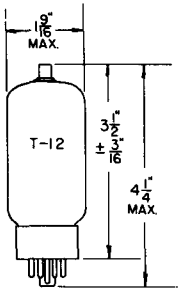
TUNG-SOL

BEAM POWER PENTODE

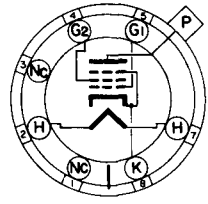


GLASS BULB
SKIRTED MINIATURE CAP

UNIPOTENTIAL CATHODE

HEATER
25.0 VOLTS 0.30 AMP.
AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW
SHORT MEDIUM-SHELL
7 PIN OCTAL
WITH EXTERNAL BARRIERS

6AM

THE 25DQ6A IS A HIGH-PERVEANCE BEAM POWER PENTODE DESIGNED FOR USE AS A HORIZONTAL DEFLECTION AMPLIFIER TUBE IN HIGH EFFICIENCY DEFLECTION CIRCUITS OF 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 TUBES WHICH ARE SIMILARLY CONTROLLED. EXCEPT FOR THE CONTROLLED HEATER WARM-UP TIME AND HEATER RATINGS THE 25DQ6A IS IDENTICAL TO THE 6DQ6A.

DIRECT INTERELECTRODE CAPACITANCES—APPROX.
WITHOUT EXTERNAL SHIELD

GRID #1 TO PLATE	0.55	μμf
GRID #1 TO CATHODE & GRID #3, HEATER AND GRID #2	15	μμf
PLATE TO CATHODE & GRID #3, HEATER AND GRID #2	7	μμf

RATINGS [A]
INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM
HORIZONTAL DEFLECTION AMPLIFIER

HEATER VOLTAGE	25.0	VOLTS
MAXIMUM PLATE VOLTAGE:		
DC (INCLUDING BOOST)	700	VOLTS
PEAK POSITIVE-PULSE (ABSOLUTE MAX.) [B]	6 000 [C]	VOLTS
PEAK NEGATIVE-PULSE [B]	1 375	VOLTS
MAXIMUM DC GRID #2 VOLTAGE	200	VOLTS
MAXIMUM GRID #1 VOLTAGE:		
DC	−50	VOLTS
PEAK NEGATIVE-PULSE	300	VOLTS
MAXIMUM CATHODE CURRENT:		
DC	140	MA.
PEAK	440	MA.
MAXIMUM GRID #2 INPUT	3	WATTS

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

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

[C] UNDER NO CIRCUMSTANCES SHOULD THIS ABSOLUTE VALUE BE EXCEEDED.

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

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RATINGS[A]– CONT'D.

INTERPRETED ACCORDING TO DESIGN CENTER SYSTEM

HORIZONTAL DEFLECTION AMPLIFIER

MAXIMUM PLATE DISSIPATION[D]	15	WATTS
MAXIMUM PEAK HEATER–CATHODE VOLTAGE:		
HEATER NEGATIVE WITH RESPECT TO CATHODE		
TOTAL DC AND PEAK	200	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE		
DC COMPONENT	100	VOLTS
TOTAL DC AND PEAK	200	VOLTS
MAXIMUM BULB TEMPERATURE (AT HOTTEST POINT ON BULB SURFACE)	220	°C
MAXIMUM CIRCUIT VALUES:		
GRID #1 CIRCUIT RESISTANCE:		
FOR GRID RESISTOR–BIAS OPERATION[D]	1.0	MEGOHM
HEATER WARM–UP TIME (AVERAGE)*	11.0	SECONDS

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A_1 AMPLIFIER

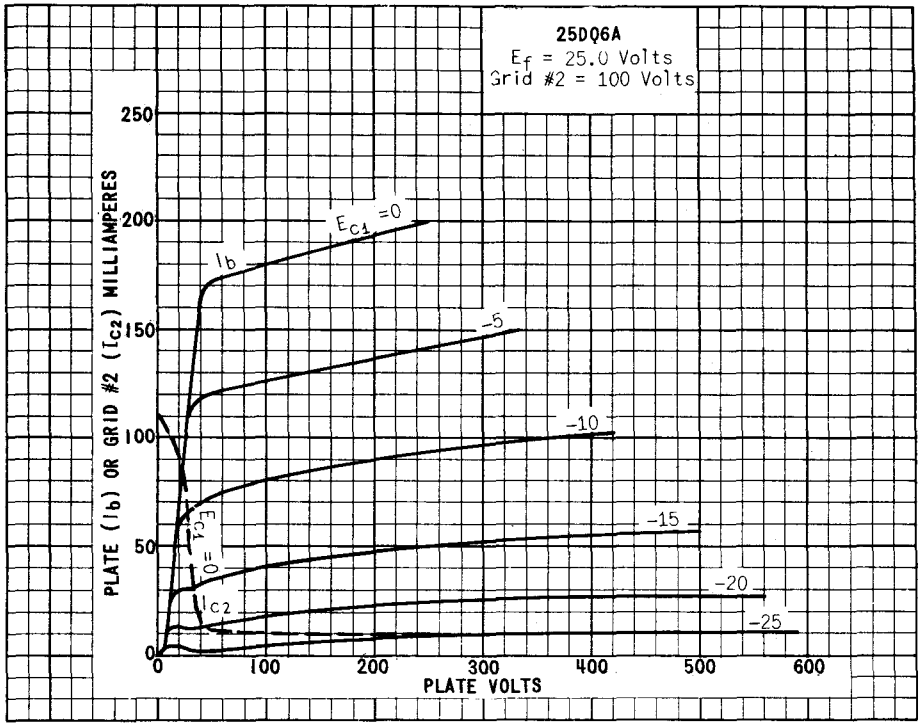
HEATER VOLTAGE	25.0	25.0	25.0	VOLTS
HEATER CURRENT	0.30	0.30	0.30	AMP.
PLATE VOLTAGE	60	150	250	VOLTS
GRID #2 VOLTAGE	150	150	150	VOLTS
GRID #1 VOLTAGE	0	-22.5	-22.5	VOLTS
MU–FACTOR, GRID #2 TO GRID #1	---	4.1	---	
PLATE RESISTANCE (APPROX.)	---	---	20 000	OHMS
TRANSCONDUCTANCE	---	---	6 600	μMHOS
PLATE CURRENT	300[E]	---	75	MA.
GRID #2 CURRENT	27[E]	---	2.4	MA.
GRID #1 VOLTAGE (APPROX.) FOR PLATE CURRENT OF 1 MA.	---	---	-46	VOLTS

