

TUNG-SOL

BEAM PENTODE

MINIATURE TYPE

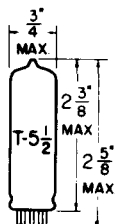
COATED UNIPOTENTIAL CATHODE

HEATER

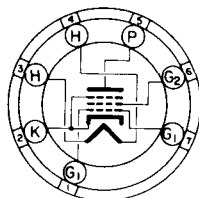
12.6 VOLTS 0.225 AMP.

AC OR DC

ANY MOUNTING POSITION



GLASS BULB



BOTTOM VIEW

MINIATURE BUTTON
7 PIN BASE

7BZ

THE 12AQ5 IS A BEAM POWER AMPLIFIER USING THE MINIATURE CONSTRUCTION. IT IS DESIGNED FOR SERVICE IN AC AND STORAGE BATTERY OPERATED RECEIVERS WHERE HIGH POWER SENSITIVITY AND HIGH POWER OUTPUT IS DESIRED.

DIRECT INTERELECTRODE CAPACITANCES — APPROX.

WITH NO EXTERNAL SHIELD

GRID #1 TO PLATE	0.35	μf
INPUT	8.3	μf
OUTPUT	8.2	μf

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

	CLASS A1 AMPLIFIER	CLASS AB1 AMPLIFIER	
HEATER VOLTAGE	12.6	12.6	VOLTS
MAXIMUM PEAK HEATER-CATHODE VOLTAGE:			
HEATER NEGATIVE WITH RESPECT TO CATHODE		100 ←	VOLTS
TOTAL DC AND PEAK		100	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE		100 ←	VOLTS
DC			VOLTS
TOTAL DC AND PEAK			VOLTS
MAXIMUM PLATE VOLTAGE	250	250	VOLTS
MAXIMUM GRID #2 VOLTAGE	250	250	VOLTS
MAXIMUM PLATE DISSIPATION	12	12	WATTS
MAXIMUM GRID #2 INPUT	2	2	WATTS
MAXIMUM BULB TEMPERATURE (AT HOTTEST POINT ON BULB SURFACE) ^A	250	250	°C
MAXIMUM GRID #1 CIRCUIT RESISTANCE:			
FIXED BIAS OPERATION	0.1	0.1 ^{BC}	MEG OHMS
CATHODE BIAS OPERATION	0.5	0.5 ^{BC}	MEG OHMS

^A HIGH AMBIENT TEMPERATURE AND SHIELDING MAY NECESSITATE A REDUCTION IN OPERATING DISSIPATION. WHEN TUBE SHIELDS ARE USED, IT IS ADVISABLE TO PAINT THE INSIDE AND OUTSIDE SURFACES OF THE TUBE SHIELD A DULL BLACK AND TO PROVIDE VENTILATION SLOTS TO REDUCE OPERATING TEMPERATURE.

^B IF THE GRID #1 CIRCUIT RESISTANCE IS COMMON TO TWO TUBES, THE INDICATED MAXIMUM VALUES PER TUBE SHOULD BE HALVED.

^C THE TYPE OF INPUT COUPLING USED SHOULD NOT INTRODUCE TOO MUCH RESISTANCE IN THE GRID #1 CIRCUIT. TRANSFORMER OR IMPEDANCE-COUPLING DEVICES ARE RECOMMENDED.

→ INDICATES A CHANGE.

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TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A₁ AMPLIFIER

