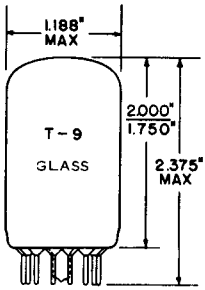
TUNG-SOL

DUAL PENTODE

COMPACTRON

OUTLINE
JEDEC 9-58

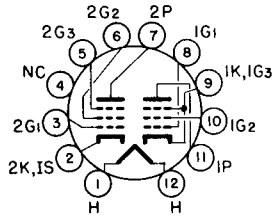


BASE 12 PIN BUTTON
JEDEC E12-70

FOR
FM DETECTOR
AND AUDIO APPLICATION
IN T.V. RECEIVERS

COATED UNIPOTENTIAL CATHODE
ANY MOUNTING POSTION

BASING DIAGRAM
JEDEC 12EZ



BOTTOM VIEW

THE TUNG-SOL 6Y10 IS A 12-PIN T-9 COMPACTRON CONTAINING TWO DISSIMILAR PENTODES. SECTION 1 IS A POWER PENTODE FOR AUDIO APPLICATION. SECTION 2 IS A DUAL CONTROL PENTODE INTENDED FOR USE AS FM DETECTOR IN TV CIRCUITS. ELECTRICALLY, SECTION 1 IS SIMILAR TO TYPE 6GZ5, SECTION 2 IS SIMILAR TO TYPE 6GX6.

DIRECT INTERELECTRODE CAPACITANCES

WITHOUT EXTERNAL SHIELD

PENTODE 1 - GRID 1 TO PLATE	0.24	pf
INPUT: (G1 TO H + K + I.S. + G_2)	7.5	pf
OUTPUT: (P TO H + K + I.S. + G_2)	6.0	pf
PENTODE 2 - GRID 1 TO PLATE	0.022	pf
GRID 1 TO ALL (G1 TO H + K + I.S. + G_2 + G_3 + P)	7.5	pf
GRID 3 TO PLATE	1.5	pf
GRID 3 TO ALL (G to H + K + I.S. + G_1 + G_2 + P)	6.5	pf
GRID 1 TO GRID 3	0.15	pf
COUPLING - PLATE TO PLATE	0.075	pf

HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM SYSTEM-SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	6.3 VOLTS	0.83	AMPS.
LIMITS OF APPLIED VOLTAGE - AC OR DC		6.3 ± 0.6	VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE-BOTH SECTIONS			
HEATER NEGATIVE WITH RESPECT TO CATHODE			
TOTAL DC AND PEAK		200	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE			
DC		100	VOLTS
TOTAL DC AND PEAK		200	VOLTS