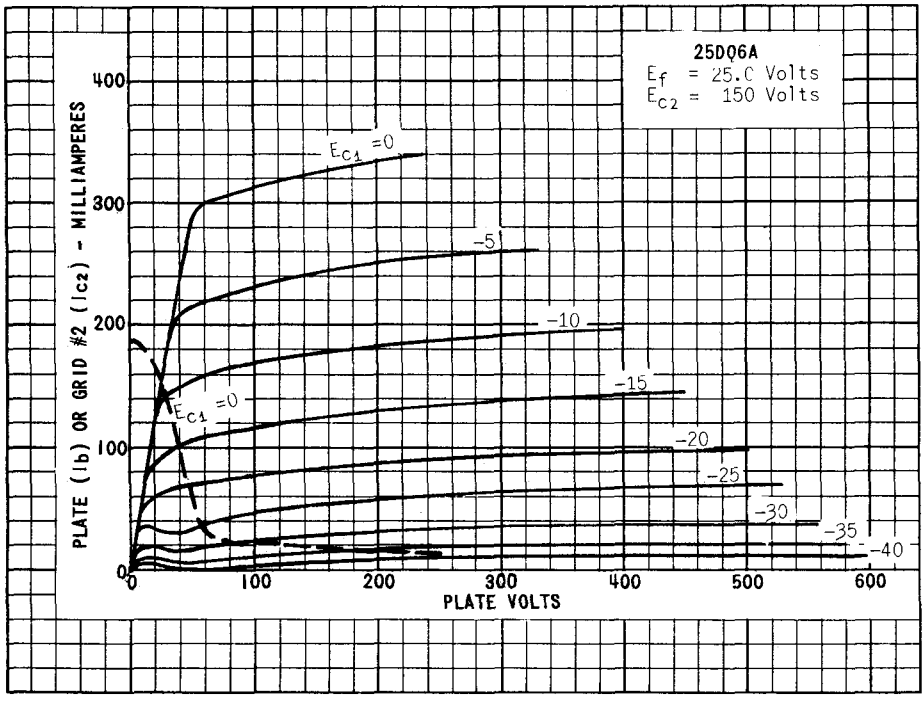
[A] FOR OPERATION IN A 525–LINE, 30–FRAME SYSTEM AS DESCRIBED IN "STANDARDS OF GOOD ENGINEERING PRACTICE FOR TELEVISION BROADCAST STATIONS; FEDERAL COMMUNICATIONS COMMISSION".

[D] IT IS ESSENTIAL THAT THE PLATE DISSIPATION BE LIMITED IN THE EVENT OF LOSS OF GRID SIGNAL. FOR THIS PURPOSE, SOME PROTECTIVE MEANS SUCH AS A CATHODE RESISTOR OF SUITABLE VALUE SHOULD BE EMPLOYED.

[E] THESE VALUES CAN BE MEASURED BY A METHOD INVOLVING A RECURRENT WAVEFORM SUCH THAT THE PLATE DISSIPATION AND GRID #2 INPUT WILL BE KEPT WITHIN RATINGS IN ORDER TO PREVENT DAMAGE TO THE TUBE.

* 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.


25DQ6A
Ef = 25.0 Volts
Grid #2 = 100 Volts
PLATE (Ib) OR GRID #2 (Ic2) MILLIAMPERES
PLATE VOLTS
Ib
Ec1 =0
-5
-10
-15
-20
-25
Ec1 =0
Ic2
0
50
100
150
200
250
0
100
200
300
400
500
600


25DQ6A
Ef = 25.0 Volts
Ec2 = 150 Volts
PLATE (Ib) OR GRID #2 (Ic2) - MILLIAMPERES
PLATE VOLTS
Ec1 =0
-5
-10
-15
-20
-25
-30
-35
-40
Ec1 =0
0
100
200
300
400
0
100
200
300
400
500
600