

TUNG-SOL

DOUBLE-DIODE TRIODE

MINIATURE TYPE

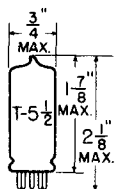
UNIPOTENTIAL CATHODE

HEATER

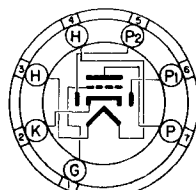
12.6 VOLTS 0.15 AMPERE

AC OR DC

ANY MOUNTING POSITION



GLASS BULB



BOTTOM VIEW

MINIATURE BUTTON
7 PIN BASE

THE 12AT6 IS A COMBINED HIGH-MU VOLTAGE AMPLIFIER AND DOUBLE-DIODE DETECTOR USING THE 7-PIN MINIATURE CONSTRUCTION. IT IS INTENDED TO PROVIDE OUTPUT VOLTAGE ADEQUATE FOR FULL POWER OUTPUT OF MOST BEAM-POWER TUBES.

DIRECT INTERELECTRODE CAPACITANCES

WITH NO EXTERNAL SHIELD

GRID TO PLATE: (G TO P)	2.1	μ f
INPUT: G TO (H + K)	2.3	μ f
OUTPUT: P TO (H + K)	1.1	μ f
DIODE PLATE #2 TO TRIODE GRID: (P ₂ TO G) (MAX.)	0.025	μ f

RATINGS

INTERPRETED ACCORDING TO RMA STANDARD MB-210

HEATER VOLTAGE	12.6	VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE	90	VOLTS
MAXIMUM PLATE VOLTAGE	300	VOLTS
MINIMUM DIODE CURRENT WITH 10 VOLTS DC APPLIED	0.8	MA.

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

TRIODE UNIT - CLASS A₁ AMPLIFIER

HEATER VOLTAGE	12.6	12.6	VOLTS
HEATER CURRENT	0.15	0.15	AMP.
PLATE VOLTAGE	100	250	VOLTS
GRID VOLTAGE	-1	-3	VOLTS
PLATE CURRENT	0.8	1.0	MA.
PLATE RESISTANCE	54 000	58 000	OHMS
TRANSCONDUCTANCE	1 300	1 200	μ MHOS
AMPLIFICATION FACTOR	70	70	

DIODE UNITS - TWO

THE DIODE UNITS ARE INDEPENDENT OF THE TRIODE UNIT EXCEPT FOR THE COMMON CATHODE SLEEVE.

SIMILAR TYPE REFERENCE: Except for heater ratings somewhat similar to 6Q7, 6Q7GT, 6SQ7, 6SQ7GT, 7B8, 7C8.

→ INDICATES A CHANGE OR ADDITION.

12AT6

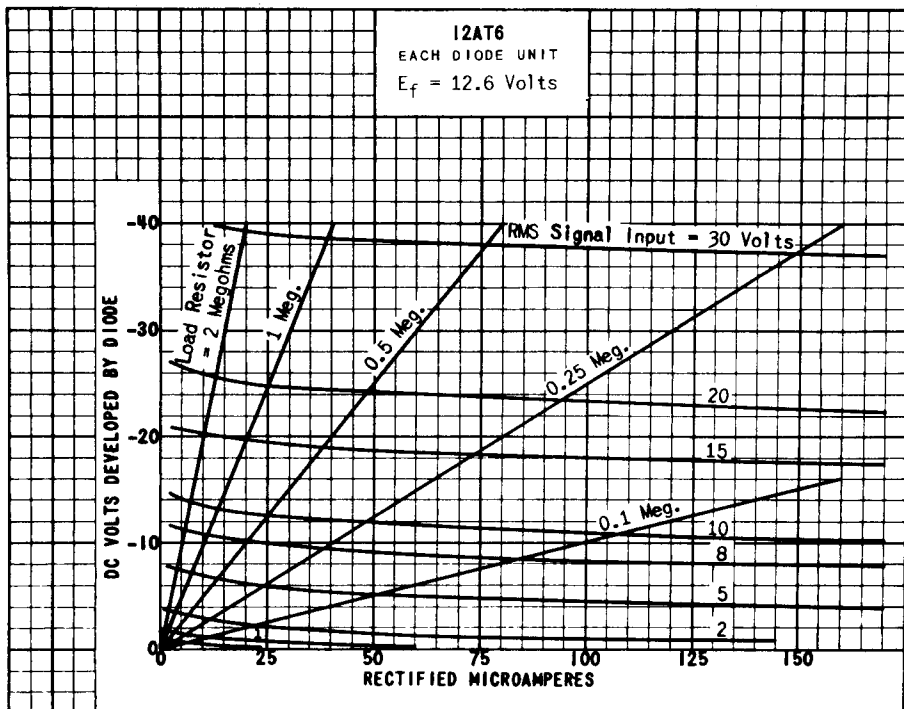
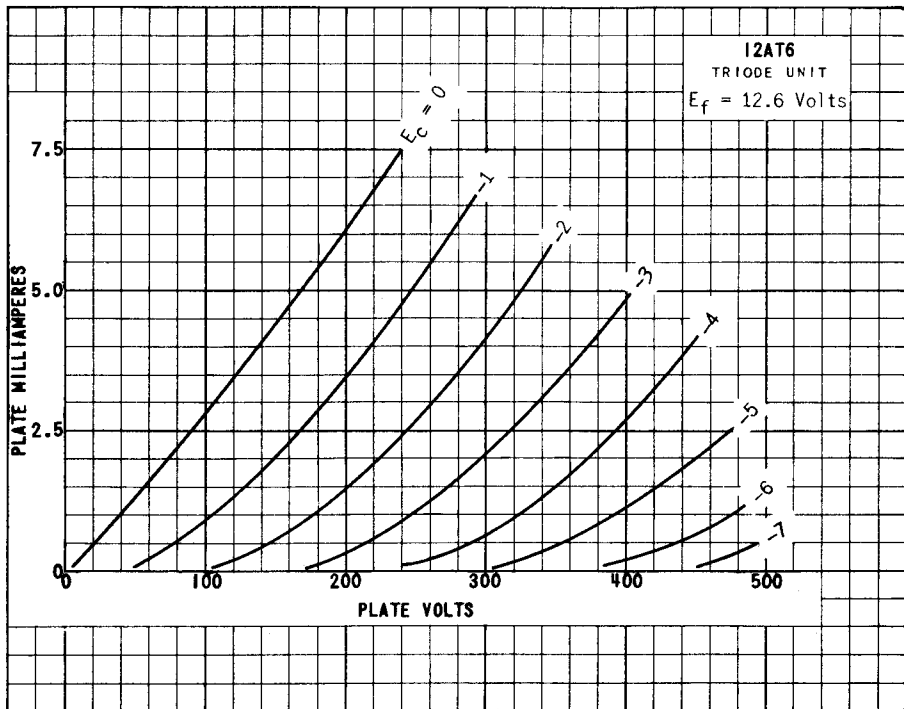
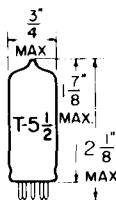


