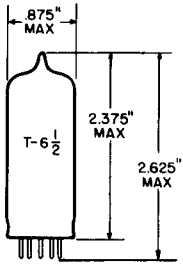
TUNG-SOL

TRIODE

MINIATURE TYPE



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

COATED UNIPOTENTIAL CATHODE

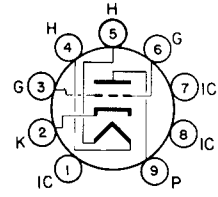
FOR

SERVICE AS VERTICAL

DEFLECTION AMPLIFIER IN

T.V. RECEIVERS

ANY MOUNTING POSITION



BOTTOM VIEW

BASING DIAGRAM
JEDEC 9AC

THE 6S4A IS A HIGH PERVEANCE TRIODE USING THE SMALL BUTTON 9 PIN MINIATURE CONSTRUCTION. DESIGNED FOR USE IN 600 MA. SERIES HEATER OPERATED RECEIVERS. IT IS INTENDED FOR SERVICE AS A VERTICAL DEFLECTION AMPLIFIER IN TELEVISION RECEIVERS. THERMAL CHARACTERISTICS OF THE HEATER ARE CONTROLLED SUCH THAT HEATER VOLTAGE SURGES DURING THE WARM-UP CYCLE ARE MINIMIZED PROVIDED IT IS USED WITH OTHER TYPES WHICH ARE SIMILARLY CONTROLLED. EXCEPT FOR CONTROL OF THE HEATER THERMAL CHARACTERISTICS, ITS CHARACTERISTICS ARE IDENTICAL TO THE 6S4.

DIRECT INTERELECTRODE CAPACITANCES - APPROX.

GRID TO PLATE: (G TO P)	→2.4	pf
INPUT: G TO(H+K)	4.2	pf
OUTPUT: P TO (H+K)	→0.6	pf

HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	6.3 VOLTS	600	MA.
HEATER WARM-UP TIME[A]		11	SECONDS
HEATER SUPPLY LIMITS:			
CURRENT OPERATION		600±36	MA.
MAXIMUM HEATER-CATHODE VOLTAGE:			
HEATER NEGATIVE WITH RESPECT TO CATHODE			
TOTAL DC AND PEAK		100	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE			
DC		100	VOLTS
TOTAL DC AND PEAK		200	VOLTS

A
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

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MAXIMUM RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

VERTICAL DEFLECTION AMPLIFIER [B]

DC PLATE VOLTAGE	→ 550	VOLTS
PEAK POSITVE PLATE VOLTAGE (ABS MAX.)	2200	VOLTS
PLATE DISSIPATION[C]	→ 8.5	WATTS
PEAK NEGATIVE GRID VOLTAGE	250	VOLTS
AVERAGE CATHODE CURRENT	30	MA.
PEAK CATHODE CURRENT	105	MA.
GRID CIRCUIT RESISTANCE (CATHODE BIAS)	2.2	MEGOHMS

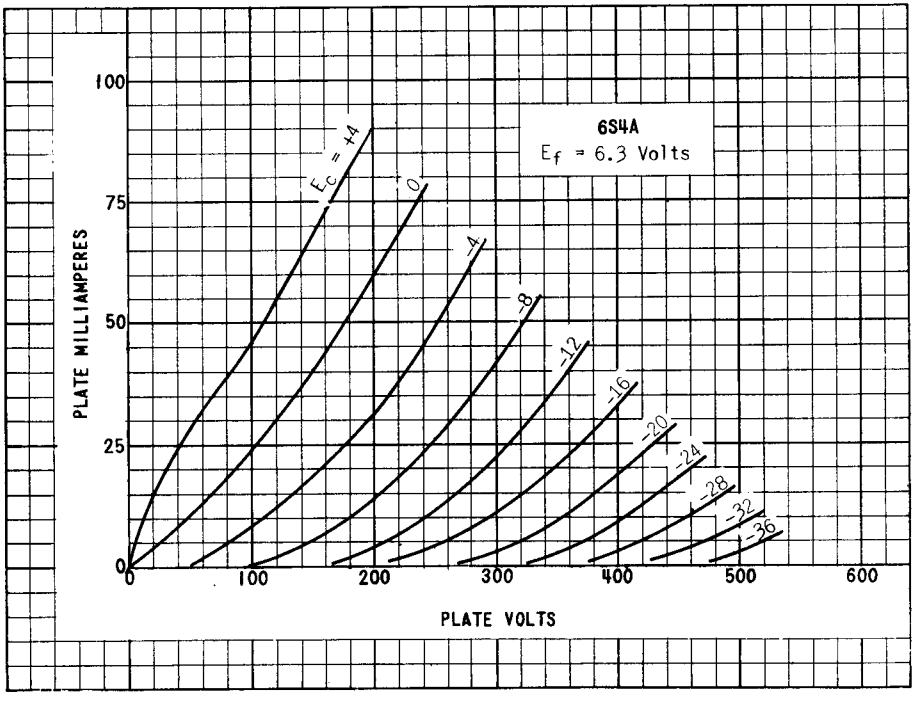
[B] FOR OPERATION IN A 525-LINE, 30-FRAME SYSTEM AS DESCRIBED IN "STANDARDS OF GOOD ENGINEERING PRACTICE FOR TELEVISION BROADCASTING STATIONS; FEDERAL COMMUNICATIONS COMMISSION". THE DUTY CYCLE OF THE VOLTAGE PULSE NOT TO EXCEED 15% PERCENT OF A SCANNING CYCLE.

[C] IN STAGES OPERATING WITH GRID-LEAK BIAS, AN ADEQUATE CATHODE BIAS RESISTOR OR OTHER SUITABLE MEANS IS REQUIRED TO PROTECT THE TUBE IN THE ABSENCE OF EXCITATION.

TYPICAL OPERATING CHARACTERISTICS

PLATE VOLTAGE	250	VOLTS
GRID VOLTAGE	-8	VOLTS
PLATE CURRENT	→ 24	MA.
TRANSCONDUCTANCE	4500	μMHOS
AMPLIFICATION FACTOR	→ 16.5	
PLATE RESISTANCE (APPROX.)	→ 3700	OHMS
PLATE CURRENT AT Ec=-15 VOLTS	→ 4.0	MA.
GRID VOLTAGE (APPROX.) FOR Ib = 50 μA.	→ -22	VOLTS

→ INDICATES A CHANGE.


6S4A
E_f = 6.3 Volts
PLATE MILLIAMPERES
PLATE VOLTS
100
75
50
25
0
0
100
200
300
400
500
600
E_c = +4
0
-4
-8
-12
-16
-20
-24
-28
-32
-36