

ELECTRONIC TUBE REFERENCE

6AS7G

Power - Triode electronic tube

CONSOLIDATED TECHNICAL DATA

2 SECTIONS

CONSTRUCTION

TRIODE-TRIODE

Low-mu twin power triode designed principally for series-regulator service in DC power supplies, with additional high-current pulse applications. Very low plate resistance and high current capability characterize both sections.

GENERAL CHARACTERISTICS

BASE DESIGNATION	8BD	BASE PINS	8
NOMINAL HEATER	6.3 V / 2.5 A	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

8BD - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – 2G1	B	G1 – Control Grid	CONNECTED
PIN2 – 2P	B	P – Plate (Anode)	CONNECTED
PIN3 – 2K	B	K – Cathode	CONNECTED
PIN4 – 1G1	A	G1 – Control Grid	CONNECTED
PIN5 – 1P	A	P – Plate (Anode)	CONNECTED
PIN6 – 1K	A	K – Cathode	CONNECTED
PIN7 – H	–	H – Heater	CONNECTED
PIN8 – H	–	H – Heater	CONNECTED

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	280 Ω
TRANSCONDUCTANCE	0.007 S
AMPLIFICATION FACTOR	2
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM PLATE DISSIPATION	13 W
MAXIMUM CATHODE CURRENT	125 mA
<i>Published ratings/characteristics promoted where unambiguous.</i>	

SECTION2 Triode	
PLATE RESISTANCE	280 Ω
TRANSCONDUCTANCE	0.007 S
AMPLIFICATION FACTOR	2
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM PLATE DISSIPATION	13 W
MAXIMUM CATHODE CURRENT	125 mA
<i>Second identical physical triode section; added to align physical section rows with SectionCount.</i>	

Low-mu twin power triode used as a regulator tube in DC power supplies and in projection-television booster scanning service.

SOURCE OPERATING CONDITIONS

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195X General Electric Essential Characteristics

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

195X GENERAL ELECTRIC ESSENTIAL CHARACTERISTICS

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	135 V	DCAmplifier
Cathode resistor	125 Ω	DCAmplifier

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	280 Ω	DCAmplifier
Transconductance	7000 μS	DCAmplifier
Amplification factor	2	DCAmplifier

SOURCE OPERATING CONDITIONS

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195X Raytheon Special Purpose Tubes

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

195X RAYTHEON SPECIAL PURPOSE TUBES

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	135 V	DCAmplifier;EachSection
Cathode resistor	250 Ω	DCAmplifier;EachSection
Plate current	125 mA	DCAmplifier;EachSection

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate resistance	280 Ω	EachSection
Transconductance	7500 μS	EachSection
Amplification factor	2.1	EachSection


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SOURCE OPERATING CONDITIONS

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1961 Tung Sol

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

1961 TUNG SOL

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	2.5 A	—
Transconductance minimum	5800 μS	—
Transconductance maximum	8200 μS	—


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SOURCE OPERATING CONDITIONS

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1966 Tung Sol Electronic Tubes 3 of 4

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

1966 TUNG SOL ELECTRONIC TUBES 3 OF 4

Section 1 · Triode

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	0.007 A/V	PromotedValue
Amplification factor	2	PromotedValue

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
6.3±10~ VOLTS – published value 1	10 VOLTS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
6.3±10~ VOLTS – published value 2	2.5 VOLTS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
THE 6AS7G IS A HIGH CURRENT, 6 TWIN POWER TRIODE WIDELY USED IN ELECTRON – published value 1		OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
THE 6AS7G IS A HIGH CURRENT, 7 TWIN POWER TRIODE WIDELY USED IN ELECTRON – published value 2		OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
HEATER VOLTAGE – published value 1	6.3 VOLTS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
HEATER VOLTAGE – published value 2	10 VOLTS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
HEATER CURRENT (Ef 6,}VOLTS) – published value 1	6 VOLTS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
HEATER CURRENT (Ef 6,}VOLTS) – published value 2	5 VOLTS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
TRANSCONDUCTANCE (PER SECTION)	0 μMHOS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
AMPLIFICATION FACTOR	2	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
HEATER VOLTAGE – published value 1	5 VOLTS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
HEATER VOLTAGE – published value 2	6.9 VOLTS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
PLATE VOLTAGE (DC)	275 VOLTS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
HEATER-CATHODE VOLTAGE (DC) – published value 1	-3 VOLTS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
HEATER-CATHODE VOLTAGE (DC) – published value 2	300 VOLTS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
PLATE CURRENT PER PLATE (DC)	1	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
INDIVIDUAL PLATE CURRENT	15 MA	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
INDIVIDUAL SECTION TRANSCONDUCTANCE	5 μMHOS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
AMPLIFICATION FACTOR	4	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
ADDITIONAL VOLTAGE (LESS THAN 10 VOLTS) NECESSARY FROM THE UNREGULATED	10 VOLTS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
VOLTAGE IS APPLIED. THIS IS ESPECIALLY NECESSARY IN CIRC.0 ITS WHERE THE	0	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
LOW (BELOW 250 VOLTS) IT WILL BE NECESSARY TO PROVIDE ADDITIONAL NEGA	250 VOLTS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
PUT VOLTAGE IS TO BE VAR IABLE~ IT MAY BE NECESSAR Y~TO FOLLOW FIGURE 1.	1	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
TUBE DROP AS POSSIBLE. A SAFETY MARGIN OF AT LEAST 5 VOLTS FROM THE ZERO	5 VOLTS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
GRID RESISTANCE THAT MEETS 80TH THESE CONDITIONS IS 1,000 OHMS. HEATER – published value 1	80 OHMS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
GRID RESISTANCE THAT MEETS 80TH THESE CONDITIONS IS 1,000 OHMS. HEATER – published value 2	1 OHMS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
VOLTAGE SHOULD BE KEPT AS CLOSE AS POSSIBLE TO 6.3 VOLTS AS MEASURED ON	6.3 VOLTS	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.
Ef = 6.3 Volts	6.3 Volts	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
V _h ■■■■■■■■	6.3 Volts	OCR table transcription; verify against supplied datasheet layout where multiple columns represent operating conditions.

