

TUNG-SOL**TWIN TRIODE**

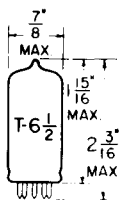
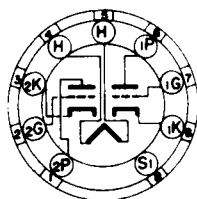
MINIATURE TYPE
COATED UNIPOTENTIAL CATHODE

HEATER

4.5 VOLTS 0.6 AMP.

AC OR DC

ANY MOUNTING POSITION

**GLASS BULB****BOTTOM VIEW**

SMALL-BUTTON NOVAL
9 PIN BASE

9AJ

THE 4BS8 IS A 9-PIN MINIATURE TWIN TRIODE DESIGNED FOR USE AS A LOW-NOISE VHF AMPLIFIER IN CASCODE OPERATION. THIS TYPE HAS HIGH GAIN AND HIGH CASCODE TRANSCONDUCTANCE. IT IS DESIGNED FOR OPERATION WITH SECTION 2 (PINS 1, 2, AND 3) AS INPUT SECTION OF THE CASCODE CIRCUIT. THERMAL CHARACTERISTICS OF THE HEATER HAVE BEEN CONTROLLED SUCH THAT HEATER VOLTAGE SURGES DURING THE WARM-UP CYCLE ARE MINIMIZED PROVIDED IT IS USED WITH OTHER TYPES WHICH ARE SIMILARLY CONTROLLED. EXCEPT FOR HEATER WARM-UP TIME AND HEATER RATINGS, IT IS IDENTICAL TO THE 6BS8.

DIRECT INTERELECTRODE CAPACITANCES

WITH EXTERNAL SHIELD #315

	UNIT 1	UNIT 2	
GRID TO PLATE	1.15	1.15	μmf
PLATE TO CATHODE (MAX.)	0.15	0.15	μmf
HEATER TO CATHODE	2.60	2.6	μmf
INPUT	2.60		μmf
OUTPUT	1.2		μmf
PLATE OF UNIT 1 TO PLATE OF UNIT 2 (MAX.)		0.010	μmf
PLATE OF UNIT 2 TO PLATE AND GRID OF UNIT 1 (MAX.)		0.024	μmf
GROUNDED GRID OPERATION:			
INPUT		5.0	μmf
OUTPUT		2.2	μmf

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

CLASS A_1 AMPLIFIER—EACH UNIT

HEATER VOLTAGE	4.5	VOLTS
MAXIMUM DC PLATE VOLTAGE	150	VOLTS
MAXIMUM DC CATHODE CURRENT	20	MA.
MAXIMUM PLATE DISSIPATION	2.0	WATTS
MAXIMUM PEAK HEATER-CATHODE VOLTAGE:		
HEATER POSITIVE WITH RESPECT TO CATHODE	200	VOLTS
HEATER NEGATIVE WITH RESPECT TO CATHODE	200	VOLTS
MAXIMUM CIRCUIT VALUE: (EACH UNIT)		
GRID CIRCUIT RESISTANCE	0.5	MEGOHM
HEATER WARM-UP TIME (APPROX.)	11.0	SECONDS

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

HEATER VOLTAGE	4.5	VOLTS
HEATER CURRENT	0.6	AMPERE
PLATE VOLTAGE	150	VOLTS
CATHODE BIAS RESISTOR	220	OHMS
AMPLIFICATION FACTOR	36	
PLATE RESISTANCE	5000	OHMS
PLATE CURRENT	10	MA.
GRID VOLTAGE (APPROX.) FOR $I_b = 10 \mu A$	-7 (SEC. 2 ONLY)	VOLTS
TRANSCONDUCTANCE	7200	μMHOS

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TUNG-SOL

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TYPICAL CASCODE CONDITIONS AND CHARACTERISTICS

HEATER VOLTAGE	4.5	VOLTS
HEATER CURRENT	0.6	AMPERE
PLATE SUPPLY VOLTAGE	250	VOLTS
GRID VOLTAGE	-1	VOLTS
PLATE CURRENT	16	MA.
GRID VOLTAGE (APPROX.) FOR $G_m = 50 \mu\text{MHOS}$	-6	VOLTS
TRANSCONDUCTANCE	10 000	μMHOS

→ INDICATES A CHANGE.