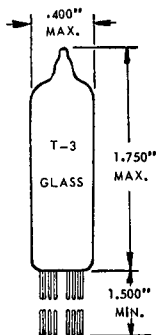
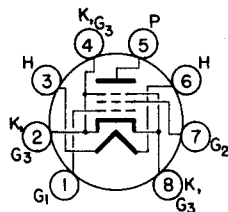


TUNG-SOL**BEAM PENTODE****SUBMINATURE****OUTLINE DRAWING
JEDEC 3-3**

**SUBMINATURE BUTTON
8 FLEXIBLE LEADS
JEDEC E8-10**

FOR
GUIDED MISSILE
SERVICE

COATED UNIPOTENTIAL CATHODE
ANY MOUNTING POSITION

**BASING DIAGRAM
JEDEC 8DL**

BOTTOM VIEW

THE 6945 IS A BEAM POWER PENTODE IN THE 8 PIN SUBMINIATURE CONSTRUCTION. IT IS DESIGNED SPECIFICALLY FOR GUIDED MISSILE SERVICE. THIS TYPE IS CHARACTERIZED BY STABLE PERFORMANCE IN OPERATION AT HIGH ALTITUDES WHERE SEVERE CONDITIONS OF MECHANICAL SHOCK, VIBRATION AND HIGH TEMPERATURE ARE ENCOUNTERED.

DIRECT INTERELECTRODE CAPACITANCES

WITH EXTERNAL SHIELD #318 CONNECTED TO CATHODE

GRID 1 TO PLATE	MAX.	0.13	pf
INPUT		5.0	pf
OUTPUT		5.5	pf

HEATER CHARACTERISTICS AND RATINGS

AVERAGE CHARACTERISTICS	6.3 VOLTS	350	mA
LIMITS OF APPLIED VOLTAGE		5.5 TO 6.9	VOLTS
HEATER CATHODE VOLTAGE:			
HEATER POSITIVE WITH RESPECT TO CATHODE		200	VOLTS
HEATER NEGATIVE WITH RESPECT TO CATHODE		200	VOLTS

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

MAXIMUM RATINGS

ABSOLUTE MAXIMUM VALUES - SEE EIA STANDARD RS-239

DC PLATE VOLTAGE	250	VOLTS
PEAK-PLATE FORWARD VOLTAGE	360	VOLTS
GRID 2 VOLTAGE	150	VOLTS
DC GRID 1 VOLTAGE		
POSITIVE VALUE	0	VOLTS
NEGATIVE VALUE	55	VOLTS
PLATE DISSIPATION	3.0	WATTS
GRID 2 DISSIPATION	0.33	WATTS
CATHODE CURRENT	40	mA
GRID 1 CIRCUIT RESISTANCE	0.5	MEGOHM
BULB TEMPERATURE	250	°C

AVERAGE CHARACTERISTICS

	TRIODE CONNECTED	PENTODE CONNECTED	
DC PLATE VOLTAGE	100	100	VOLTS
DC GRID 2 VOLTAGE	100	100	VOLTS
CATHODE BIAS RESISTOR	270	270	OHMS
DC PLATE CURRENT	26	25	mA
DC GRID 2 CURRENT	—	1.5	mA
TRANSCONDUCTANCE	3,700	3,500	μ MHOS
AMPLIFICATION FACTOR	5.0		
PLATE RESISTANCE - APPROX.	1,500	20,000	OHMS
DC GRID 1 VOLTAGE FOR $I_b = 35 \mu A$		-40	VOLTS

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A₁ AMPLIFIER - SINGLE TUBE

	TRIODE CONNECTED		PENTODE CONNECTED	
PLATE VOLTAGE	150	250	150	VOLTS
GRID 2 VOLTAGE	—	—	110	VOLTS
CATHODE RESISTOR	680	2,700	470	OHMS
PEAK AF GRID 1 VOLTAGE	16.3	38.2	10.6	VOLTS
ZERO - SIGNAL PLATE CURRENT	23.8	14.2	21.5	mA
MAX. - SIGNAL PLATE CURRENT	25.3	15.5	20.5	mA
ZERO - SIGNAL GRID 2 CURRENT	—	—	0.8	mA
MAX. - SIGNAL GRID 2 CURRENT	—	—	3.23	mA
MAX. - SIGNAL POWER OUTPUT	0.43	0.94	1.22	WATTS
LOAD RESISTANCE	2,200	6,000	7,000	OHMS
TOTAL HARMONIC DISTORTION	11.0	16.7	11.0	PERCENT

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

CHARACTERISTICS AND TYPICAL OPERATION (Cont'd)

PUSH-PULL - TWO TUBES

	CLASS A ₁		CLASS AB ₂	
PLATE VOLTAGE	150	200	185	VOLTS
GRID 2 VOLTAGE	110	125	110	VOLTS
GRID 1 VOLTAGE	-	-	-15	VOLTS
CATHODE RESISTOR	270	560	-	OHMS
PEAK AF GRID TO GRID VOLTAGE	21.2	39.6	31.2	VOLTS
ZERO-SIGNAL PLATE CURRENT	37.5	27.0	26.7	mA
MAX. - SIGNAL PLATE CURRENT	38.0	31.6	46.0	mA
ZERO - SIGNAL GRID 2 CURRENT	1.35	0.8	0.67	mA
MAX. - SIGNAL GRID 2 CURRENT	4.67	4.30	5.90	mA
MAX. SIGNAL POWER OUTPUT	2.42	3.41	4.76	WATTS
LOAD RESISTANCE - PLATE TO PLATE	12,000	13,000	10,000	OHMS
TOTAL HARMONIC DISTORTION - APPROX.	4.1	4.9	1.02	PERCENT

SPECIAL TESTS AND RATINGS

IMPACT ACCELERATION

FATIGUE

FAILURE RATE

RADIATION: ABSOLUTE MAXIMUM

TOTAL DOSAGE - NEUTRONS/SA.CM.

DOSE RATE - NEUTRONS/SQ. CM/SEC

ALTITUDE - ABSOLUTE MAXIMUM

10¹⁶ NVT10¹² NV

80,000 FT