

ELECTRONIC TUBE REFERENCE

6CQ8

Voltage - Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

TETRODE-TRIODE

Television triode-tetrode whose tetrode serves as mixer, video-IF, or sound-IF amplifier while the triode provides associated signal functions.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9GE	BASE PINS	9
NOMINAL HEATER	6.3 V / 450 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Dissimilar

9GE - TERMINAL PINOUT

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

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	5000 Ω
TRANSCONDUCTANCE	0.008 S
AMPLIFICATION FACTOR	40
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	3.2 W
<i>Published promoted values applied where applicable; additional ratings and operating data retained as parameters.</i>	

SECTION2 Tetrode	
PLATE RESISTANCE	140000 Ω
TRANSCONDUCTANCE	0.0058 S
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM SCREEN VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	3.1 W
MAXIMUM SCREEN DISSIPATION	0.7 W
<i>Published promoted values applied where applicable; additional ratings and operating data retained as parameters.</i>	

Miniature type used in color and black-and-white tele- vision receiver applications. The tetrode unit is used as a mixer, video if amplifier, or sound if amplifier °2tr tube. The triode unit is used in vhf oscillator, phase- splitter, sync-clipper, sync-separator, and rf amplifier 6 lTlf circuits.

SOURCE OPERATING CONDITIONS

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1966 Tung Sol Electronic Tubes 2 of 4

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1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum heater-cathode voltage, peak	200 V	—
Plate supply voltage	125 V	ClassA
Cathode-bias resistor	56 ohm	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate current	15 mA	ClassA

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	1.8 pF	—
Grid-to-cathode-and-heater capacitance	2.4 pF	—
Plate-to-cathode-and-heater capacitance	1.2 pF	—

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 2 · Tetrode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum heater-cathode voltage, peak	200 V	—
Plate supply voltage	125 V	ClassA
Screen supply voltage	125 V	ClassA
Control-grid voltage	-1 V	ClassA

Characteristic		
Parameter	Published Value	Condition / Note
Plate current	12 mA	ClassA
Screen current	4.2 mA	ClassA

Capacitance		
Parameter	Published Value	Condition / Note
Grid-1-to-plate capacitance maximum	0.09 pF	—
Plate output capacitance	2.5 pF	—



Source Operating Conditions

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1968 General Electric Co

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1968 GENERAL ELECTRIC CO

Section 1 · Triode

Other		
Parameter	Published Value	Condition / Note
HeaterVoltageNominal	6.3 V	—
HeaterCurrentNominal	450 mA	—
Typical Plate Voltage	125 V	ClassA
Typical Screen Voltage	125 V	ClassA

Characteristic		
Parameter	Published Value	Condition / Note
Plate Resistance	140000 Ohm	—
Transconductance	5800 uS	—

1968 GENERAL ELECTRIC CO

Section 2 · Tetrode

Characteristic		
Parameter	Published Value	Condition / Note
Plate Resistance	5000 Ohm	—

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	8000 μ S	—
Amplification Factor	40	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical Plate Voltage	125 V	ClassA



