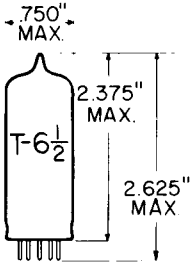
TUNG-SOL

TWIN TRIODE

MINIATURE TYPE

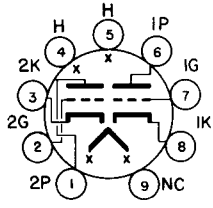


GLASS BULB
SMALL-BUTTON
9 PIN NOVAL E9-1
OUTLINE DRAWING
JEDEC 6-3

COATED UNIPOTENTIAL CATHODE

FOR SERIES STRING OPERATION
IN TELEVISION RECEIVERS

ANY MOUNTING POSITION



BOTTOM VIEW

BASING DIAGRAM
JEDEC 9LP

THE 6FQ7 IS A GENERAL PURPOSE, MEDIUM-MU TWIN TRIODE IN THE 9 PIN MINIATURE CONSTRUCTION. IT IS INTENDED PRIMARILY FOR USE AS A VERTICAL-DEFLECTION OSCILLATOR AND HORIZONTAL-DEFLECTION OSCILLATOR IN TELEVISION RECEIVERS. THE 6FQ7 MAY ALSO BE USED IN PHASE-INVERTER, MULTIVIBRATOR, SYNC-SEPARATOR, SYNC-AMPLIFIER, AND IN RESISTANCE-COUPLED AF AMPLIFIER CIRCUITS OF ELECTRONIC EQUIPMENT.

DIRECT INTERELECTRODE CAPACITANCES - APPROX.

WITHOUT EXTERNAL SHIELD

	UNIT #1	UNIT #2	
GRID TO PLATE	3.6	3.8	pf
GRID TO CATHODE AND HEATER	2.4	2.4	pf
PLATE TO CATHODE AND HEATER	0.34	0.26	pf
PLATE OF UNIT #1 TO PLATE OF UNIT #2	1.0		pf

HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	6.3 VOLTS	600	MA
HEATER SUPPLY LIMITS:			
VOLTAGE OPERATION		6.3±0.6	VOLTS
CURRENT OPERATION		600±36	MA.
MAXIMUM PEAK HEATER-CATHODE VOLTAGE:			
HEATER NEGATIVE WITH RESPECT TO CATHODE		200	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE		200●	VOLTS
HEATER WARM-UP TIME (APPROX.) *		11	SECONDS

● THE DC COMPONENT MUST NOT EXCEED 100 VOLTS.

* HEATER WARM-UP TIME IS DEFINED AS THE TIME REQUIRED FOR THE VOLTAGE ACROSS THE HEATER TO REACH 80% OF ITS RATED VOLTAGE AFTER APPLYING 4 TIMES RATED HEATER VOLTAGE TO A CIRCUIT CONSISTING OF THE TUBE HEATER IN SERIES WITH A RESISTANCE OF VALUE 3 TIMES THE NOMINAL HEATER OPERATING RESISTANCE.

CONTINUED ON FOLLOWING PAGE

CONTINUED FROM PRECEDING PAGE

MAXIMUM RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

CLASS A_1 AMPLIFIER

VALUES ARE FOR EACH UNIT

PLATE VOLTAGE	330	VOLTS
GRID VOLTAGE:		
POSITIVE-BIAS VALUE	0	VOLTS
CATHODE CURRENT	22	MA.
PLATE DISSIPATION:		
EITHER PLATE	4	WATTS
BOTH PLATES (BOTH UNITS OPERATING)	5.7	WATTS
MAX. CIRCUIT VALUES:		
GRID-CIRCUIT RESISTANCE:		
FOR FIXED -BIAS OPERATION	1	MEGOHM

HORIZONTAL-DEFLECTION OSCILLATOR [B]

VALUES ARE FOR EACH UNIT

DC PLATE VOLTAGE	330	VOLTS
PEAK NEGATIVE-PULSE GRID VOLTAGE[C]	660	VOLTS
CATHODE CURRENT:		
PEAK	330	MA.
DC	22	MA.
PLATE DISSIPATION:		
EITHER PLATE	4	WATTS
BOTH PLATES (BOTH UNITS OPERATING)	5.7	WATTS
MAX. CIRCUIT VALUES:		
GRID-CIRCUIT RESISTANCE	2.2	MEGOHM

VERTICAL-DEFLECTION OSCILLATOR [B]

VALUES ARE FOR EACH UNIT

DC PLATE VOLTAGE	330	VOLTS
PEAK NEGATIVE-PULSE GRID VOLTAGE[D]	440	VOLTS
CATHODE CURRENT:		
PEAK	77	MA.
DC	22	MA.
PLATE DISSIPATION:		
EITHER PLATE	4	WATTS
BOTH PLATES (BOTH UNITS OPERATING)	5.7	WATTS
MAX. CIRCUIT VALUES:		
GRID-CIRCUIT RESISTANCE	2.2	MEGOHMS

CHARACTERISTICS

CLASS A_1 AMPLIFIER

EACH UNIT

PLATE VOLTAGE	90	250	VOLTS
GRID VOLTAGE	0	-8	VOLTS
AMPLIFICATION FACTOR	20	20	
PLATE RESISTANCE (APPROX.)	6700	7700	OHMS
TRANSCONDUCTANCE	3000	2600	μMHOS
PLATE CURRENT	10	9	MA.
PLATE CURRENT FOR GRID VOLTS =-12.5	---	1.3	MA.
GRID VOLTAGE (APPROX.)FOR PLATE μA=10	-7	-18	VOLTS

CONTINUED ON FOLLOWING PAGE

CONTINUED FROM PRECEDING PAGE

NOTES

[B] FOR OPERATION IN A 525-LINE, 30-FRAME SYSTEM AS DESCRIBED IN "STANDARDS OF GOOD ENGINEERING PRACTICE CONCERNING TELEVISION BROADCAST STATIONS." FEDERAL COMMUNICATIONS COMMISSION.

[C] THIS RATING IS APPLICABLE WHERE THE DURATION OF THE VOLTAGE PULSE DOES NOT EXCEED 15 PER CENT OF ONE HORIZONTAL SCANNING CYCLE. IN A 525-LINE, 30-FRAME SYSTEM, 15 PER CENT OF ONE HORIZONTAL SCANNING CYCLE IS 10 MICROSECONDS.

[D] THIS RATING IS APPLICABLE WHERE THE DURATION OF THE VOLTAGE PULSE DORS NOT EXCEED 15 PER CENT OF ONE VERTICAL SCANNING CYCLE. IN A 525-LINE, 30-FRAME SYSTEM, 15 PER CENT OF ONE VERTICAL SCANNING CYCLE IS 2.5 MILLISECONDS.

PRINTED IN U.S.A.