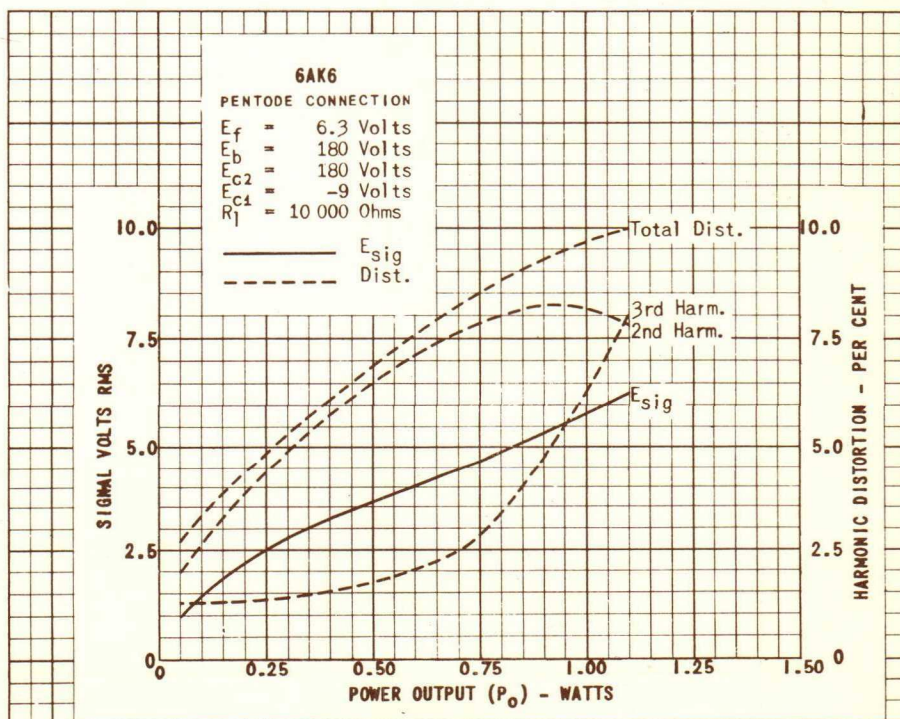
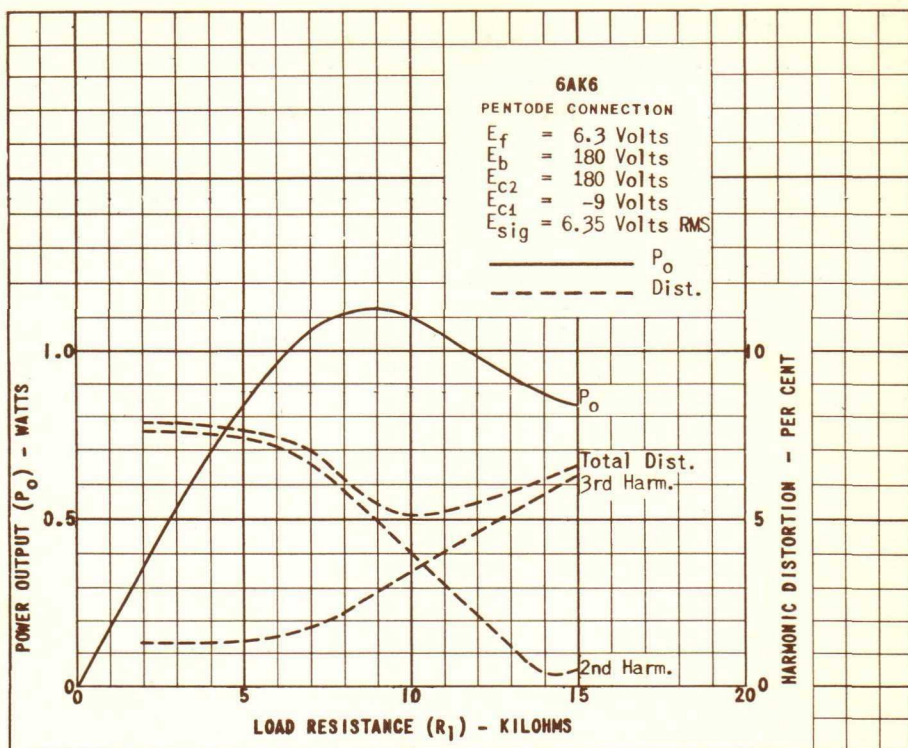
