TUNG-SOL

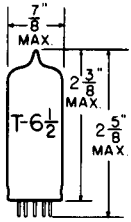
DOUBLE TRIODE

MINIATURE TYPE

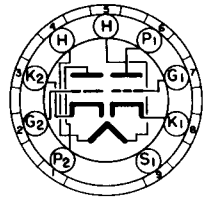
COATED UNIPOTENTIAL CATHODE

HEATER
6.3±10% VOLTS 0.6 AMP.
AC OR DC

ANY MOUNTING POSITION



GLASS BULB



BOTTOM VIEW
SMALL BUTTON NOVAL
9 PIN BASE
9AJ

THE 6CG7 IS A GENERAL PURPOSE, MEDIUM-MU TWIN TRIODE USING THE 9 PIN MINIATURE CONSTRUCTION. IT IS INTENDED PARTICULARLY FOR USE AS A VERTICAL DEFLECTION OSCILLATOR AND HORIZONTAL DEFLECTION OSCILLATOR IN TELEVISION RECEIVERS. THIS TYPE IS DESIGNED WITH A 600 MA. HEATER HAVING A CONTROLLED WARM-UP TIME TO INSURE DEPENDABLE PERFORMANCE IN TELEVISION RECEIVERS EMPLOYING A SINGLE SERIES-CONNECTED HEATER STRING INCLUDING THE HEATER OF THE PICTURE TUBE. IT MAY ALSO BE USED AS A PHASE INVERTER, MULTIVIBRATOR, SYNCHRONIZING SEPARATOR AND AMPLIFIER, AND RESISTANCE COUPLED AMPLIFIER IN ELECTRONIC EQUIPMENT.

DIRECT INTERELECTRODE CAPACITANCES – APPROX.

WITH NO EXTERNAL SHIELD

	UNIT 1	UNIT 2	
GRID TO PLATE: G TO P	4.0	4.0	μμf
INPUT: G TO (K+H&IS)	2.3	2.3	μμf
OUTPUT: P TO (K+H&IS)	2.2	2.2	μμf

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

EACH UNIT

	CLASS A_1 AMPLIFIER	
HEATER VOLTAGE	6.3±10% ←	VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE:		
HEATER NEGATIVE WITH RESPECT TO CATHODE	200	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE[A]	200	VOLTS
MAXIMUM PLATE VOLTAGE	330 ←	VOLTS
MAXIMUM GRID VOLTAGE:		
POSITIVE BIAS VALUE	0	VOLTS
MAXIMUM PLATE DISSIPATION:		
EACH PLATE	4.0 ←	WATTS
BOTH PLATES (BOTH UNITS OPERATING)	5.7 ←	WATTS
MAXIMUM CATHODE CURRENT	22 ←	MA.
MAXIMUM GRID CIRCUIT RESISTANCE:		
FIXED BIAS OPERATION	1.0	MEGOHMS
HEATER WARM-UP TIME (APPROX.)[B]	11.0	SECONDS

[A] THE DC COMPONENT MUST NOT EXCEED 100 VOLTS.

[B] 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

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

RATINGS[C]– CONT'D

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM

EACH UNIT

	VERTICAL DEFLECTION OSCILLATOR	HORIZONTAL DEFLECTION OSCILLATOR	
HEATER VOLTAGE	6.3±10% ←		VOLTS
MAXIMUM PEAK HEATER CATHODE VOLTAGE:			
HEATER NEGATIVE WITH RESPECT TO CATHODE	200		VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE	200[D]		VOLTS
MAXIMUM DC PLATE VOLTAGE	330 ←	330 ←	VOLTS
MAXIMUM NEGATIVE PULSE GRID VOLTAGE	440[E] ←	660[F] ←	VOLTS
MAXIMUM CATHODE CURRENT:			
PEAK	77 ←	330 ←	MA.
DC	22 ←	22 ←	MA.
MAXIMUM PLATE DISSIPATION:			
EACH PLATE	4.0 ←	4.0 ←	WATTS
BOTH PLATES (BOTH UNITS OPERATING)	5.7 ←	5.7 ←	WATTS
MAXIMUM GRID CIRCUIT RESISTANCE:			
FIXED BIAS, GRID-RESISTOR BIAS OR CATHODE-BIAS OPERATION	2.2	2.2	MEGOHMS
HEATER WARM-UP TIME (APPROX.)[G]	11.0		SECONDS

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

[D] THE DC COMPONENT MUST NOT EXCEED 100 VOLTS.

[E] THIS RATING IS APPLICABLE WHERE THE DURATION OF THE VOLTAGE PULSE DOES NOT EXCEED 15 PERCENT OF ONE VERTICAL SCANNING CYCLE. IN A 525-LINE, 30-FRAME SYSTEM; 15 PERCENT OF ONE VERTICAL SCANNING CYCLE IS 2.5 MILLISECONDS.

