

Diode—Sharp-Cutoff Twin-Plate Tetrode

9-PIN MINIATURE TYPE

For Frequency-Divider and Complex-Wave-Generator
Circuits of Electronic Musical Instruments

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage (AC or DC) $6.3 \pm 10\%$ volts

Current at 6.3 volts 0.3 amp

Direct Interelectrode Capacitances:▲

Tetrode Unit:

Grid No.1 to plate A 0.04 μf

Grid No.1 to plate B 0.03 max. μf

Grid No.1 to cathode & internal
shield, grid No.2, and heater . . . 5.5 μf

Plate A to cathode & internal
shield, grid No.2, and heater . . . 1.8 μf

Plate B to cathode & internal
shield, grid No.2, and heater . . . 1.8 μf

Tetrode grid No.1 to diode plate . . . 0.022 μf

Tetrode plate A to diode plate . . . 0.02 max. μf

Tetrode plate B to diode plate . . . 0.055 μf

Characteristics, Class A₁ Amplifier (Tetrode Unit):

Plates A and B connected together

Plate Voltage 100 volts

Grid-No.2 Voltage 100 volts

Grid-No.1 Supply Voltage 0 volts

Grid-No.1 Resistor (Bypassed) 2.2 megohms

Plate Resistance (Approx.) 90000 ohms

Transconductance 3200 μmhos

Plate Current 3.8 ma

Grid-No.2 Current 1.7 ma

Grid-No.1 Voltage (Approx.) for
plate $\mu_a = 20$ -4 volts

*Using either Plate A or B, with plate
not in use connected to ground*

Plate Voltage 100 volts

Grid-No.2 Voltage 100 volts

Grid-No.1 Supply Voltage 0 volts

Grid-No.1 Resistor (Bypassed) 2.2 megohms

Plate Resistance (Approx.) 130000 ohms

Transconductance 1900 μmhos

Plate Current 2.2 ma

Grid-No.2 Current 3 ma

Mechanical:

Operating Position Any

Maximum Overall Length 2-5/8"

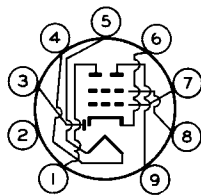
Maximum Seated Length 2-3/8"



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Length, Base Seat to Bulb Top (Excluding tip) . . . 2" $\pm$ 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. 9MR

Pin 1—Tetrode
 Plate B
 Pin 2—No Connection
 Pin 3—Diode Plate
 Pin 4—Heater
 Pin 5—Heater



Pin 6—Cathode,
 Internal
 Shield
 Pin 7—Tetrode
 Grid No.1
 Pin 8—Tetrode
 Grid No.2
 Pin 9—Tetrode
 Plate A

FREQUENCY-DIVIDER & COMPLEX-WAVE-GENERATOR SERVICE TETRODE UNIT

Maximum Ratings, Design-Maximum Values:

PLATE A VOLTAGE 330 max. volts
 PLATE B VOLTAGE 330 max. volts
 GRID-No.2 (SCREEN-GRID)
 SUPPLY VOLTAGE. 330 max. volts
 GRID-No.2 VOLTAGE See *Grid-No.2 Input Rating Chart*
at front of Receiving Tube Section

GRID-No.1 (CONTROL-GRID) VOLTAGE:

Negative-bias value 50 max. volts
 Positive-bias value 0 max. volts

GRID-No.2 INPUT:

For grid-No.2 voltages
 up to 165 volts 0.65 max. watt
 For grid-No.2 voltages
 between 165 and 330 volts . See *Grid-No.2 Input Rating Chart*
at front of Receiving Tube Section

PLATE A DISSIPATION 1.5 max. watts
 PLATE B DISSIPATION 1.5 max. watts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode . . . 200 max. volts
 Heater positive with respect to cathode . . . 200[•] max. volts

Maximum Circuit Values:

Grid-No.1—Circuit Resistance:

For grid-No.1—resistor—bias operation . . . 2.2 max. megohms

DIODE UNIT

Maximum Ratings, Design-Maximum Values:

PLATE CURRENT 1 max. ma

Characteristics, Instantaneous Test Condition:

Plate Current for plate volts = 10. 2 ma

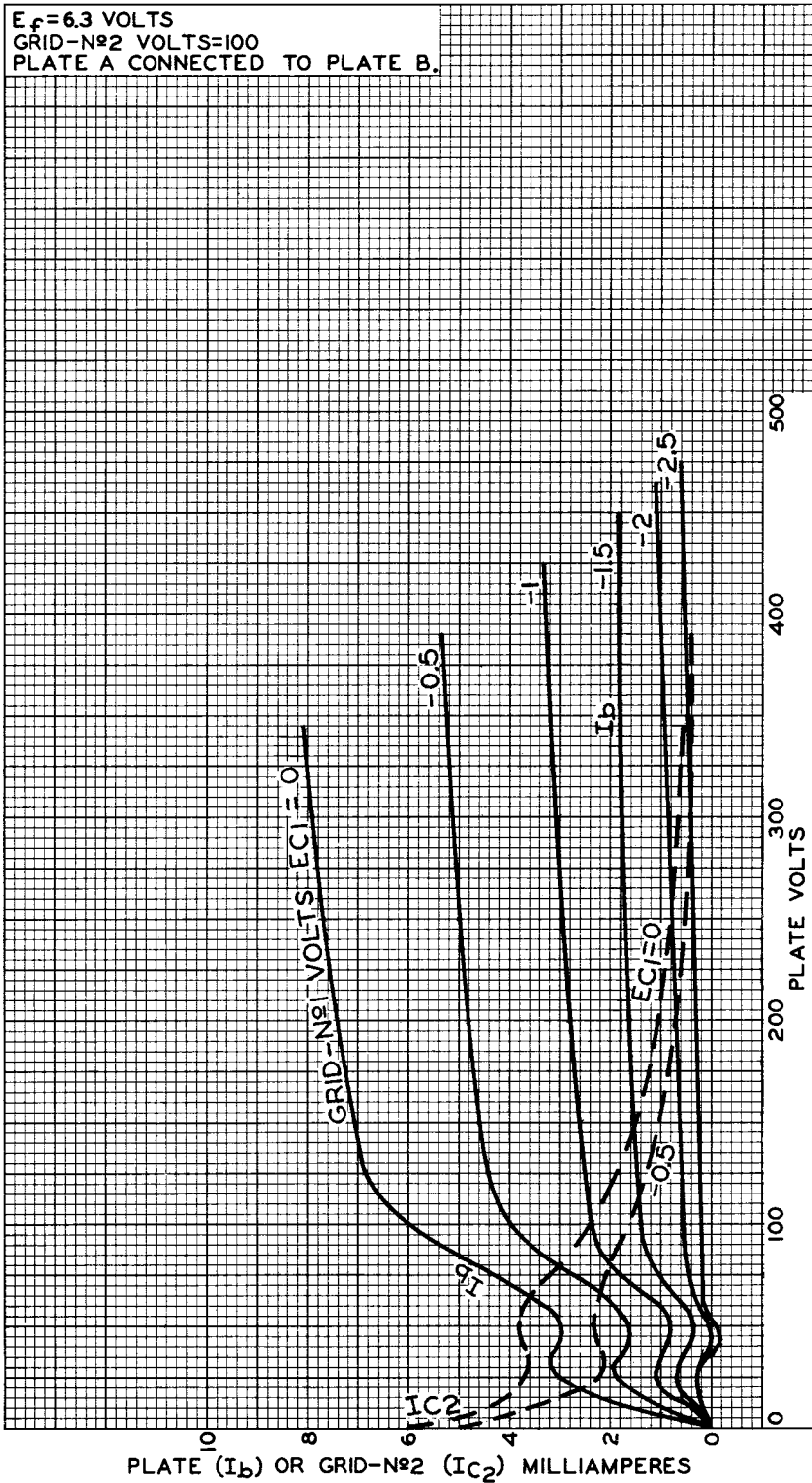
▲ Without external shield.

• The dc component must not exceed 100 volts.



AVERAGE CHARACTERISTICS Tetrode Unit

$E_f = 6.3$ VOLTS
GRID-Nº2 VOLTS=100
PLATE A CONNECTED TO PLATE B.