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MAXIMUM RATINGS

DESIGN MAXIMUM SYSTEM - SEE EIA STANDARD RS-239

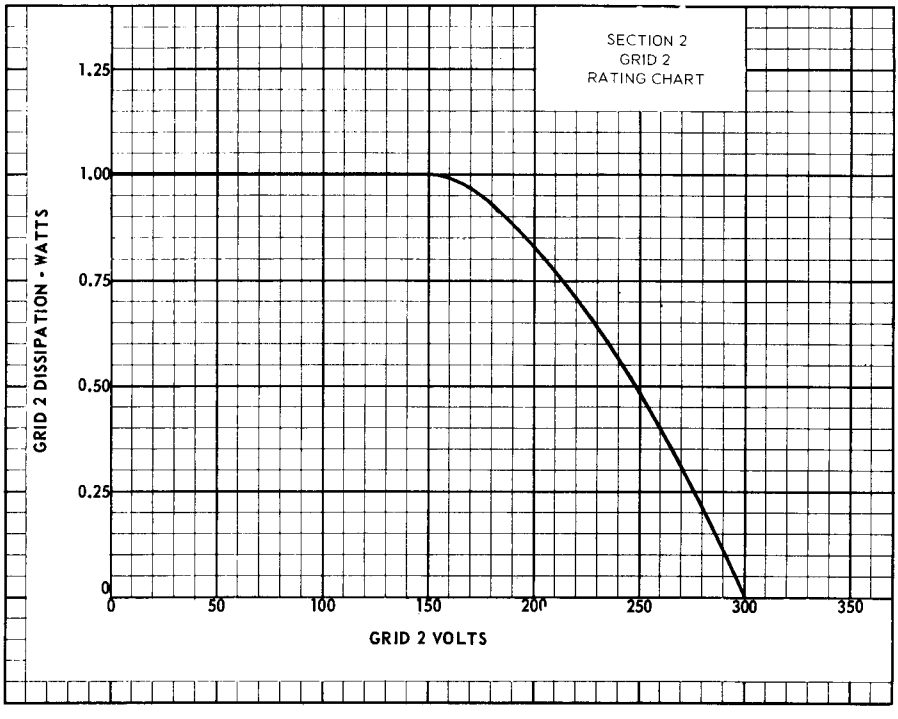
	SECTION 1	SECTION 2	
PLATE VOLTAGE	300	300	VOLTS
GRID 2 VOLTAGE	300	-	VOLTS
GRID 2 SUPPLY VOLTAGE	-	300	VOLTS
POSITIVE DC GRID 3 VOLTAGE	-	25	VOLTS
NEGATIVE DC GRID 3 VOLTAGE	-	100	VOLTS
POSITIVE DC GRID 1 VOLTAGE	0	0	VOLTS
NEGATIVE DC GRID 1 VOLTAGE	-	50	VOLTS
PLATE DISSIPATION	4.8	1.7	WATTS
GRID 2 DISSIPATION	1.1	SEE CHART	WATTS
UP TO 150 VOLTS	-	1.0	WATTS
CATHODE CURRENT	30	20	MA.
GRID 1 CIRCUIT RESISTANCE			
FIXED BIAS	0.5	0.25	MEGOHMS
SELF BIAS	1.0	0.5	MEGOHMS
BULB TEMPERATURE	200		°C

AVERAGE CHARACTERISTICS

	SECTION 1	SECTION 2	
PLATE VOLTAGE	250	150	VOLTS
GRID 2 VOLTAGE	250	100	VOLTS
GRID 3 VOLTAGE	-	0	VOLTS
CATHODE RESISTOR	270	180	OHMS
PLATE CURRENT	16	3.7	MA.
GRID 2 CURRENT	2.7	3	MA.
TRANSCONDUCTANCE GRID 1 TO PLATE	8,400	3,700	μMHOS
GRID 3 TO PLATE	-	600	μMHOS
PLATE RESISTANCE - APPROX.	0.15	0.14	MEGOHMS
GRID 1 VOLTAGE FOR I_b = 20 μA	-	-4.5	VOLTS
GRID 3 VOLTAGE FOR I_b = 20 μA	-	- 7	VOLTS

TYPICAL OPERATION - CLASS A1 POWER AMPLIFIER

	SECTION 1		
PLATE VOLTAGE	250	250	VOLTS
GRID 2 VOLTAGE	250	250	VOLTS
CATHODE RESISTOR	270	270	OHMS
BYPASSING	NONE	CAPACITOR	
PEAK AUDIO GRID 1 VOLTAGE	9.8	2.0	VOLTS
LOAD RESISTANCE	15,000	15,000	OHMS
MAXIMUM SIGNAL PLATE CURRENT	16	16	MA.
MAXIMUM SIGNAL GRID 2 CURRENT	5	5	MA.
TOTAL HARMONIC DISTORTION	10	10	%
POWER OUTPUT	1.8	1.1	WATTS


SECTION 2
GRID 2
RATING CHART
GRID 2 DISSIPATION - WATTS
1.25
1.00
0.75
0.50
0.25
0
0
50
100
150
200
250
300
350
GRID 2 VOLTS