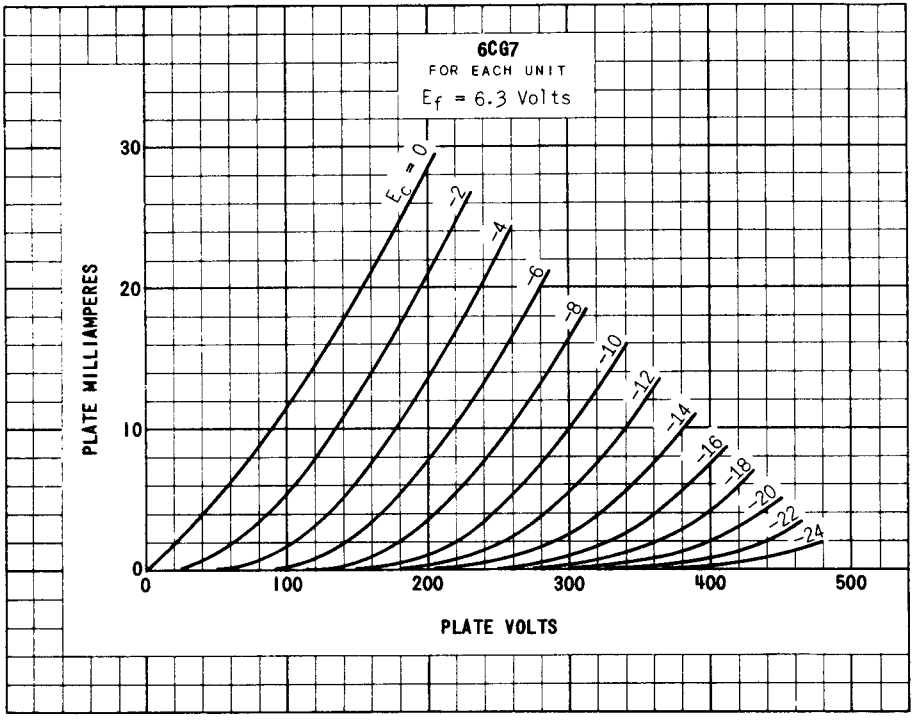
[F] THIS RATING IS APPLICABLE WHERE THE DURATION OF THE VOLTAGE PULSE DOES NOT EXCEED 15 PERCENT OF ONE HORIZONTAL SCANNING CYCLE IN A 525-LINE, 30-FRAME SYSTEM; 15 PERCENT OF ONE HORIZONTAL SCANNING CYCLE IS 10 MICROSECONDS.

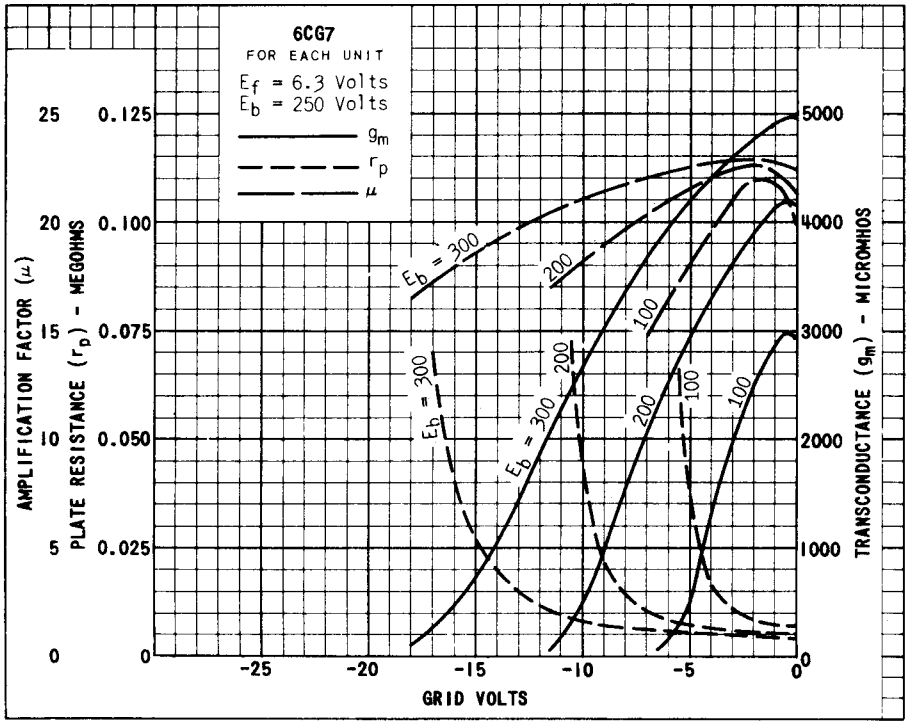
[G] HEATER WARM-UP TIME IS DEFINED AS THE TIME REQUIRED FOR THE VOLTAGE ACROSS THE HEATER TO REACH 80% OF ITS RATED VOLTAGE AFTER APPLYING 4 TIMES RATED HEATER VOLTAGE TO A CIRCUIT CONSISTING OF THE TUBE HEATER IN SERIES WITH A RESISTANCE OF VALUE 3 TIMES THE NOMINAL HEATER OPERATING RESISTANCE.

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

EACH UNIT

	CLASS A_1 AMPLIFIER		
HEATER VOLTAGE	6.3±10%		VOLTS
HEATER CURRENT	0.6		AMP.
PLATE VOLTAGE	90	250	VOLTS
GRID VOLTAGE	0	-8	VOLTS
AMPLIFICATION FACTOR	20	20	
PLATE RESISTANCE (APPROX.)	6700	7700	OHMS
TRANSCONDUCTANCE	3000	2600	μMHOS
GRID VOLTAGE (APPROX.)			
FOR I_b = 10 μAMP.	-7	-18	VOLTS
PLATE CURRENT OR GRID VOLTAGE OF -12.5 VOLTS	---	1.3	MA.
PLATE CURRENT	10	9	MA.


6CG7
FOR EACH UNIT
E_f = 6.3 Volts
PLATE MILLIAMPERES
PLATE VOLTS
E_c = 0
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20
-22
-24
0
10
20
30
100
200
300
400
500


6CG7
FOR EACH UNIT
E_f = 6.3 Volts
E_b = 250 Volts
g_m
r_p
μ
AMPLIFICATION FACTOR (μ)
PLATE RESISTANCE (r_p) - MEGOHMS
TRANSCONDUCTANCE (g_m) - MICROMHOS
GRID VOLTS
E_b = 300
200
100
0
5
10
15
20
25
0.025
0.050
0.075
0.100
0.125
1000
2000
3000
4000
5000
-25
-20
-15
-10
-5