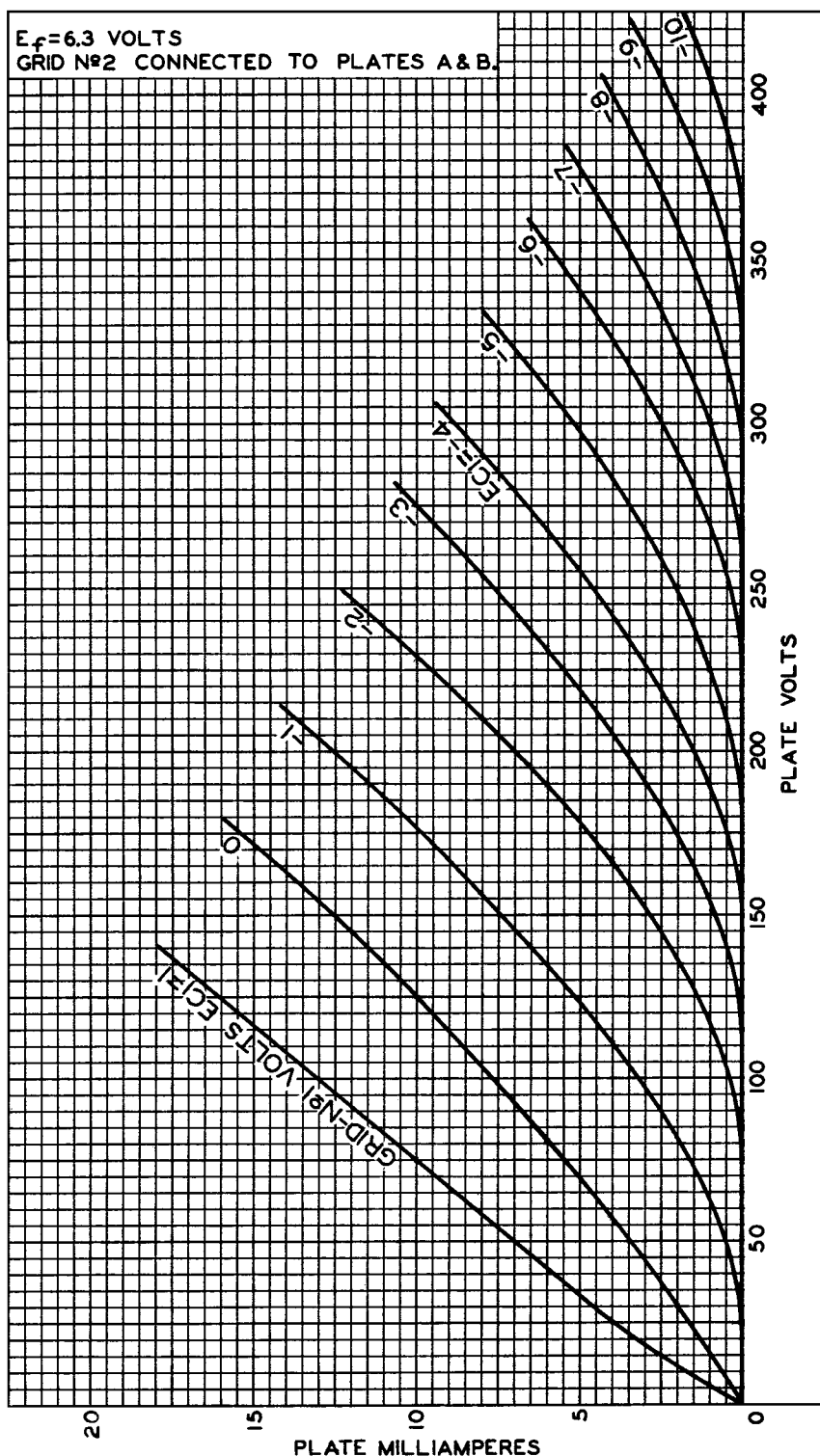


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AVERAGE PLATE CHARACTERISTICS Tetrode Unit—Triode Connection



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