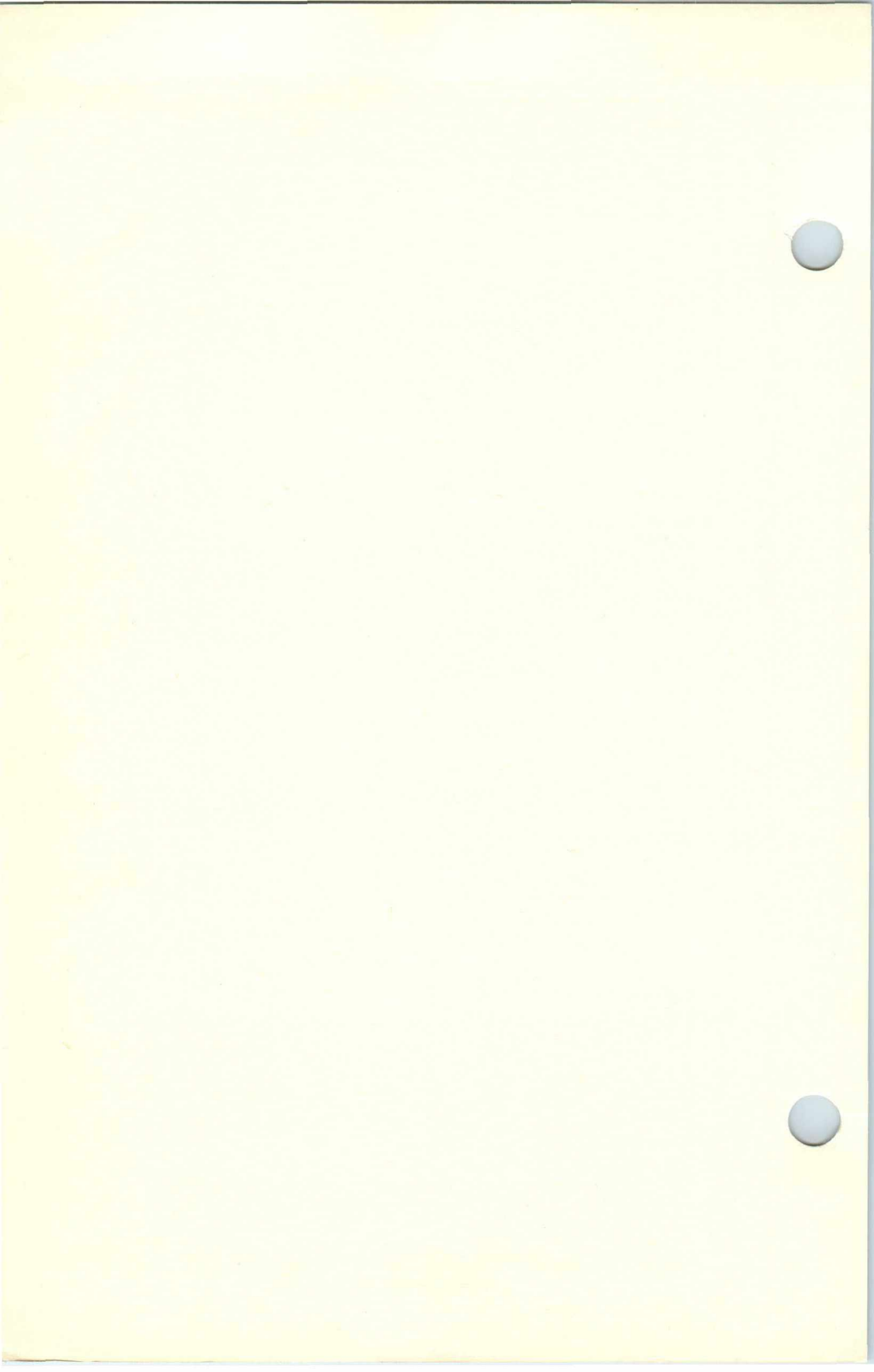


