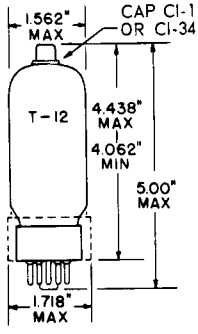
TUNG-SOL

OUTLINE DRAWING
JEDEC 12-36



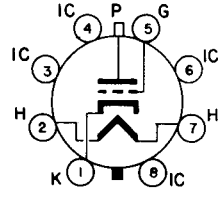
GLASS BULB
BASE 8 PIN OCTAL
JEDEC B8-71
OR B 8-118

BEAM TRIODE
FOR
D.C. POWER SUPPLIES
IN
COLOR TV RECEIVERS

COATED UNIPOTENTIAL CATHODE

ANY MOUNTING POSITION

BASING DIAGRAM
JEDEC 8GC



BOTTOM VIEW
PINS 3, 4, 6 AND 8 SHOULD NOT BE USED AS TIE POINTS

THE 6BK4B IS A HIGH-VOLTAGE, LOW-CURRENT BEAM TRIODE IN A DOUBLE-ENDED T-12 GLASS ENVELOPE. IT IS ESPECIALLY DESIGNED FOR USE AS A SHUNT VOLTAGE-REGULATOR IN THE HIGH-VOLTAGE POWER SUPPLY CIRCUITS OF COLOR TELEVISION RECEIVERS. EXCEPT FOR HIGHER PLATE DISSIPATION AND PEAK HEATER-CATHODE VOLTAGE CAPABILITY, THE 6BK4B IS ELECTRICALLY AND MECHANICALLY SIMILAR TO THE 6BK4A, AND IS UNILATERALLY INTERCHANGEABLE WITH THE 6BK4 AND THE 6BK4A.

DIRECT INTERELECTRODE CAPACITANCES

WITHOUT EXTERNAL SHIELD

GRID TO PLATE	0.03	pf
GRID TO CATHODE AND HEATER	2.6	pf
PLATE TO CATHODE AND HEATER	1.0	pf

HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM VALUES – SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	6.3 VOLTS	200	mA
LIMITS OF APPLIED VOLTAGE-AC OR DC		6.3±0.6	VOLTS
HEATER-CATHODE VOLTAGE:			
HEATER NEGATIVE WITH RESPECT TO CATHODE		450	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE		NOT RECOMMENDED	

MAXIMUM RATINGS

DESIGN MAXIMUM VALUES – SEE EIA STANDARD RS-239

SHUNT VOLTAGE-REGULATOR SERVICE

DC PLATE VOLTAGE	27,000	VOLTS
UNREGULATED DC SUPPLY VOLTAGE	60,000	VOLTS
GRID VOLTAGE:		
NEGATIVE DC VALUE	135	VOLTS
NEGATIVE PEAK VALUE FOR 20 SECONDS MAX. DURING EQUIPMENT WARM-UP	440	VOLTS

PRINTED IN U.S.A.

CONTINUED FROM PRECEDING PAGE

MAXIMUM RATINGS (Continued)

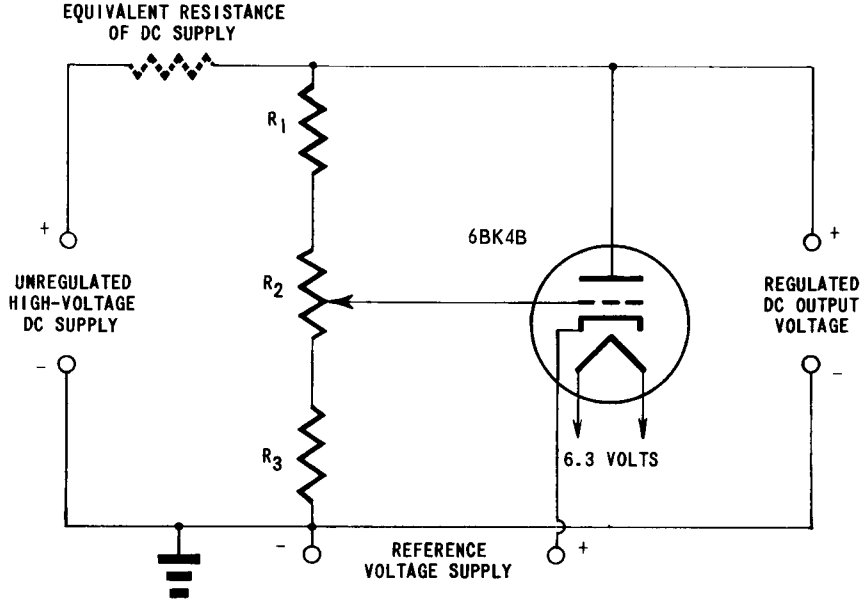
DC PLATE CURRENT	1.6	VOLTS
PLATE DISSIPATION	40	WATTS
GRID-CIRCUIT RESISTANCE	3	MEGOHMS

