6KM8

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 A_1 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 μa = 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	μmhos
Amplification Factor	45	
Plate Current	5.5	ma

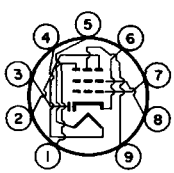
Separate plate operation, plates not under test grounded

Plate Voltage:		
Plate 1A	100	volts
Plate 1B	100	volts
Plate 2	100	volts
Grid-No.2 Voltage	100	volts
Grid-No.1 Supply Voltage	0	volts
Grid-No.1 Resistor (Bypassed)	2.2	megohms
Transconductance:		
Grid No.1 to plate 1A	2000	μmhos
Grid No.1 to plate 1B	2000	μmhos
Grid No.1 to plate 2	1800	μmhos
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" ± 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 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 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

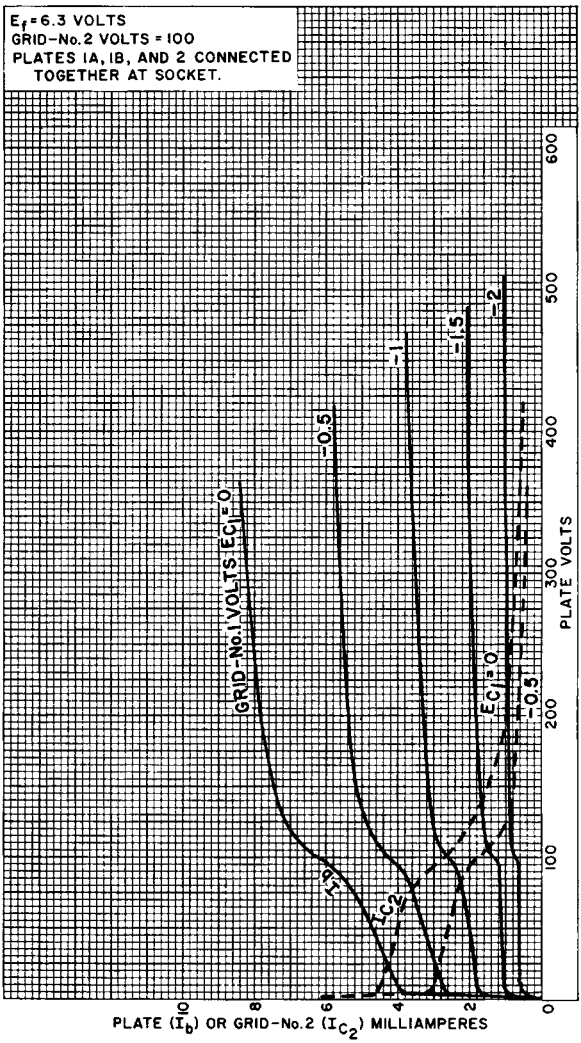
Characteristics, *Instantaneous Test Condition:*

Plate Current for plate volts = 10	2	ma

[a] The dc component must not exceed 100 volts.
[b] Without external shield.

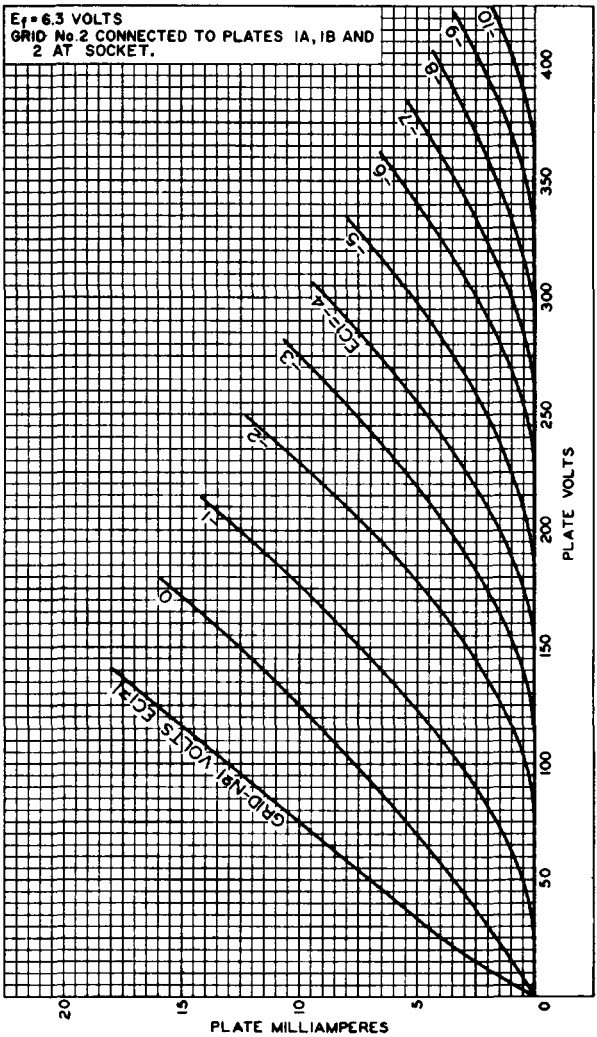
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AVERAGE CHARACTERISTICS
Tetrode Unit



92CM-11713RI

AVERAGE PLATE CHARACTERISTICS
Tetrode Unit—Triode Connection



92CM-11748