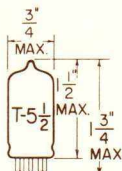




TUNG-SOL

DOUBLE DIODE

MINIATURE TYPE



GLASS BULB

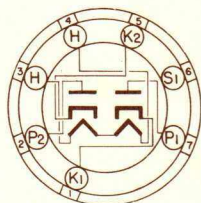
COATED UNIPOTENTIAL CATHODE

HEATER

6.3±10% VOLTS 0.3 AMP.

AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW

MINIATURE BUTTON
7 PIN BASE

6BT

THE 6AL5 COMBINES TWO INDEPENDENT DIODE UNITS IN THE 7 PIN MINIATURE CONSTRUCTION. ITS HIGH PERVEANCE PERMITS HIGH EFFICIENCY IN EITHER FM OR AM DETECTOR SERVICE.

DIRECT INTERELECTRODE CAPACITANCES

	WITHOUT SHIELD	WITH SHIELD ^A	
PLATE INPUT: P TO (H+K+S) EACH UNIT	2.5	3.2	μuf
COUPLING: 1P TO 2P (MAX.)	0.068	0.026	μuf
CATHODE INPUT: K TO (P+H+S) EACH UNIT	3.4	3.6	μuf

^AEXTERNAL SHIELD #316 CONNECTED TO PIN #6.

→ RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

HEATER VOLTAGE	6.3±10%	VOLTS
MAXIMUM PEAK HEATER-CATHODE VOLTAGE:		
HEATER NEGATIVE WITH RESPECT TO CATHODE	330 ^A	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE	200 ^B	VOLTS
MAXIMUM PEAK INVERSE VOLTAGE	330	VOLTS
MAXIMUM AC PLATE VOLTAGE (EACH PLATE) RMS	117	VOLTS
MAXIMUM STEADY STATE PEAK PLATE CURRENT (EACH PLATE)	54	MA.
MAXIMUM DC OUTPUT CURRENT (EACH PLATE)	9	MA.
MINIMUM TOTAL EFFECTIVE PLATE SUPPLY IMPEDANCE (EACH PLATE)	300	OHMS
HEATER WARM-UP TIME (APPROX.)*	11.0	SECONDS