PLATE
1848
JULY 1,
1947

TUNG-SOL

DOUBLE DIODE TRIODE

MINIATURE TYPE



GLASS BULB

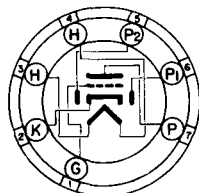
COATED UNIPOTENTIAL CATHODE

HEATER

12.6 VOLTS 0.15 AMP.

AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW

MINIATURE BUTT
7 PIN BASE

78T

THE 12AT6 IS A COMBINED HIGH-MU VOLTAGE AMPLIFIER AND DOUBLE-DIODE DETECTOR USING THE 7 PIN MINIATURE CONSTRUCTION. IT IS INTENDED TO PROVIDE OUTPUT VOLTAGE ADEQUATE FOR FULL POWER OUTPUT OF MOST BEAM POWER TUBES.

DIRECT INTERELECTRODE CAPACITANCES

	WITH SHIELD ^A	WITHOUT SHIELD	
GRID TO PLATE: (G TO TRIODE PLATE)	2.0	2.0	$\mu\mu\text{f}$
INPUT: G TO (H+K)	2.2	2.2	$\mu\mu\text{f}$
OUTPUT: P TO (H+K)	1.2	0.8	$\mu\mu\text{f}$
COUPLING: #2 DIODE PLATE TO GRID (MAX.)	0.04	0.04	$\mu\mu\text{f}$
COUPLING: #1 DIODE PLATE TO GRID (MAX.)*		0.07	$\mu\mu\text{f}$
#2 DIODE PLATE TO HEATER AND CATHODE *		0.95	$\mu\mu\text{f}$
#1 DIODE PLATE TO HEATER AND CATHODE *		0.66	$\mu\mu\text{f}$

^A EXTERNAL SHIELD #316 CONNECTED TO CATHODE.

RATINGS

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

HEATER VOLTAGE	12.6	VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE	90	VOLTS
MAXIMUM PLATE VOLTAGE	300	VOLTS
MAXIMUM PLATE DISSIPATION	0.5	WATT
MAXIMUM POSITIVE DC GRID #1 VOLTAGE	0	VOLTS
MAXIMUM DIODE CURRENT (EACH UNIT) FOR CONTINUOUS OPERATION	1.0	MA.

*INDICATES AN ADDITION.

CONTINUED ON FOLLOWING PAGE

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CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A₁ AMPLIFIER

HEATER VOLTAGE	12.6	12.6	VOLTS
HEATER CURRENT	0.15	0.15	AMP.
PLATE VOLTAGE	100	250	VOLTS
GRID #1 VOLTAGE	-1	-3	VOLTS
PLATE RESISTANCE	54 000	58 000	OHMS
AMPLIFICATION FACTOR	70	70	
TRANSCONDUCTANCE	1 300	1 200	μMHOS
PLATE CURRENT	0.8	1.0	MA.
AVERAGE DIODE CURRENT (EACH UNIT) AT 10 VOLTS DC	2.0	2.0	MA.

RESISTANCE COUPLED AMPLIFIER

TRIODE UNIT

HEATER VOLTAGE	12.6	12.6	VOLTS
PLATE SUPPLY VOLTAGE	90	250	VOLTS
CONTROL VOLTAGE	0	0	VOLTS
PLATE LOAD RESISTOR	220 000	470 000	OHMS
CONTROL GRID RESISTOR	10.0	10.0	MEGOHMS
INPUT CONDENSER	0.01	0.01	μf
OUTPUT CONDENSER	0.01	0.01	μf
GRID RESISTOR OF FOLLOWING STAGE	470 000	470 000	OHMS
SIGNAL SOURCE IMPEDANCE (MAX.)	1 000	1 000	OHMS
DISTORTION	5	5	PERCENT
OUTPUT VOLTAGE	8	34	VOLTS
VOLTAGE GAIN AT 400 CPS.	35	46	