

ELECTRONIC TUBE REFERENCE

6BR8A

Voltage Radio Detector Converter electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

PENTODE-TRIODE

Medium-mu triode plus sharp-cutoff pentode used as a combined oscillator and mixer in VHF television tuners.

GENERAL CHARACTERISTICS

BASE DESIGNATION	9FA	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

9FA - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1	B	G1 – Control Grid	CONNECTED
PIN2	B	P – Plate (Anode)	CONNECTED
PIN3	B	K – Cathode	CONNECTED
PIN4	–	H – Heater	CONNECTED
PIN5	–	H – Heater	CONNECTED
PIN6	A	P – Plate (Anode)	CONNECTED
PIN7	A	G2 – Screen Grid	CONNECTED
PIN8	A	G3 – Suppressor Grid	CONNECTED
PIN8	A	K – Cathode	CONNECTED
PIN8	–	IS – Internal Screen	CONNECTED

SECTION RATINGS

SECTION1 Triode	
TRANSCONDUCTANCE	0.0075 S
AMPLIFICATION FACTOR	40
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	3 W
<i>Published promoted values applied where applicable; additional table data retained as parameters.</i>	

SECTION2 Pentode	
PLATE RESISTANCE	400000 Ω
TRANSCONDUCTANCE	0.005 S
MAXIMUM PLATE VOLTAGE	330 V
MAXIMUM SCREEN VOLTAGE	330 V
MAXIMUM PLATE DISSIPATION	3 W
<i>Published promoted values applied where applicable; additional table data retained as parameters.</i>	

Reference/equivalence entry for a medium-mu triode plus sharp-cutoff pentode used as a combined oscillator and mixer in VHF television tuners.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

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

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Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Voltage (AC or DC) – published value 1	6.3 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Voltage (AC or DC) – published value 2	6.3 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Voltage (AC or DC) – published value 3	0.6 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Current – published value 1	0	Published datasheet value; multiple values represent separate source-table limits or conditions.
Current – published value 2	450	Published datasheet value; multiple values represent separate source-table limits or conditions.
Current – published value 3	0.03	Published datasheet value; multiple values represent separate source-table limits or conditions.
Current – published value 4	0.45	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid to plate – published value 1	1.8 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid to plate – published value 2	1.8 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid No.1 to plate – published value 1	0 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid No.1 to plate – published value 2	2 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid No.1 to plate – published value 3	0.01 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
Triode Cathode to Heater – published value 1	2.4 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
Triode Cathode to Heater – published value 2	2.4 pF	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 1 -Triode Grid	1	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 2 -Triode Plate	2	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	5	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Voltage – published value 1	125 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Voltage – published value 2	125 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid No.2 Voltage	10 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Resistance (Approx.) – published value 1	0.2	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Resistance (Approx.) – published value 2	2	Published datasheet value; multiple values represent separate source-table limits or conditions.
Transconductance – published value 1	7500	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance – published value 2	5000	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Current – published value 1	13.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Current – published value 2	9.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.2 Current	3.5 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.1 Voltage (ADPf0%) – published value 1	-9 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.1 Voltage (ADPf0%) – published value 2	-9 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
for plate $\mu\text{A} = 20$	20	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.
Plate Voltage – published value 2	330 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.2 (Screen-Grid) Supply Voltage	330 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.1 (Control -Grid) Voltage – published value 1	0 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Grid-No.1 (Control -Grid) Voltage – published value 2	0 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
For grid-No.2 voltages up to 165 volts – published value 1	165 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
For grid-No.2 voltages up to 165 volts – published value 2	0.55 V	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
For grid-No.2 voltages between 165 and	165 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Dissipation – published value 1	2.5	Published datasheet value; multiple values represent separate source-table limits or conditions.
Plate Dissipation – published value 2	3	Published datasheet value; multiple values represent separate source-table limits or conditions.
heater amperes = 0.450	450 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
b Ac heater volts = 6. 3, – published value 1	6 V	Published datasheet value; multiple values represent separate source-table limits or conditions.
b Ac heater volts = 6. 3, – published value 2	3 V	Published datasheet value; multiple values represent separate source-table limits or conditions.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater negative with respect to cathode	200 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Heater positive with respect to cathode	200 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.

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Section 2 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pentode Grid No.1 to Triode Plate – published value 1	0.2 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pentode Grid No.1 to Triode Plate – published value 2	0.2 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pentode Plate to Triode Plate – published value 1	0 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pentode Plate to Triode Plate – published value 2	1 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pentode Plate to Triode Plate – published value 3	0.02 mA	Published datasheet value; multiple values represent separate source-table limits or conditions.

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Pin 6 -Pentode Plate	6	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 7 -Pentode Grid No.2	7	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 8 -Pentode Cathode, Grid No.3, Internal Shield;~T	8	Published datasheet value; multiple values represent separate source-table limits or conditions.
Pin 9 -Pentode Grid No.1	9	Published datasheet value; multiple values represent separate source-table limits or conditions.