

ELECTRONIC TUBE REFERENCE

6KM8

Voltage - Pentode or Tetrode (with diode) electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

DIODE-TETRODE

Diode and three-plate tetrode for frequency-divider and complex-wave-generator circuits in electronic musical instruments, intended for pulse and timing service rather than ordinary amplification.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9QG	BASE PINS	9
NOMINAL HEATER	6.3 V / 300 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

9QG - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1	A	P – Plate (Anode)	CONNECTED
PIN2	A	P – Plate (Anode)	CONNECTED
PIN3	B	P – Plate (Anode)	CONNECTED
PIN4	–	H – Heater	CONNECTED
PIN5	–	H – Heater	CONNECTED
PIN6	–	IS – Internal Screen	CONNECTED
PIN6	–	K – Cathode	CONNECTED
PIN7	A	G1 – Control Grid	CONNECTED
PIN8	A	G2 – Screen Grid	CONNECTED
PIN9	A	P – Plate (Anode)	CONNECTED

SECTION RATINGS

SECTION1 Diode	
MAXIMUM CATHODE CURRENT	1 mA
NOMINAL OUTPUT CURRENT	1 A
<i>Representative electrical section from supplied RCA data sheet.</i>	

SECTION2 Tetrode	
PLATE RESISTANCE	30000 Ω
TRANSCONDUCTANCE	0.0034 S
AMPLIFICATION FACTOR	45
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM SCREEN VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	1 W
MAXIMUM SCREEN DISSIPATION	0.65 W
<i>Representative electrical section from supplied RCA data sheet.</i>	

Diode plus sharp-cutoff three-plate tetrode used in frequency-divider and complex-wave-generator circuits of electronic musical instruments.

SOURCE OPERATING CONDITIONS

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1971 RCA HB3 Binder 5 of 7

Published test conditions and operating points. Values on this page are preserved as reported by this source.

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Section 1 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage nominal	6.3 V	—
Heater current	300 mA	—
PLATE CURRENT	1 mA	Published source row
Maximum cathode current	1 mA	Promoted field corroboration

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage (AC or DC)	6.3 V	Published table column
Current at heater volts =	6.3 V	Published table column
Plate Current for plate volts =	10 V	Published source row
Plate Current for plate volts = (value 2)	2 V	Published source row

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Section 2 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage nominal	6.3 V	—
Heater current	300 mA	—
GRID-No	2	Published source row
SUPPLY VOLTAGE	330 V	Published source row
GRID-No	2 A	Published source row
GRID-No	2	Published source row
For grid-No	2	Published source row

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
For grid-No	2	Published source row
PLATE 1A DISSIPATION	1 W	Published source row
PLATE	16 W	Published source row
PLATE (value 2)	1 W	Published source row
PLATE	2 W	Published source row
PLATE (value 2)	1 W	Published source row

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage (AC or DC)	0.6 V	Published table column
Current at heater volts =	0.3 V	Published table column
Plate Voltage	100 V	Published source row
Grid-No	2 V	Published source row
Grid-No (value 2)	100 V	Published source row
Grid-No.1 Supply Voltage	0 V	Published source row
Plate Resistance (Approx)	30000 ohm	Published source row
Transconductance	3400 μ S	Published source row
Plate Current	4.2 mA	Published source row
Grid-No	2 mA	Published source row
Grid-No (value 2)	1.7 mA	Published source row
Grid No	2	Published source row
Plate Voltage	100 V	Published source row
Grid-No.1 Supply Voltage	0 V	Published source row
Transconductance	4500 μ S	Published source row
Plate Current	5 mA	Published source row
Plate Current (value 2)	5 mA	Published source row
Grid-No	2 V	Published source row
Grid-No (value 2)	100 V	Published source row
Grid-No.1 Supply Voltage	0 V	Published source row
Grid-No	2	Published source row
GRID-No	2 V	Published source row
GRID-No (value 2)	100 V	Published source row
PLATE (Ib) OR GRID-No	2	Published source row

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
shield, grid No	2 pF	Published source row
shield, grid No (value 2)	1.2 pF	Published source row
shield, grid No	2 pF	Published source row
shield, grid No (value 2)	1.3 pF	Published source row
shield, grid No	2 pF	Published source row
shield, grid No (value 2)	1.8 pF	Published source row



