	0.18 ^d	μf
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Cathode to plate (Unit No.2)	0.24	0.2 ^d	μf
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Cathode to grid and heater (Each unit)	5	5 ^d	μf
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Plate to grid and heater (Unit No.1)	1.9	2.7 ^d	μf
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Plate to grid and heater (Unit No.2)	1.8	2.7 ^d	μf
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Heater to cathode (Each unit)	2.8	2.8 ^c	μf
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Plate to plate	0.24	-	μf
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Characteristics, Class A₁ Amplifier (Each Unit):

Heater Voltage	13.5	volts
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Plate Supply Voltage	250	volts
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Cathode Resistor	200	ohms
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Amplification Factor	60	
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Plate Resistance (Approx.)	10900	ohms
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Transconductance	5500	μmhos
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Plate Current	10	ma
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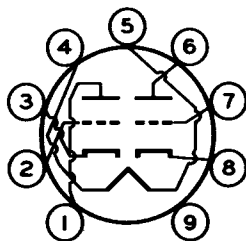
Grid Voltage (Approx.) for plate $\mu_a = 10$. .	-12	volts
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Mechanical:

Operating Position	Any
Type of Cathodes	Coated Unipotential
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 <i>General Section</i>
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JEDEC No. E9-1)
Basing Designation for BOTTOM VIEW	9EP

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



Pin 6 - Plate of
Unit No.1
Pin 7 - Grid of
Unit No.1
Pin 8 - Cathode of
Unit No.1
Pin 9 - Do Not Use

AMPLIFIER — Class A₁*Values are for Each Unit***Maximum Ratings, Absolute-Maximum Values:**

PLATE VOLTAGE.	330 max.	volts
GRID VOLTAGE:		
Negative-bias value.	55 max.	volts
Positive-bias value.	0 max.	volts
PLATE DISSIPATION.	2.75 max.	watts
BULB TEMPERATURE (At hottest point on bulb surface)	180 max.	°C

Maximum Circuit Values:**Grid-Circuit Resistance:**

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

- ^a Heater will withstand momentary excursions from 11.0 to 16.0 volts.
^b With external shield JEDEC No.315 connected to cathode of unit under test except as noted.
^c With external shield JEDEC No.315 connected to ground.
^d With external shield JEDEC No.315 connected to grid of unit under test.

SPECIAL RATINGS AND PERFORMANCE DATA**Heater-Cycling:**

Cycles of Intermittent Operation 1160 min. cycles

This test is performed on a sample lot of tubes from each production run under the following conditions: Heater volts = 19.5 cycled one minute on and two minutes off; heater 135 volts negative with respect to cathode; all other elements

connected to ground. At the end of this test, tubes are tested for heater-cathode shorts and open circuits.

Low-Frequency Vibration Performance:

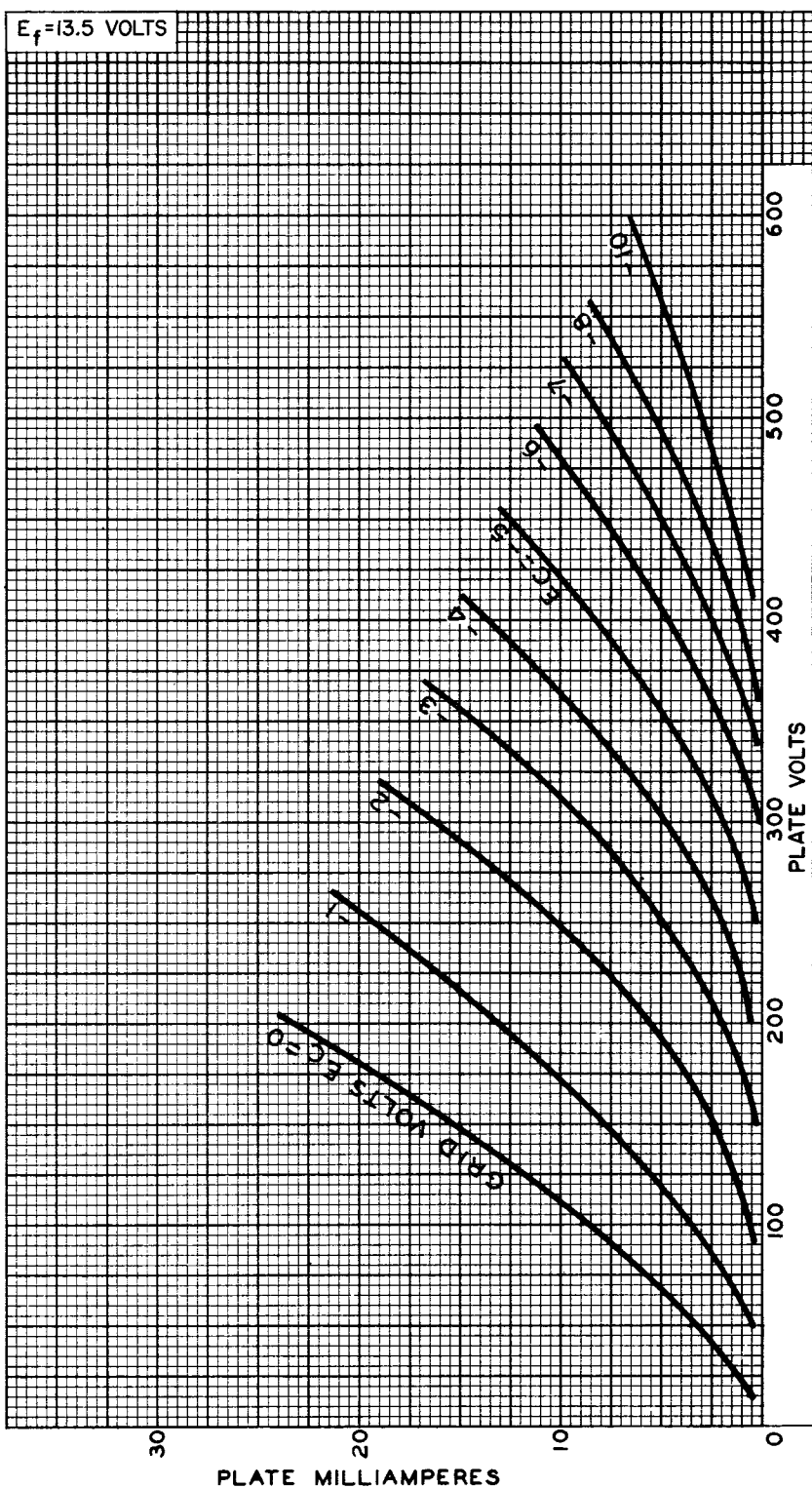
This test is performed on a sample lot of tubes from each production run under the following conditions: Units connected in parallel, heater volts = 13.5, plate-supply volts = 250, grid volts = -3, plate load resistor (ohms) = 2000, and vibrational acceleration = 2.5 g at 25 cps. In this test, the rms output voltage must not exceed 150 millivolts.