SOURCE OPERATING CONDITIONS

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1971 RCA HB3 Binder 4 of 7

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1971 RCA HB3 BINDER 4 OF 7

Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage (AC or DC)	6.3 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Current – published value 1	450 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Current – published value 2	6 A	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid to plate – published value 1	1.8	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid to plate – published value 2	1.8	Published datasheet value; multiple values represent separate source-table limits or conditions.
heater – published value 1	2.7	Published datasheet value; multiple values represent separate source-table limits or conditions.
heater – published value 2	2.7	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
heater – published value 1	0.4	Published datasheet value; multiple values represent separate source-table limits or conditions.
heater – published value 2	1.2	Published datasheet value; multiple values represent separate source-table limits or conditions.
No.2, and heater – published value 1	5	Published datasheet value; multiple values represent separate source-table limits or conditions.
No.2, and heater – published value 2	5	Published datasheet value; multiple values represent separate source-table limits or conditions.
No.2, and heater – published value 1	2.5	Published datasheet value; multiple values represent separate source-table limits or conditions.
No.2, and heater – published value 2	3.3	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Supply Voltage – published value 1	125 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Supply Voltage – published value 2	125 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.2 Supply Voltage	125 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.1 Supply Voltage	-1 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Cathode Resistor	56 ohm	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Resistance (Approx.) – published value 1	5000 ohm	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Resistance (Approx.) – published value 2	140000 ohm	Published datasheet value; multiple values represent separate source-table limits or conditions.
Transconductance – published value 1	8000	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance – published value 2	5800	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Current – published value 1	15 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Current – published value 2	12 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.2 Current	4.2 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
for plate μ a - 100 – published value 1	100 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
for plate μ a - 100 – published value 2	-7 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
for plate μ a - 100 – published value 3	-7 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 1 -Triode Plate – published value 1	1	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 1 -Triode Plate – published value 2	7	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 2-Tetrode	2	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid No.2	8	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 4 -Heater	4	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 5 -Heater – published value 1	5	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 5 -Heater – published value 2	9	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pin 6 -Tetrode Plate	6	Published datasheet value; multiple values represent separate source-table limits or conditions.
330 volts	330 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
GRID-NS'2 VOLTS=125 – published value 1	2 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
GRID-NS'2 VOLTS=125 – published value 2	125 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
GRID-NS'2 VOLTS=125 – published value 3	0 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
PLATE(Ib) OR GRID-Ns2 (I~2) MILLIAMPERES	2 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
PLATE VOLTS=125	125 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
GRID-Ns2 VOLTS=125	125 V	Published datasheet value; multiple values represent separate source-table limits or conditions.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to plate – published value 1	0.019 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid No.1 to plate – published value 2	0.015 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
plate – published value 1	0.07 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
plate – published value 2	0.01 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
PLATE VOLTAGE – published value 1	330 V	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
PLATE VOLTAGE – published value 2	330 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
SUPPLY VOLTAGE	330 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Positive-bias value – published value 1	0 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Positive-bias value – published value 2	0 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
GRID INPUT – published value 1	0 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
GRID INPUT – published value 2	55 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
PLATE DISSIPATION – published value 1	3.1 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
PLATE DISSIPATION – published value 2	3.2 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
respect to cathode – published value 1	200 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
respect to cathode – published value 2	200 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
respect to cathode – published value 1	200 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
respect to cathode – published value 2	200 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
For fixed-bias operation – published value 1	0.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
For fixed-bias operation – published value 2	0.25 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
For cathode-bias operation – published value 1	1 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
For cathode-bias operation – published value 2	1 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.



SOURCE OPERATING CONDITIONS

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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 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate	1.8 pF	Published datasheet value
Grid to Cathode and Heater	2.7 pF	Published datasheet value
Plate to Cathode and Heater	1.2 PF	Published datasheet value
Plate to Cathode. Heater, Grid No	2	Published datasheet value
Tetrode Plate to Triode Plate	0.01 pF	Published datasheet value
Heater to Cathode (Each Unit)	3 pF	Published datasheet value

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Voltage	330 volts	Published datasheet value
Grid-No	330 volts	Published datasheet value
Grid-No	300	Published datasheet value
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0 volts	Published datasheet value
Plate Dissipation	3.2 watts	Published datasheet value
For grid-No	0.7 volts	Published datasheet value

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
For grid-No	300 volts	Published datasheet value
Plate-Supply Voltage	125 volts	Published datasheet value
Grid-No	125 volts	Published datasheet value
Grid-No.1 Voltage	-1	Published datasheet value
Amplification Factor	40	Published datasheet value
Plate Resistance (Approx.)	140000 ohms	Published datasheet value
Transconductance	5800	Published datasheet value
Plate Current	12 mA	Published datasheet value
Grid-No	4.2 mA	Published datasheet value
Grid-No	1	Published datasheet value

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