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1975 RCA RC30

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1975 RCA RC30

Section 1 · Diode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc)	6.3 V	Published in approved 6KM8 target datasheet entry; Section1
Heater Current	300 mA	Published in approved 6KM8 target datasheet entry; Section1
Plate Voltage	100 V	Published in approved 6KM8 target datasheet entry; Section1
Grid-No.1 Supply Voltage	0 V	Published in approved 6KM8 target datasheet entry; Section1
Grid-No.1 Resistor (Bypassed)	2.2 MΩ	Published in approved 6KM8 target datasheet entry; Section1
Transconductance	4500 μS	Published in approved 6KM8 target datasheet entry; Section1
Plate Current	6.6 mA	Published in approved 6KM8 target datasheet entry; Section1
Plate Voltage 100 100	100 V	Published in approved 6KM8 target datasheet entry; Section1
Grid-No.2 Voltage 100 100	100 V	Published in approved 6KM8 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No.1 Supply Voltage 0 0 0 V	0 V	Published in approved 6KM8 target datasheet entry; Section1
Grid-No.1 Resistor (Bypassed) 2.2 2.2	2.2 MΩ	Published in approved 6KM8 target datasheet entry; Section1
Transconductance 2000 2000	1800 μS	Published in approved 6KM8 target datasheet entry; Section1
Plate Resistance (Approx.) 0.1 0.1	0.12 MΩ	Published in approved 6KM8 target datasheet entry; Section1
Plate Current 2.3 2.3	2.1 mA	Published in approved 6KM8 target datasheet entry; Section1
Grid-No.2 Current 3.8 3.8	3.3 mA	Published in approved 6KM8 target datasheet entry; Section1
Plate Voltage (Each plate)	330 V	Published in approved 6KM8 target datasheet entry; Section1
Grid-No.2 (Screen-Grid) Supply Voltage	330 V	Published in approved 6KM8 target datasheet entry; Section1
Positive-bias value	0 V	Published in approved 6KM8 target datasheet entry; Section1
Negative-bias value	50 V	Published in approved 6KM8 target datasheet entry; Section1
Plate Dissipation (Each plate)	1 W	Published in approved 6KM8 target datasheet entry; Section1
For grid-No.2 voltages up to	165 V	Published in approved 6KM8 target datasheet entry; Section1
For grid-No.2 voltages up to 165 volts	0.65 W	Published in approved 6KM8 target datasheet entry; Section1
For grid-No.2 voltages between 165 and	330 V	Published in approved 6KM8 target datasheet entry; Section1
Grid-No.1-Circuit Resistance, for grid-No.1-resistor-bias operation	2.2 MΩ	Published in approved 6KM8 target datasheet entry; Section1
Plate Current	1 mA	Published in approved 6KM8 target datasheet entry; Section1
Tube Voltage Drop for plate current of	2 mA	Published in approved 6KM8 target datasheet entry; Section1
Tube Voltage Drop for plate current of 2 mA	10 V	Published in approved 6KM8 target datasheet entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to Cathode, Heater, Grid No.2, and Internal Shield	5.5 pF	Published in approved 6KM8 target datasheet entry; Section1
Plate No.1A to Cathode, Heater, Grid No.2, and Internal Shield	1.2 pF	Published in approved 6KM8 target datasheet entry; Section1
Plate No.1B to Cathode, Heater, Grid No.2, and Internal Shield	1.3 pF	Published in approved 6KM8 target datasheet entry; Section1
Plate No.2 to Cathode, Heater, Grid No.2, and Internal Shield	1.8 pF	Published in approved 6KM8 target datasheet entry; Section1
Tetrode Plate No.1A to Diode Plate	0.18 pF	Published in approved 6KM8 target datasheet entry; Section1
Tetrode Plate No.1B to Diode Plate	0.024 pF	Published in approved 6KM8 target datasheet entry; Section1
Tetrode Plate No.2 to Diode Plate	0.013 pF	Published in approved 6KM8 target datasheet entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	100 V	Published in approved 6KM8 target datasheet entry; Section1
Grid-No.2 Voltage	100 V	Published in approved 6KM8 target datasheet entry; Section1
Grid-No.1 Supply Voltage	0 V	Published in approved 6KM8 target datasheet entry; Section1
Grid-No.1 Resistor (Bypassed)	2.2 MΩ	Published in approved 6KM8 target datasheet entry; Section1
Plate Resistance (Approx.)	30000 Ω	Published in approved 6KM8 target datasheet entry; Section1
Transconductance	3400 μS	Published in approved 6KM8 target datasheet entry; Section1
Plate Current	4.2 mA	Published in approved 6KM8 target datasheet entry; Section1
Grid-No.2 Current	1.7 mA	Published in approved 6KM8 target datasheet entry; Section1