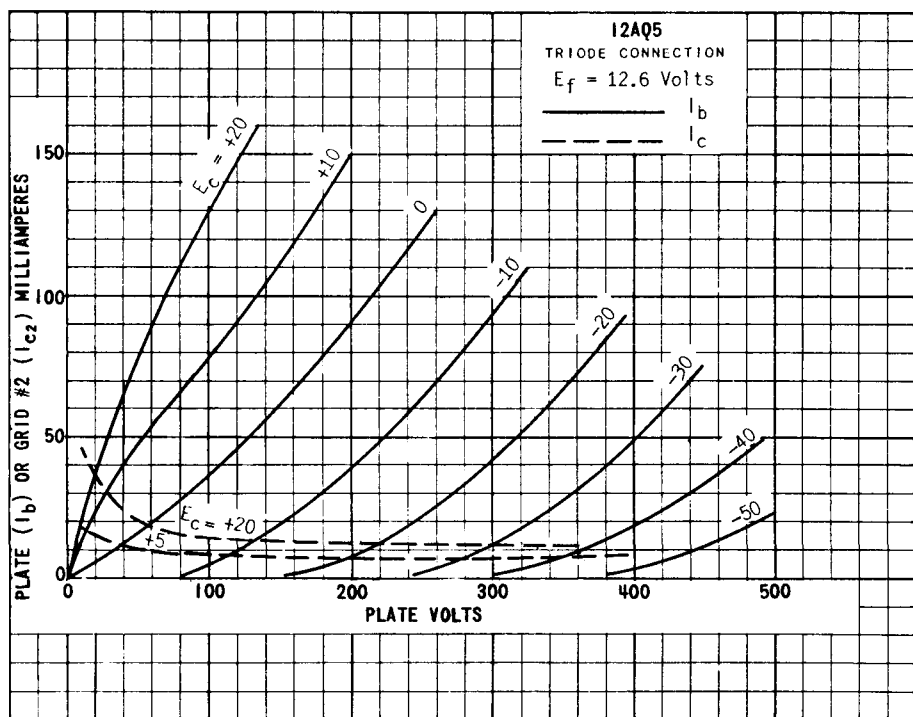
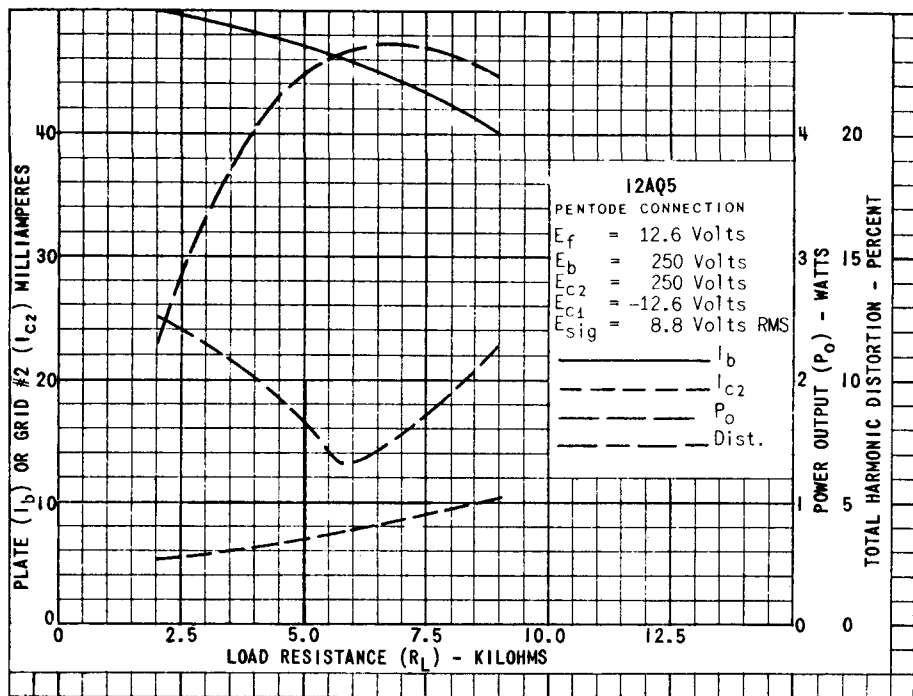
HEATER VOLTAGE	12.6	12.6	VOLTS
HEATER CURRENT	0.225	0.225	AMP.
PLATE VOLTAGE	180	250	VOLTS
GRID #2 VOLTAGE	180	250	VOLTS
GRID #1 VOLTAGE	-8.5	-12.5	VOLTS
PEAK AF GRID #1 VOLTAGE	8.5	12.5	VOLTS
ZERO-SIGNAL PLATE CURRENT	29	45	MA.
MAXIMUM SIGNAL PLATE CURRENT	30	47	MA.
ZERO-SIGNAL GRID #2 CURRENT (APPROX.)	3	4.5	MA.
MAXIMUM SIGNAL GRID #2 CURRENT (APPROX.)	4	7	MA.
PLATE RESISTANCE (APPROX.)	58 000	52 000	OHMS
TRANSCONDUCTANCE	3 700	4 100	μMHOS
LOAD RESISTANCE	5 500	5 000	OHMS
TOTAL HARMONIC DISTORTION	8	8	PERCENT
MAXIMUM SIGNAL POWER OUTPUT	2.0	4.5	WATTS

CLASS AB₁ AMPLIFIER

VALUES ARE FOR TWO TUBES UNLESS OTHERWISE SPECIFIED

HEATER VOLTAGE	12.6	VOLTS
HEATER CURRENT	0.225	AMP.
PLATE VOLTAGE	250	VOLTS
GRID #2 VOLTAGE	250	VOLTS
GRID #1 VOLTAGE ^C	-15	VOLTS
PEAK AF GRID #1 TO GRID #1 VOLTAGE	30	VOLTS
ZERO-SIGNAL PLATE CURRENT	70	MA.
MAXIMUM SIGNAL PLATE CURRENT	79	MA.
ZERO-SIGNAL GRID #2 CURRENT (APPROX.)	5	MA.
MAXIMUM SIGNAL GRID #2 CURRENT (APPROX.)	13	MA.
PLATE RESISTANCE (EACH TUBE) APPROX.	60 000	OHMS
TRANSCONDUCTANCE (EACH TUBE)	3 750	μMHOS
EFFECTIVE PLATE-TO-PLATE LOAD RESISTANCE	10 000	OHMS
TOTAL HARMONIC DISTORTION	5	PERCENT
MAXIMUM SIGNAL POWER OUTPUT	10	WATTS

^C THE TYPE OF INPUT COUPLING USED SHOULD NOT INTRODUCE TOO MUCH RESISTANCE IN THE GRID #1 CIRCUIT, TRANSFORMER OR IMPEDANCE COUPLING DEVICES ARE RECOMMENDED.



12AQ5 (6AQ5)