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum plate voltage	275 V	PromotedValue
Maximum plate dissipation	13 W	PromotedValue
Maximum cathode current	125 mA	PromotedValue



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

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1971 RCA HB3 Binder 3 of 7

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

1971 RCA HB3 BINDER 3 OF 7

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage	6.3 V	—
Heater current	2.5 A	—
Plate-supply voltage	135 V	ClassA;EachSection
Cathode-bias resistor	250 ohm	ClassA;EachSection
Plate current	125 mA	ClassA;EachSection
Plate dissipation	13 W	EachSection

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	7000 uS	EachSection
Plate resistance	280 ohm	EachSection
Amplification factor	2	EachSection

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	10.5 pF	EachSection



SOURCE DATA APPENDIX

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

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc)	6.3 V	Published in approved 6AS7G target entry; Section1
Plate Voltage	250 V	Published in approved 6AS7G target entry; Section1
Plate Current	125 mA	Published in approved 6AS7G target entry; Section1
Plate Dissipation	13 W	Published in approved 6AS7G target entry; Section1
Peak Negative-Pulse Plate Voltage*	1700 V	Published in approved 6AS7G target entry; Section1
DC Plate Current	125 mA	Published in approved 6AS7G target entry; Section1
For cathode-bias operation	1 MΩ	Published in approved 6AS7G target entry; Section1
• The duration of the voltage pulse must not exceed	15 %	Published in approved 6AS7G target entry; Section1
cycle. In a 525-line, 30-frame system,	15 %	Published in approved 6AS7G target entry; Section1
Plate Voltage	300 V	Published in approved 6AS7G target entry; Section1
Grid-No. 3 (Suppressor-Grid) Voltage, Positive value	0 V	Published in approved 6AS7G target entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-No. 2 Supply Voltage	300 V	Published in approved 6AS7G target entry; Section1
Grid-No.1 (Control-Grid) Voltage, Positive-bias value	0 V	Published in approved 6AS7G target entry; Section1
Plate Dissipation	2.5 W	Published in approved 6AS7G target entry; Section1
For grid-No.2 voltages up to	150 V	Published in approved 6AS7G target entry; Section1
For grid-No.2 voltages up to 150 volts	0.5 W	Published in approved 6AS7G target entry; Section1
For grid-No.2 voltages between 150 and	300 V	Published in approved 6AS7G target entry; Section1
Plate Supply Voltage	200 V	Published in approved 6AS7G target entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to plate	10.5 pF	Published in approved 6AS7G target entry; Section1
Grid to heater and cathode	6.8 pF	Published in approved 6AS7G target entry; Section1
Plate to heater and cathode	2.3 pF	Published in approved 6AS7G target entry; Section1
Heater to cathode	11 pF	Published in approved 6AS7G target entry; Section1
Grid of unit No. 1 to grid of unit No. 2	0.7 pF	Published in approved 6AS7G target entry; Section1
Plate of unit No. 1 to plate of unit No. 2	1.65 pF	Published in approved 6AS7G target entry; Section1
Internal Shield	7 pF	Published in approved 6AS7G target entry; Section1
Internal Shield	2.4 pF	Published in approved 6AS7G target entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate-Supply Voltage	135 V	Published in approved 6AS7G target entry; Section1
Cathode-Bias Posistor"	250 Ω	Published in approved 6AS7G target entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Resistance (Approx.)	280 Ω	Published in approved 6AS7G target entry; Section1
Transconductance	7000 μS	Published in approved 6AS7G target entry; Section1
Plate Current	125 mA	Published in approved 6AS7G target entry; Section1
Heater Voltage (ac/dc)	6.3 V	Published in approved 6AS7G target entry; Section1
Heater Current	450 mA	Published in approved 6AS7G target entry; Section1
Internal Shield	3 pF	Published in approved 6AS7G target entry; Section1
Grid No.1 to Plate	0.03 pF	Published in approved 6AS7G target entry; Section1
Grid-No.2 Supply Voltage	150 V	Published in approved 6AS7G target entry; Section1
Cathode-Bias Resistor	180 Ω	Published in approved 6AS7G target entry; Section1
Transconductance	6200 μS	Published in approved 6AS7G target entry; Section1
Plate Current	9.5 mA	Published in approved 6AS7G target entry; Section1
Grid-No.2 Current	3 mA	Published in approved 6AS7G target entry; Section1
Grid-No.1 Voltage (Approx.) for plate current of 10 /iA	-8 V	Published in approved 6AS7G target entry; Section1