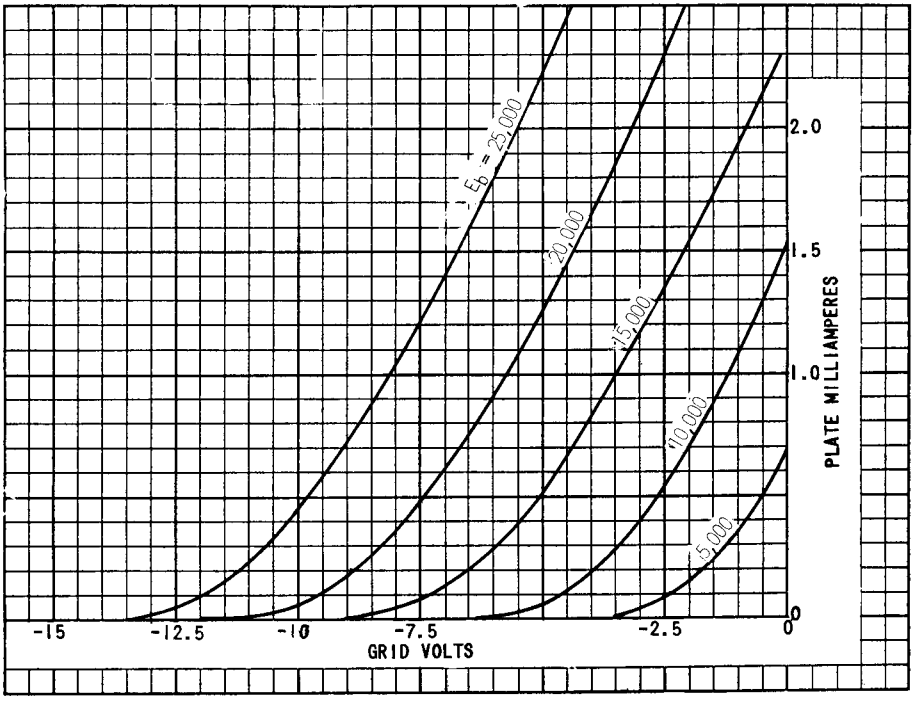
TYPICAL OPERATION

AS SHUNT VOLTAGE-REGULATOR TUBE IN ACCOMPANYING CIRCUIT

UNREGULATED SUPPLY:		
DC VOLTAGE	36,000	VOLTS
EQUIVALENT RESISTANCE	11	MEGOHMS
VOLTAGE DIVIDER VALUES:		
R_1 (5 WATTS)	220	MEGOHMS
R_2 (2 WATTS)	1	MEGOHM
R_3 (1/3 WATT)	0.82	MEGOHM
REFERENCE VOLTAGE SUPPLY:		
DC VALUE	200	VOLTS
EQUIVALENT RESISTANCE	1,000	OHMS
EFFECTIVE GRID-PLATE TRANSCONDUCTANCE	200	μMHOS
DC PLATE CURRENT:		
FOR LOAD CURRENT OF 0 mA	1,000	μA
FOR LOAD CURRENT OF 1 mA	45	μA
REGULATED DC OUTPUT VOLTAGE:		
FOR LOAD CURRENT OF 0 mA	25,000	VOLTS
FOR LOAD CURRENT OF 1 mA	24,500	VOLTS

SHUNT VOLTAGE-REGULATOR CIRCUIT




E_b = 25,000
20,000
15,000
10,000
5,000
2.0
1.5
1.0
0
PLATE MILLIAMPERES
-15
-12.5
-10
-7.5
-2.5
0
GRID VOLTS