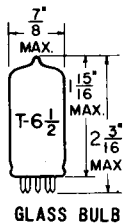


TUNG-SOL

DOUBLE TRIODE
MINIATURE TYPE



GLASS BULB

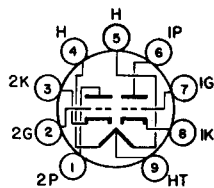
COATED UNIPOTENTIAL CATHODE

HEATER

SERIES	PARALLEL
12.6 VOLTS	6.3 VOLTS
0.15 AMPS.	0.3 AMPS.

AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW
MINIATURE BUTTON
9 PIN BASE
9A

THE 12DT7 IS A HEATER-CATHODE TYPE HIGH-MU DOUBLE TRIODE IN THE 9 PIN MINIATURE CONSTRUCTION AND IS DESIGNED FOR USE AS A RESISTANCE-COUPLED VOLTAGE AMPLIFIER IN CRITICAL AUDIO DESIGNS WHERE LOW NOISE AND HUM ARE OF PRIMARY CONSIDERATION. IN OTHER RESPECTS IT IS SIMILAR TO TYPE 12AX7.

DIRECT INTERELECTRODE CAPACITANCES
WITHOUT EXTERNAL SHIELD

	UNIT #1	UNIT #2	
GRID TO PLATE	1.7	1.7	$\mu\mu f$
INPUT	1.6	1.6	$\mu\mu f$
OUTPUT	0.46	0.34	$\mu\mu f$

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM
EACH UNIT

HEATER VOLTAGE	6.3/12.6	VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE:		VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE		
DC	100	VOLTS
TOTAL DC AND PEAK	180	VOLTS
HEATER NEGATIVE WITH RESPECT TO CATHODE		
TOTAL DC AND PEAK	180	VOLTS
MAXIMUM PLATE VOLTAGE	300	VOLTS
MAXIMUM GRID VOLTAGE:		
NEGATIVE - BIAS VALUE	50	VOLTS
POSITIVE - BIAS VALUE	0	VOLTS
MAXIMUM PLATE DISSIPATION	1	WATT
MAXIMUM PEAK HEATER-CATHODE VOLTAGE	180	VOLTS

CONTINUED ON FOLLOWING PAGE

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TUNG-SOL

CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A₁ AMPLIFIER

HEATER VOLTAGE		6.3/12.6	VOLTS
HEATER CURRENT		0.3/0.15	AMPS.
PLATE VOLTAGE	100	250	VOLTS
GRID VOLTAGE	-1	-2	VOLTS
AMPLIFICATION FACTOR	100	100	
PLATE RESISTANCE	80 000	62 500	OHMS
TRANSCONDUCTANCE	1 250	1 600	μMHOS
PLATE CURRENT	0.5	1.2	MA.

BALLISTIC NOISE LEVEL - EACH UNIT

AVERAGE VALUE	+5	DB
PLATE SUPPLY	250	VOLTS
PLATE LOAD RESISTOR	220	KILOHMS
CATHODE RESISTOR	3 000	OHMS
CATHODE BY-PASS CAPACITOR	100	μf
GRID RESISTOR	20	KILOHMS

AMPLIFIER COVERING FREQUENCY RANGE OF 30 TO 12,000 CPS. ±2db: FOR A SENSITIVITY OF 20mV IN, FOR 50mV OUT: EQUIVALENT TO 17 db: USING A HAND Mallet PER MIL-E-1C PAR. 4.10.3 AND PAR. 4.10.3.5.

EQUIVALENT NOISE AND HUM VOLTAGE
UNITS IN PARALLEL

AVERAGE VALUE	-46	DB
PLATE SUPPLY	100	VOLTS
PLATE LOAD RESISTOR	110	KILOHMS
CATHODE RESISTOR (UNBYPASSED)	2 400	OHMS
GRID RESISTOR	0	OHMS

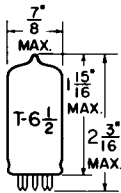
AMPLIFIER FREQUENCY RESPONSE ± 0.5 db 20 TO 30,000 CPS @ 1 WATT OUT GAIN 110 db.