Section 2 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc)	6.3 V	Published in approved 6KM8 target datasheet entry; Section2
Heater Current	300 mA	Published in approved 6KM8 target datasheet entry; Section2
Plate Voltage	100 V	Published in approved 6KM8 target datasheet entry; Section2
Grid-No.1 Supply Voltage	0 V	Published in approved 6KM8 target datasheet entry; Section2
Grid-No.1 Resistor (Bypassed)	2.2 MΩ	Published in approved 6KM8 target datasheet entry; Section2
Transconductance	4500 μS	Published in approved 6KM8 target datasheet entry; Section2
Plate Current	6.6 mA	Published in approved 6KM8 target datasheet entry; Section2
Plate Voltage 100 100	100 V	Published in approved 6KM8 target datasheet entry; Section2
Grid-No.2 Voltage 100 100	100 V	Published in approved 6KM8 target datasheet entry; Section2
Grid-No.1 Supply Voltage 0 0	0 V	Published in approved 6KM8 target datasheet entry; Section2
Grid-No.1 Resistor (Bypassed) 2.2 2.2	2.2 MΩ	Published in approved 6KM8 target datasheet entry; Section2
Transconductance 2000 2000	1800 μS	Published in approved 6KM8 target datasheet entry; Section2
Plate Resistance (Approx.) 0.1 0.1	0.12 MΩ	Published in approved 6KM8 target datasheet entry; Section2
Plate Current 2.3 2.3	2.1 mA	Published in approved 6KM8 target datasheet entry; Section2
Grid-No.2 Current 3.8 3.8	3.3 mA	Published in approved 6KM8 target datasheet entry; Section2
Plate Voltage (Each plate)	330 V	Published in approved 6KM8 target datasheet entry; Section2
Grid-No.2 (Screen-Grid) Supply Voltage	330 V	Published in approved 6KM8 target datasheet entry; Section2
Positive-bias value	0 V	Published in approved 6KM8 target datasheet entry; Section2

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Negative-bias value	50 V	Published in approved 6KM8 target datasheet entry; Section2
Plate Dissipation (Each plate)	1 W	Published in approved 6KM8 target datasheet entry; Section2
For grid-No.2 voltages up to	165 V	Published in approved 6KM8 target datasheet entry; Section2
For grid-No.2 voltages up to 165 volts	0.65 W	Published in approved 6KM8 target datasheet entry; Section2
For grid-No.2 voltages between 165 and	330 V	Published in approved 6KM8 target datasheet entry; Section2
Grid-No.1-Circuit Resistance, for grid-No.1-resistor-bias operation	2.2 MΩ	Published in approved 6KM8 target datasheet entry; Section2
Plate Current	1 mA	Published in approved 6KM8 target datasheet entry; Section2
Tube Voltage Drop for plate current of	2 mA	Published in approved 6KM8 target datasheet entry; Section2
Tube Voltage Drop for plate current of 2 mA	10 V	Published in approved 6KM8 target datasheet entry; Section2

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to Cathode, Heater, Grid No.2, and Internal Shield	5.5 pF	Published in approved 6KM8 target datasheet entry; Section2
Plate No.1A to Cathode, Heater, Grid No.2, and Internal Shield	1.2 pF	Published in approved 6KM8 target datasheet entry; Section2
Plate No.1B to Cathode, Heater, Grid No.2, and Internal Shield	1.3 pF	Published in approved 6KM8 target datasheet entry; Section2
Plate No.2 to Cathode, Heater, Grid No.2, and Internal Shield	1.8 pF	Published in approved 6KM8 target datasheet entry; Section2
Tetrode Plate No.1A to Diode Plate	0.18 pF	Published in approved 6KM8 target datasheet entry; Section2
Tetrode Plate No.1B to Diode Plate	0.024 pF	Published in approved 6KM8 target datasheet entry; Section2
Tetrode Plate No.2 to Diode Plate	0.013 pF	Published in approved 6KM8 target datasheet entry; Section2

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	100 V	Published in approved 6KM8 target datasheet entry; Section2
Grid-No.2 Voltage	100 V	Published in approved 6KM8 target datasheet entry; Section2
Grid-No.1 Supply Voltage	0 V	Published in approved 6KM8 target datasheet entry; Section2
Grid-No.1 Resistor (Bypassed)	2.2 MΩ	Published in approved 6KM8 target datasheet entry; Section2
Plate Resistance (Approx.)	30000 Ω	Published in approved 6KM8 target datasheet entry; Section2
Transconductance	3400 μS	Published in approved 6KM8 target datasheet entry; Section2
Plate Current	4.2 mA	Published in approved 6KM8 target datasheet entry; Section2
Grid-No.2 Current	1.7 mA	Published in approved 6KM8 target datasheet entry; Section2

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