

TUNG-SOL

HEPTODE

MINIATURE TYPE

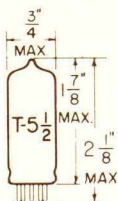
COATED UNIPOTENTIAL CATHODE

HEATER

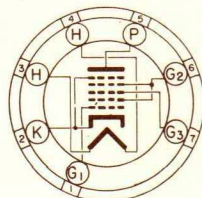
12.6±10% VOLTS 0.15 AMP.

AC OR DC

ANY MOUNTING POSITION



GLASS BULB


 BOTTOM VIEW
 MINIATURE BUTTON
 7 PIN BASE

TCH

THE 12BE6 IS A PENTAGRID CONVERTER USING THE 7 PIN MINIATURE CONSTRUCTION. IT IS INTENDED FOR SERVICE AS A COMBINED OSCILLATOR AND MIXER IN SUPERHETERODYNE RECEIVERS.

DIRECT INTERELECTRODE CAPACITANCES

	WITH SHIELD ^A	WITHOUT SHIELD	
MIXER GRID TO PLATE: (G ₃ TO P) MAX.	0.25	0.30	μμf
MIXER GRID TO OSCILLATOR GRID: (G ₃ TO G ₄) MAX.	0.15	0.15	μμf
RF INPUT: G ₃ TO (H+K+G ₁ +G ₂ +G ₄ +G ₅ +P)	7.0	7.0	μμf
OSCILLATOR INPUT: G ₄ TO (H+K+G ₂ +G ₄ +G ₃ +G ₅ +P)	5.5	5.5	μμf
MIXER OUTPUT: P TO (H+K+G ₁ +G ₂ +G ₄ +G ₃ +G ₅)	13	8.0	μμf
OSCILLATOR GRID TO CATHODE: (G ₄ TO K+G ₅)	3.0	3.0	μμf
OSCILLATOR OUTPUT: K TO (H+G ₂ +G ₄ +G ₃ +P)	20	15	μμf
OSCILLATOR GRID TO PLATE: (G ₄ TO P) MAX.	0.05	0.1	μμf

^A EXTERNAL SHIELD #316 CONNECTED TO PIN #2.

RATINGS ←

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

HEATER VOLTAGE	12.6±10%	VOLTS
MAXIMUM PEAK HEATER-CATHODE VOLTAGE:		
HEATER NEGATIVE WITH RESPECT TO CATHODE	200	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE	200 ^C	VOLTS
MAXIMUM PLATE VOLTAGE	330	VOLTS
MAXIMUM GRIDS #2 AND #4 VOLTAGE	110	VOLTS
MAXIMUM GRIDS #2 AND #4 SUPPLY VOLTAGE	330	VOLTS
MAXIMUM NEGATIVE DC GRID #3 VOLTAGE	-55	VOLTS
MAXIMUM POSITIVE DC GRID #3 VOLTAGE	0	VOLTS
MAXIMUM PLATE DISSIPATION	1.1	WATT
MAXIMUM GRIDS #2 AND #4 DISSIPATION	1.1	WATT
MAXIMUM CATHODE CURRENT	15.5	MA.

^C THE DC COMPONENT MUST NOT EXCEED 100 VOLTS.

→ INDICATES A CHANGE.

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CONVERTER SERVICE — SEPARATE EXCITATION^B