500-Hour Intermittent Life Performance:

This test is performed on a sample lot of tubes from each production run to insure high quality of the individual tube and to guard against epidemic failures. Life testing is conducted under the following conditions: Heater volts = 15.0 and maximum-rated plate dissipation.



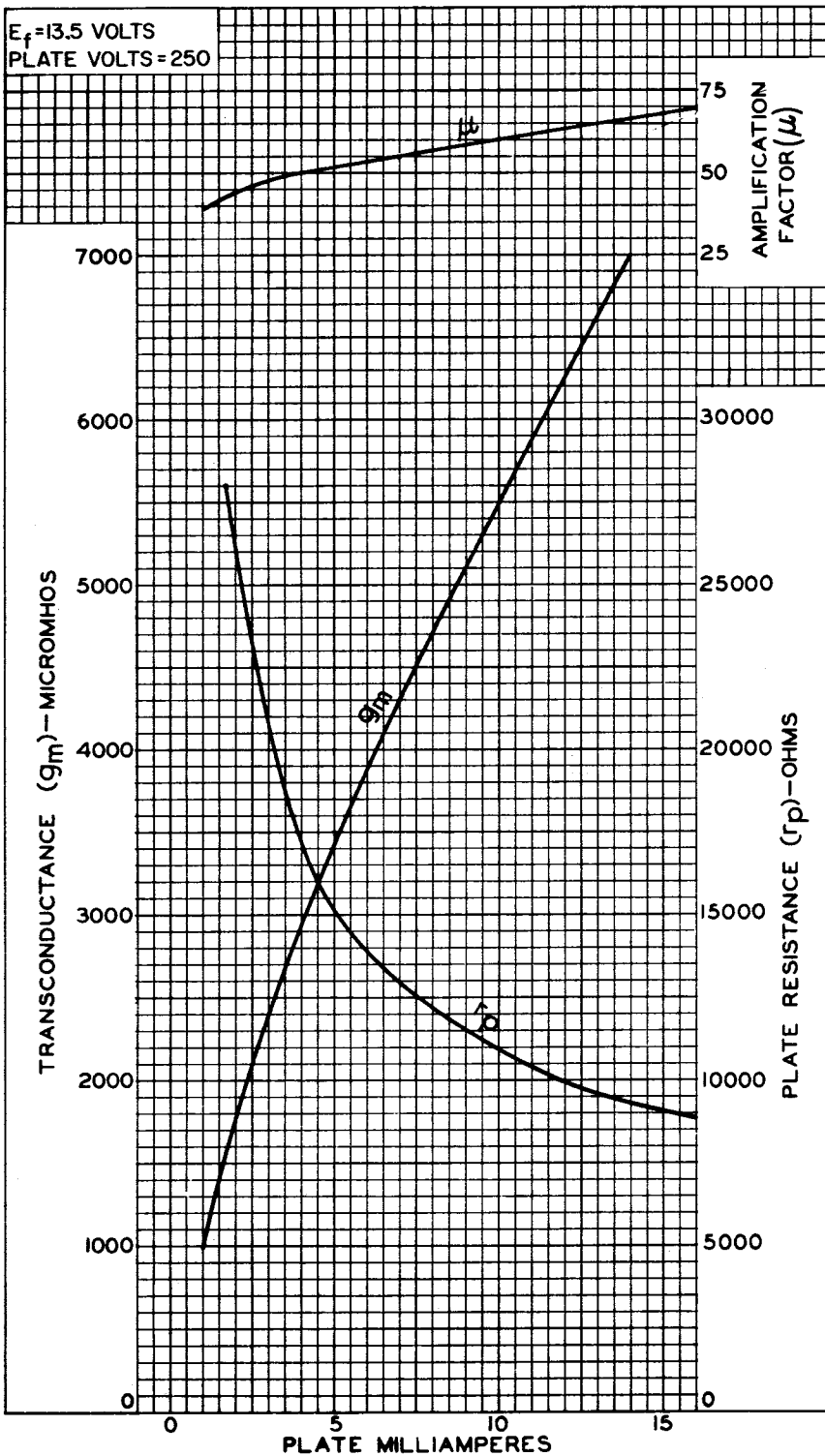
AVERAGE PLATE CHARACTERISTICS



92CM-11487



AVERAGE CHARACTERISTICS



92CM-11486