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

HALF-WAVE RECTIFIER

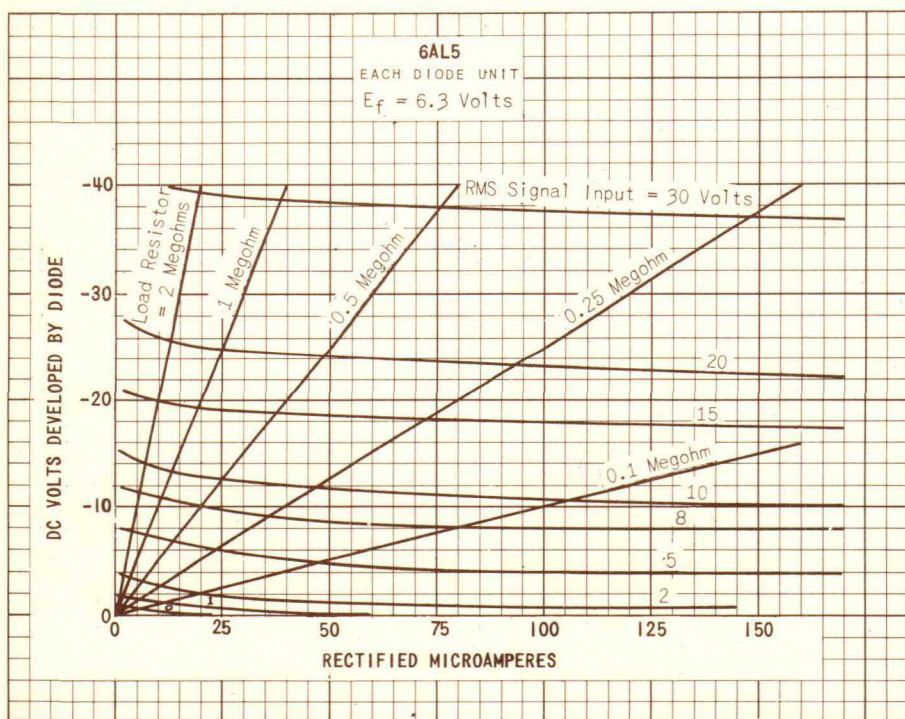
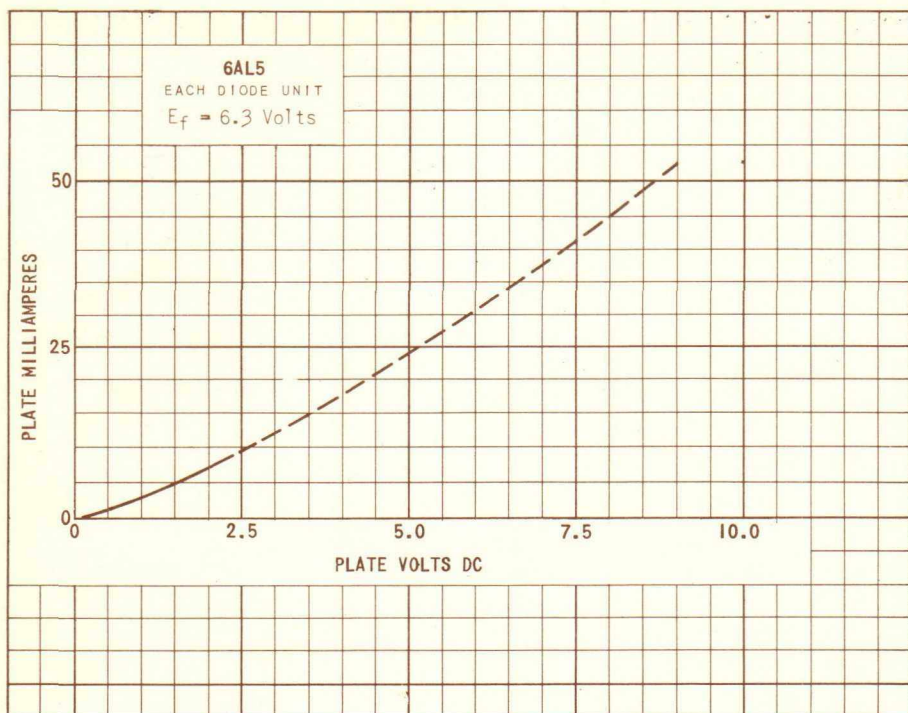
HEATER VOLTAGE	6.3±10%	VOLTS
HEATER CURRENT	0.3	AMP.
AVERAGE DIODE CURRENT (EACH UNIT) AT 10 VOLTS DC	60	MA.

THE RESONANT FREQUENCY OF EACH UNIT OF THE 6AL5 IS 700 MC. (APPROX.)

^ADC COMPONENT MUST NOT EXCEED 330 VOLTS

^BDC COMPONENT MUST NOT EXCEED 100 VOLTS.

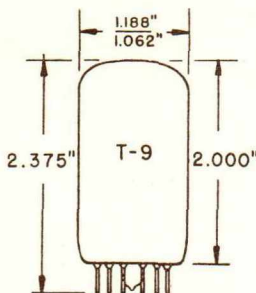
→ INDICATES A CHANGE.



TUNG-SOL

DOUBLE PENTODE

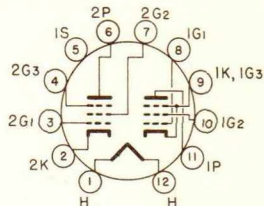
COMPACTRON



DISSIMILAR DOUBLE PENTODE
FOR
USE AS AN FM DETECTOR
AND AUDIO-FREQUENCY OUTPUT
AMPLIFIER IN T.V. RECEIVERS

COATED UNIPOTENTIAL CATHODE
ANY MOUNTING POSITION

GLASS BULB
BUTTON 12 PIN
BASE E12-70
OUTLINE DRAWING
JEDEC 9-58



BOTTOM VIEW
BASING DIAGRAM
JEDEC 12BU

THE 6AL11 IS A SHARP-CUTOFF, DUAL-CONTROL PENTODE (SECTION 2) AND A POWER PENTODE (SECTION 1) IN THE T-9 COMPACTRON CONSTRUCTION. THE DUAL-CONTROL PENTODE IS INTENDED FOR USE AS AN FM DETECTOR AND THE POWER PENTODE AS AN AUDIO-FREQUENCY OUTPUT AMPLIFIER IN T.V. RECEIVERS.