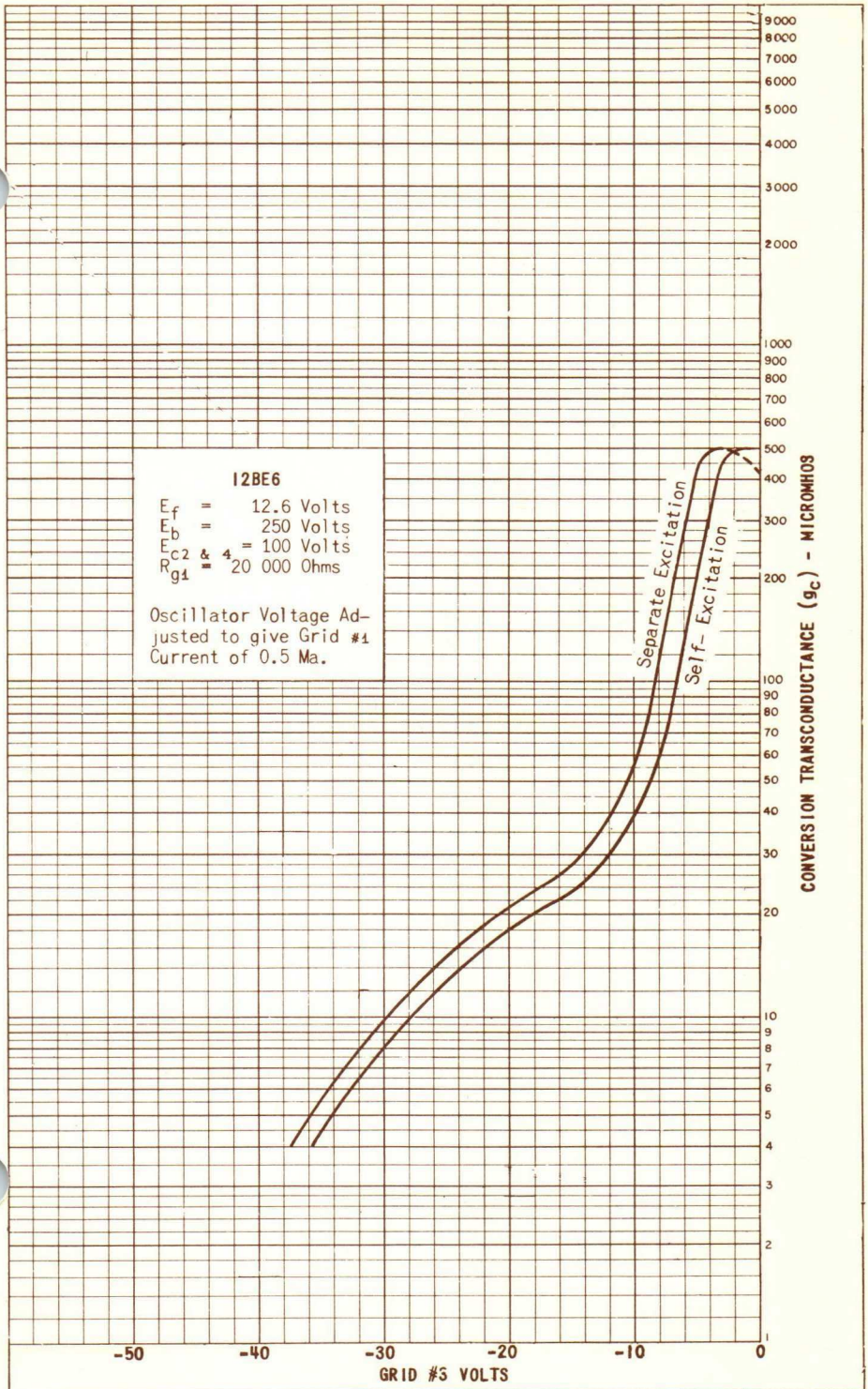
HEATER VOLTAGE	12.6±10%		VOLTS
HEATER CURRENT	0.15		AMP.
PLATE VOLTAGE	100	250	VOLTS
GRID #3 VOLTAGE	-1.5	-1.5	VOLTS
GRIDS #2 AND #4 VOLTAGE	100	100	VOLTS
GRID #1 VOLTAGE (OSCILLATOR GRID) RMS	10	10	VOLTS
GRID #1 RESISTANCE (OSCILLATOR GRID)	20 000	20 000	OHMS
PLATE RESISTANCE (APPROX.)	0.4	1.0	MEGOHMS
GRID #1 CURRENT (OSCILLATOR GRID)	0.5	0.5	MA.
CONVERSION TRANSCONDUCTANCE	455	475	μMHOS
PLATE CURRENT	2.6	2.9	MA.
GRIDS #2 AND #4 CURRENT	7.0	6.8	MA.
CATHODE CURRENT	10.1	10.2	MA.
GRID #3 VOLTAGE FOR $G_C = 10 \mu\text{MHOS}$ (APPROX.)	-30	-30	VOLTS
GRID #3 VOLTAGE FOR $G_C = 100 \mu\text{MHOS}$ (APPROX.)	-6	-6	VOLTS

^B CHARACTERISTICS SHOWN ARE OBTAINED IN THE STANDARD RMA CONVERSION CONDUCTANCE TEST SET WHICH USES SEPARATE EXCITATION. THE CHARACTERISTICS UNDER THESE CONDITIONS CORRESPOND VERY CLOSELY WITH THOSE OBTAINED IN A SELF-EXCITED OSCILLATORY CIRCUIT OPERATING WITH ZERO BIAS.

OSCILLATOR CHARACTERISTICS
NOT OSCILLATING

GRID #3 VOLTAGE	0	VOLTS
GRID #1 VOLTAGE (OSCILLATOR GRID)	0	VOLTS
GRIDS #2 AND #4 CONNECTED TO PLATE	100	VOLTS
TRANSCONDUCTANCE BETWEEN GRID #1 AND GRIDS #2 AND #4 CONNECTED TO PLATE	7 250	μMHOS
AMPLIFICATION FACTOR BETWEEN GRID #1 AND GRIDS #2 AND #4 CONNECTED TO PLATE	20	
CATHODE CURRENT	25	MA.
GRID #1 VOLTAGE (APPROX.) FOR $I_b = 10 \mu\text{A}$	-11	VOLTS

SIMILAR TYPE REFERENCE: Except for heater ratings, the 12BE6 is identical to the 6BE6.



12BE6 (6BE6)

