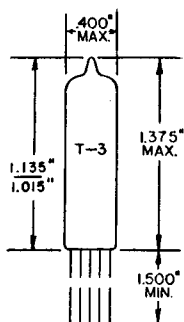


**TUNG-SOL**

## DUAL-CONTROL PENTODE

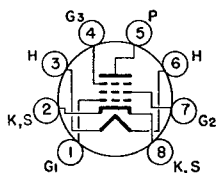
## SUBMINIATURE



GLASS BULB  
SUBMINIATURE BUTTON  
8 PIN BASE E8-10  
OUTLINE DRAWING  
JEDEC 3-1

FOR  
AMPLIFIER, MIXER  
MODULATOR AND GATING SERVICE

COATED UNIPOTENTIAL CATHODE  
ANY MOUNTING POSITION



BOTTOM VIEW

BASING DIAGRAM  
JEDEC 8DC

THE 8522 IS A PREMIUM SUBMINIATURE DUAL-CONTROL PENTODE USEFUL AS AN AMPLIFIER OR MIXER UP TO UHF, AND FOR MODULATOR AND GATING SERVICE. IT REPLACES TYPE 5636 WHEN BETTER CONTROL OF INSULATION RESISTANCE AND MICROPHONICS ARE REQUIRED, OR WHEN CONTROL OF GRID #1 TRANSCONDUCTANCE AT SEVERAL GRID #3 BIAS POINTS IS DESIRABLE.

**DIRECT INTERELECTRODE CAPACITANCES**

	WITH SHIELD #318 CONNECTED TO CATHODE	WITHOUT SHIELD	
GRID 1 TO PLATE-MAX.	0.02	0.03	pf
GRID 3 TO PLATE-MAX.	1.1	1.1	pf
GRID 1 TO ALL OTHER ELECTRODES	4.0	4.0	pf
GRID 3 TO ALL OTHER ELECTRODES	4.0	3.8	pf
PLATE TO ALL OTHER ELECTRODES	3.4	1.9	pf
GRID 1 TO GRID 3-MAX.	0.15	0.17	pf

**HEATER CHARACTERISTICS AND RATINGS**

ABSOLUTE MAXIMUM SYSTEM - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	6.3 VOLTS	150	MA.
LIMITS OF APPLIED VOLTAGE		6.3 ± 0.3	VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE			
TOTAL DC AND PEAK-EITHER POLARITY		200	VOLTS

CONTINUED ON FOLLOWING PAGE

## TUNG-SOL

CONTINUED FROM PRECEDING PAGE

## MAXIMUM RATINGS

ABSOLUTE MAXIMUM SYSTEM - SEE EIA STANDARD RS-239

PLATE VOLTAGE	165	VOLTS
GRID 2 VOLTAGE	155	VOLTS
GRID 1 VOLTAGE	0,-55	VOLTS
GRID 3 VOLTAGE	+30	VOLTS
PLATE DISSIPATION	0.70	WATTS
GRID 2 DISSIPATION	0.55	WATTS
CATHODE CURRENT	16	MA.
GRID 1 CIRCUIT RESISTANCE	1.1	MEGOHMS
ENVELOPE TEMPERATURE	220	$^{\circ}$ C
ALTITUDE	60,000	FEET

## AVERAGE CHARACTERISTICS

ALL VOLTAGES REFERRED TO NEGATIVE END OF CATHODE RESISTOR

DUAL CONTROL AMPLIFIER

PLATE VOLTAGE	100	100	VOLTS
GRID 2 VOLTAGE	100	100	VOLTS
GRID 1 SUPPLY VOLTAGE	0	0	VOLTS
GRID 3 VOLTAGE		SEE BELOW	
CATHODE RESISTOR	150	330	OHMS
PLATE CURRENT	5.3	-	MA.
GRID 2 CURRENT	3.6	-	MA.
GRID 1 TRANSCONDUCTANCE	3,200	-	$\mu$ MHOS
PLATE RESISTANCE	.11	-	MEGOHMS
GRID 3 TRANSCONDUCTANCE			
AT GRID 3 SUPPLY VOLTAGE OF - 1 VOLTS	1050	-	$\mu$ MHOS
GRID 1 TRANSCONDUCTANCE			
AT GRID 3 SUPPLY VOLTAGE OF +0.5 VOLTS	-	2,250	$\mu$ MHOS
AT GRID 3 SUPPLY VOLTAGE OF -1.65 VOLTS	-	1,300	$\mu$ MHOS
AT GRID 3 SUPPLY VOLTAGE OF -3.0 VOLTS	-	700	$\mu$ MHOS
AT GRID 3 SUPPLY VOLTAGE OF -4.0 VOLTS	-	275	$\mu$ MHOS
GRID 1 VOLTAGE FOR PLATE CURRENT OF 10 $\mu$ A	-7.5	-	VOLTS
GRID 3 VOLTAGE FOR PLATE CURRENT OF 10 $\mu$ A	-8	-	VOLTS
LOW - FREQUENCY - VIBRATION OUTPUT			
ACROSS $R_L = 10,000$ OHMS AT 15 G 40 CPS	Max. 60	-	M VOLTS

## MIXER

PLATE VOLTAGE	100	VOLTS
GRID 2 VOLTAGE	100	VOLTS
GRID 3 VOLTAGE - DC	0	VOLTS
AC	15	VOLTS RMS
GRID 1 VOLTAGE - DC	0	VOLTS
CATHODE RESISTOR	150	OHMS
PLATE CURRENT	3.5	MA.
GRID 2 CURRENT	5.7	MA.
CONVERSION TRANSCONDUCTANCE	1,400	$\mu$ MHOS
PLATE RESISTANCE	0.32	MEGOHMS