→ INDICATES A CHANGE

TUNG-SOL

TWIN TRIODE

MINIATURE TYPE



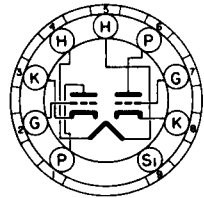
GLASS BULB

COATED UNIPOTENTIAL CATHODE

HEATER

12.6 VOLTS 0.15 AMP.
AC OR DC

ANY MOUNTING POSITION

BOTTOM VIEW
SMALL-BUTTON
9-PIN NOVAL

90E

THE 12DT8 IS A GENERAL-PURPOSE HIGH-MU TWIN TRIODE OF THE 9-PIN MINIATURE TYPE INTENDED FOR USE AS AN RF AMPLIFIER AND AS A COMBINED OSCILLATOR-MIXER IN FM TUNERS. THIS TUBE IS ALSO USEFUL IN A WIDE VARIETY OF APPLICATIONS IN RADIO AND TELEVISION RECEIVERS.

DIRECT INTERELECTRODE CAPACITANCES - APPROX.
WITH EXTERNAL SHIELD

	UNIT #1	UNIT #2	
GRID-DRIVE OPERATION: ^A			
GRID TO PLATE	1.6	1.6	$\mu\mu f$
GRID TO CATHODE, HEATER & I.S.	2.7	2.7	$\mu\mu f$
PLATE TO CATHODE, HEATER & I.S.	1.6	1.6	$\mu\mu f$
HEATER TO CATHODE	3.0	3.0	$\mu\mu f$
CATHODE-DRIVE OPERATION: ^B			
CATHODE TO GRID, HEATER, & I.S.	---	5.3	$\mu\mu f$
PLATE TO GRID, HEATER, & I.S.	---	2.8	$\mu\mu f$

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM
CLASS A₁ AMPLIFIER
EACH UNIT

HEATER VOLTAGE	12.6	VOLTS
MAXIMUM PLATE VOLTAGE	300	VOLTS
MAXIMUM GRID VOLTAGE:		
NEGATIVE BIAS VALUE	50	VOLTS
MAXIMUM PLATE DISSIPATION	2.5	WATTS
MAXIMUM PEAK HEATER-CATHODE VOLTAGE:		
HEATER NEGATIVE WITH RESPECT TO CATHODE	200	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE	200 ^C	VOLTS
MAXIMUM GRID-CIRCUIT RESISTANCE:		
FOR FIXED-BIAS OPERATION	0.25	MEGOHM
FOR CATHODE-BIAS OPERATION	1	MEGOHM

^A WITH EXTERNAL SHIELD, #315 CONNECTED TO CATHODE OF UNIT UNDER TEST.

^B WITH EXTERNAL SHIELD, #315, CONNECTED TO GRID OF UNIT UNDER TEST.

^C DC COMPONENT MUST NOT EXCEED 100 VOLTS.

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TUNG-SOL

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TYPICAL OPERATING CONDITIONS AND CHARACTERISTICSCLASS A_1 AMPLIFIER
EACH UNIT

HEATER VOLTAGE	12.6	12.6	VOLTS
HEATER CURRENT	0.15	0.15	AMP.
PLATE-SUPPLY VOLTAGE	100	250	VOLTS
CATHODE-BIAS RESISTOR	270	200	OHMS
AMPLIFICATION FACTOR	60	60	
PLATE RESISTANCE (APPROX.)	15 000	10 900	OHMS
TRANSCONDUCTANCE	4 000	5 500	μ MHOS
PLATE CURRENT	3.7	10	MA.
GRID VOLTAGE (APPROX.) FOR PLATE CURRENT OF 10 μ A.	-5	-12	VOLTS