DIRECT INTERELECTRODE CAPACITANCES

SECTION 1

GRID 1 TO PLATE: (1G ₁ TO 1P)	0.26	pf
INPUT: 1G ₁ TO (H + 1K + 1G ₂ + 1G ₃ + I.S.)	11	pf
OUTPUT: 1P TO (H + 1K + 1G ₂ + 1G ₃ + I.S.)	12	pf

SECTION 2

GRID 1 TO PLATE: (2G ₁ TO 2P)	0.034	pf
GRID 3 TO PLATE: (2G ₃ TO 2P)	3.2	pf
GRID 1 TO ALL EXCEPT PLATE: 2G ₁ TO (H + 2K + 2G ₂ + 2G ₃ + I.S.)	6.5	pf
GRID 3 TO ALL: 2G ₃ TO (H + 2K + 2G ₁ + 2G ₂ + 2P + I.S.)	7.5	pf
GRID 1 TO GRID 3: (2G ₁ TO 2G ₃)	0.24	pf
PLATE TO PLATE: (1P TO 2P)	0.12	pf

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	6.3 VOLTS	900	MA.
LIMITS OF APPLIED VOLTAGE		6.3 ± 0.6	VOLTS
HEATER-CATHODE VOLTAGE	SECTION 1	SECTION 2	
HEATER POSITIVE WITH RESPECT TO CATHODE			
DC COMPONENT	100	100	VOLTS
TOTAL DC AND PEAK	200	200	VOLTS
HEATER NEGATIVE WITH RESPECT TO CATHODE			
TOTAL DC AND PEAK	200	200	VOLTS

MAXIMUM RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

	SECTION 1	SECTION 2	
PLATE VOLTAGE	275	330	VOLTS
GRID 2 VOLTAGE	275	SEE RATING CHART	VOLTS
GRID 2 SUPPLY VOLTAGE		330	VOLTS
GRID 3 (SUPPRESSOR) VOLTAGE		28	VOLTS
POSITIVE DC GRID 1 VOLTAGE		0	VOLTS
PLATE DISSIPATION	10	1.7	WATTS
GRID 2 DISSIPATION	2.0	1.1	WATTS
GRID 1 CIRCUIT RESISTANCE			
WITH FIXED BIAS	0.25		MEGOHMS
WITH CATHODE BIAS	0.5		MEGOHMS

CHARACTERISTICS AND TYPICAL OPERATION

SECTION 1

PLATE VOLTAGE	250	VOLTS
GRID 2 VOLTAGE	250	VOLTS
GRID 1 VOLTAGE	-8.0	VOLTS
PEAK AF GRID 1 VOLTAGE	8.0	VOLTS
ZERO-SIGNAL PLATE CURRENT	35	MA.
MAXIMUM-SIGNAL PLATE CURRENT	39	MA.
ZERO-SIGNAL GRID 2 CURRENT	2.5	MA.
MAXIMUM SIGNAL GRID 2 CURRENT	7.0	MA.
MAXIMUM-SIGNAL POWER OUTPUT	4.2	WATTS
TRANSCONDUCTANCE	6,500	MICROMHOS
PLATE RESISTANCE	Approx. 100,000	OHMS
LOAD RESISTANCE	5,000	OHMS
TOTAL HARMONIC DISTORTION	Approx. 10	PERCENT

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TUNG-SOL

CONTINUED FROM PRECEDING PAGE

AVERAGE CHARACTERISTICS - SECTION 2

PLATE VOLTAGE	150	VOLTS
GRID 2 VOLTAGE	100	VOLTS
GRID 3 VOLTAGE	0	VOLTS
CATHODE-BIAS RESISTOR	560	OHMS
PLATE CURRENT	1.3	MA.
GRID 2 CURRENT	2.1	MA.
GRID 1 TRANSCONDUCTANCE	1,000	MICROMHOS
GRID 3 TRANSCONDUCTANCE	400	MICROMHOS
PLATE RESISTANCE	Approx. 0.15	MEGOHMS
GRID 1 VOLTAGE FOR $I_b = 30 \mu A$	Approx. -4.5	VOLTS
GRID 3 VOLTAGE FOR $I_b = 50 \mu A$	Approx. -4.5	VOLTS

