

Diode— Sharp-Cutoff Three-Plate Tetrode

9-PIN MINIATURE TYPE

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

GENERAL DATA

Electrical:

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

Voltage (AC or DC)	6.3 ± 0.6	volts
Current at heater volts = 6.3	0.300	amp
Peak heater-cathode voltage:		
Heater negative with respect to cathode	200	max. volts
Heater positive with respect to cathode	200 ^a	max. volts

Direct Interelectrode Capacitances:^b

Tetrode Unit:

Grid No.1 to plate 1A	0.02	max.	pf
Grid No.1 to plate 1B	0.02	max.	pf
Grid No.1 to plate 2	0.06	max.	pf
Grid No.1 to cathode & internal shield, grid No.2, and heater . . .	5.5		pf
Plate 1A to cathode & internal shield, grid No.2, and heater . . .	1.2		pf
Plate 1B to cathode & internal shield, grid No.2, and heater . . .	1.3		pf
Plate 2 to cathode & internal shield, grid No.2, and heater . . .	1.8		pf
Tetrode grid No.1 to diode plate . . .	0.024	max.	pf
Tetrode plate 1A to diode plate . . .	0.18		pf
Tetrode plate 1B to diode plate . . .	0.024		pf
Tetrode plate 2 to diode plate	0.013		pf

Characteristics, Class A₁ Amplifier (Tetrode Unit):

Plates 1A, 1B, and 2 connected together at socket

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.)	30000	ohms
Transconductance	3400	μmhos
Plate Current	4.2	ma
Grid-No.2 Current	1.7	ma
Grid-No.1 Voltage (Approx.) for plate $\mu a = 20$	-4	volts

Triode Connection—

Grid No.2 connected to plates 1A, 1B, and 2 at socket

Plate Voltage	100	volts
Grid-No.1 Supply Voltage	0	volts



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Grid-No.1 Resistor (Bypassed)	2.2	megohms
Transconductance.	4500	μ hos
Amplification Factor.	45	
Plate Current	5.5	ma

Separate plate operation, plates not under test grounded

Plate Voltage:

Plate 1A.	100	volts
Plate 1B.	100	volts
Plate 2	100	volts

Grid-No.2 Voltage	100	volts
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Grid-No.1 Supply Voltage.	0	volts
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Grid-No.1 Resistor (Bypassed)	2.2	megohms
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Transconductance:

Grid No.1 to plate 1A	2000	μ hos
Grid No.1 to plate 1B	2000	μ hos
Grid No.1 to plate 2.	1800	μ hos

Plate Resistance (Approx.):

Plate 1A.	0.1	megohm
Plate 1B.	0.1	megohm
Plate 2	0.12	megohm

Plate Current:

Plate 1A.	2.3	ma
Plate 1B.	2.3	ma
Plate 2	2.1	ma

Grid-No.2 Current:

For plate 1A volts = 100.	3.8	ma
For plate 1B volts = 100.	3.8	ma
For plate 2 volts = 100	3.3	ma

Mechanical:

Operating Position. Any

Type of Cathode Coated Unipotential

Maximum Overall Length. 2-5/8"

Maximum Seated Length 2-3/8"

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. 9QG

Pin 1 -Tetrode
Plate 1B

Pin 2 -Tetrode
Plate 1A

Pin 3 -Diode
Plate

Pin 4 -Heater

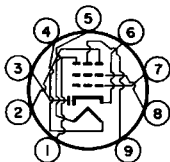
Pin 5 -Heater

Pin 6 -Cathode,
Internal
Shield

Pin 7 -Tetrode
Grid No.1

Pin 8 -Tetrode
Grid No.2

Pin 9 -Tetrode
Plate 2



FREQUENCY-DIVIDER & COMPLEX-WAVE-GENERATOR SERVICE

TETRODE UNIT

Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE:		
PLATE 1A.	330 max.	volts
PLATE 1B.	330 max.	volts
PLATE 2	330 max.	volts
GRID-No.2 (SCREEN-GRID)		
SUPPLY VOLTAGE.	330 max.	volts
GRID-No.2 VOLTAGESee <i>Grid-No.2 Input Rating Chart</i> 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	.See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section	
volts		
PLATE 1A DISSIPATION.	1 max.	watt
PLATE 1B DISSIPATION.	1 max.	watt
PLATE 2 DISSIPATION	1 max.	watt

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
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Characteristics, Instantaneous Test Condition:

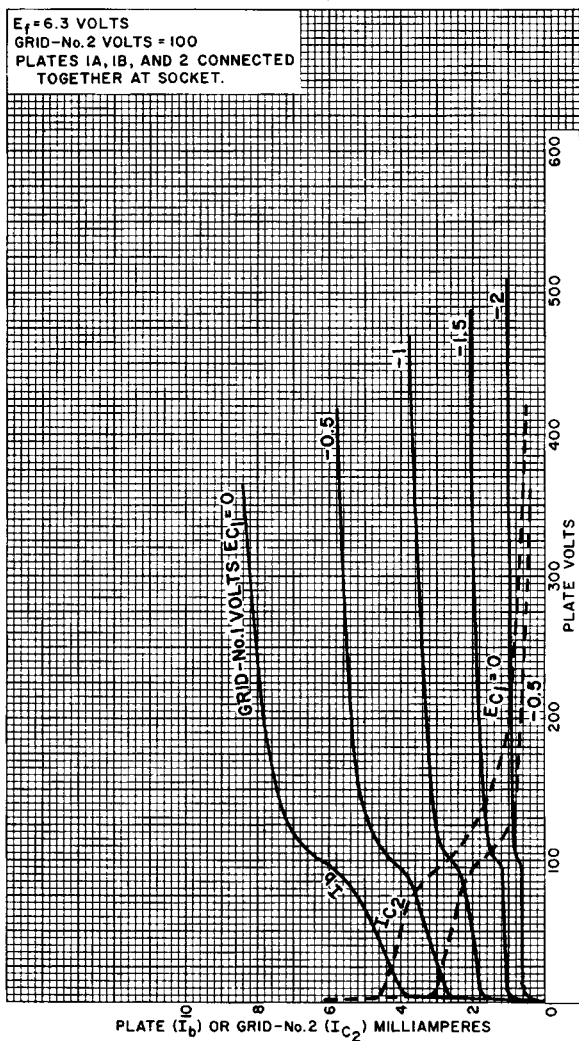
Plate Current for plate volts = 10. . .	2	ma
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^a The dc component must not exceed 100 volts.^b Without external shield.

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AVERAGE CHARACTERISTICS Tetrode Unit

$E_f = 6.3$ VOLTS
GRID-No. 2 VOLTS = 100
PLATES 1A, 1B, AND 2 CONNECTED
TOGETHER AT SOCKET.



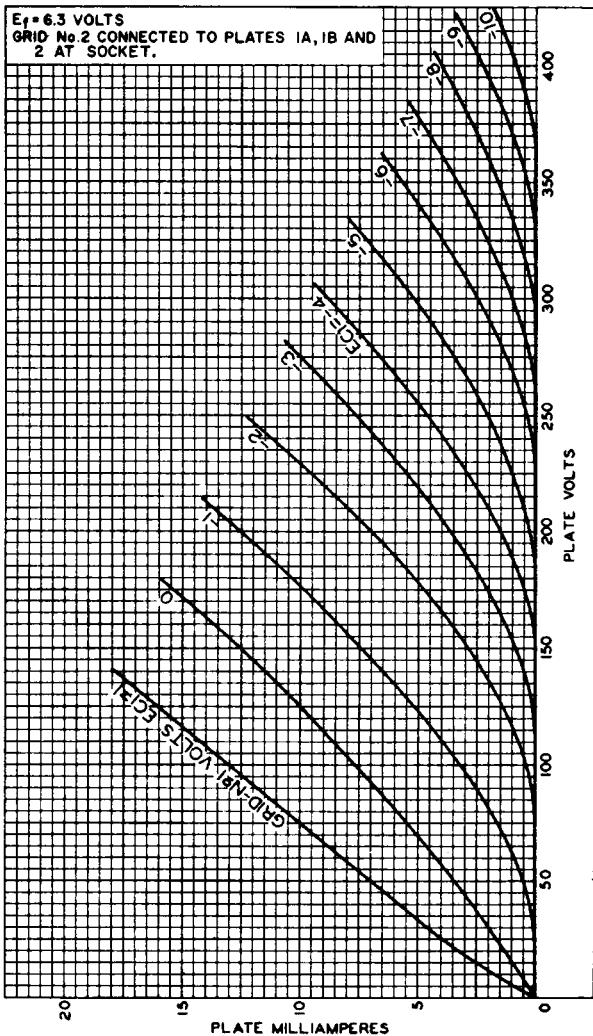
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RADIO CORPORATION OF AMERICA
Electron Tube Division

Harrison, N. J.



AVERAGE PLATE CHARACTERISTICS Tetrode Unit—Triode Connection



92CM-11748

