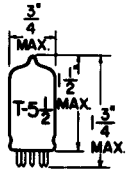
TUNG-SOL

THYRATRON
MINIATURE TYPE



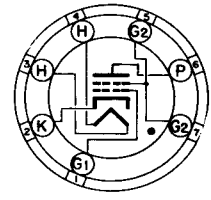
GLASS BULB

HEATER

6.3±10% VOLTS 0.15 AMP.

AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW
MINIATURE BUTTON
7 PIN BASE
7BN

THE 5696 IS A XENON FILLED, FOUR ELECTRODE THYRATRON WITH NEGATIVE CONTROL CHARACTERISTICS. IT HAS FOUND WIDE USAGE AS A SWITCHING TUBE, AND IN GRID CONTROLLED RECTIFIER SERVICE. BECAUSE OF ITS SHIELD GRID CONSTRUCTION, THE INPUT OF THE 5696 WILL WORK DIRECTELY FROM A HIGH IMPEDANCE SOURCE SUCH AS A PHOTOTUBE. THE EFFECTIVE ANODE TO CONTROL GRID CAPACITY MAY BE REDUCED BY CONNECTING PINS #5 & 7 TO #2 AND CONNECTING THE GRID RESISTOR DIRECTLY AT THE SOCKET TERMINAL. THE SMALL SIZE AND LIGHT WEIGHT OF THE 5696 AND ITS RELATIVE FREEDOM FROM TEMPERATURE RESTRICTIONS MAKE THIS TUBE PARTICULARLY SUITED FOR USE IN COMPACT EQUIPMENT.

ELECTRICAL DATA

HEATER VOLTAGE	6.3±10%	VOLTS
HEATER CURRENT (E_f = 6.3 VOLTS)	0.15	AMPS.
MINIMUM CATHODE HEATING TIME	10.	SECONDS
ANODE TO CONTROL GRID CAPACITANCE	0.03	μμf
CONTROL GRID TO CATHODE (& SHIELD GRID) CAPACITANCE	1.8	μμf
DE-IONIZATION TIME, APPROX. (SHIELD TIED TO CATHODE)		
WITH GRID VOLTS =-100, GRID RES. =1000 Ω		
ANODE VOLTS =500 ANODE CUR. .025 AMPS	25	μSEC.
WITH GRID VOLTS =-15 GRID RES. = 1000 Ω		
ANODE VOLTS =500 ANODE CUR. .025 AMPS	40	μSEC.
IONIZATION TIME (APPROX.)	0.5	μSEC.
ANODE VOLTAGE DROP (APPROX.)	10	VOLTS
MAXIMUM CRITICAL GRID CURRENT (AT E_{bb} = 350 V.RMS)	0.5	μAMPS.

MECHANICAL DATA

MOUNTING POSITION	ANY	
MAXIMUM OVERALL LENGTH	1.75	INCHES
MAXIMUM SEATED LENGTH	1.50	INCHES
MAXIMUM DIAMETER	0.75	INCHES
BULB	T-5 1/2	
BASE	MINIATURE BUTTON 7 PIN	
WEIGHT (NET)	0.3	OUNCES

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

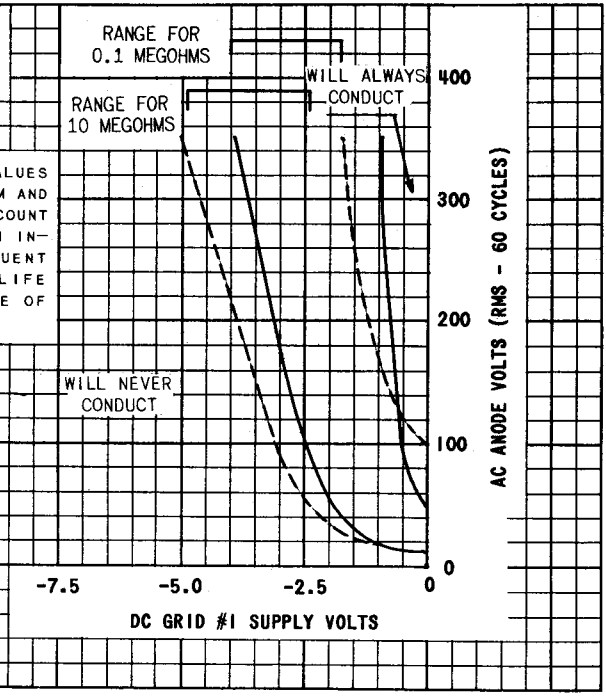
RATINGS
ABSOLUTE VALUES

MAXIMUM PEAK ANODE VOLTAGE		
INVERSE	500	VOLTS
FORWARD	500	VOLTS
MAXIMUM CATHODE CURRENT		
PEAK	100	MA.
AVERAGE	25	MA.
SURGE (MAX. DURATION 0.1 SECONDS)	2.0	AMP.
MAXIMUM AVERAGE TIME	30	SECONDS
MAXIMUM NEGATIVE CONTROL GRID VOLTAGE		
BEFORE CONDUCTION	−100	VOLTS
DURING CONDUCTION (AVERAGED OVER 30 SEC. MAX.)	−10	VOLTS
MAXIMUM POSITIVE CONTROL GRID CURRENT		
AVERAGE	5	MA.
MAXIMUM NEGATIVE SHIELD GRID VOLTAGE		
BEFORE CONDUCTION	−50	VOLTS
DURING CONDUCTION (AVERAGED OVER 30 SEC. MAX.)	−10	VOLTS
MAXIMUM POSITIVE SHIELD GRID CURRENT		
AVERAGE	5	MA.
MAXIMUM HEATER CATHODE VOLTAGE		
HEATER NEGATIVE	−100	VOLTS
HEATER POSITIVE	25	VOLTS
AMBIENT TEMPERATURE LIMITS	−75 TO 90	°C
MAXIMUM CONTROL GRID (G1) CIRCUIT RESISTANCE	10	MEGOHMS

5696

OPERATIONAL RANGE OF CRITICAL GRID VOLTAGE

RANGES SHOWN ARE FOR TWO VALUES OF GRID RESISTOR, 0.1 MEGOHM AND 10 MEGOHM, AND TAKE INTO ACCOUNT INITIAL DIFFERENCES BETWEEN INDIVIDUAL TUBES AND SUBSEQUENT DIFFERENCES DURING TUBE LIFE FOR A HEATER VOLTAGE RANGE OF 5.7 TO 6.9 VOLTS.



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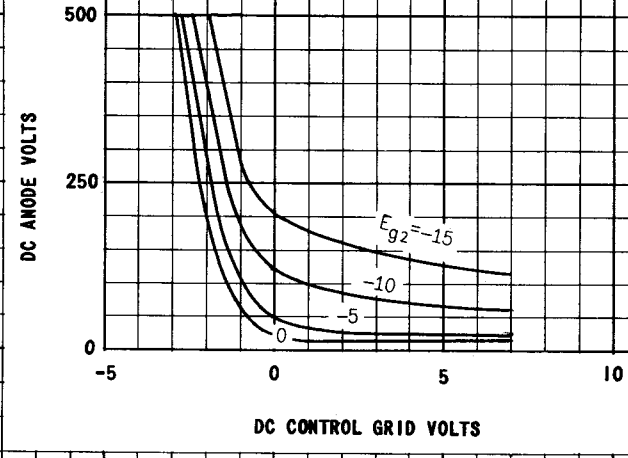
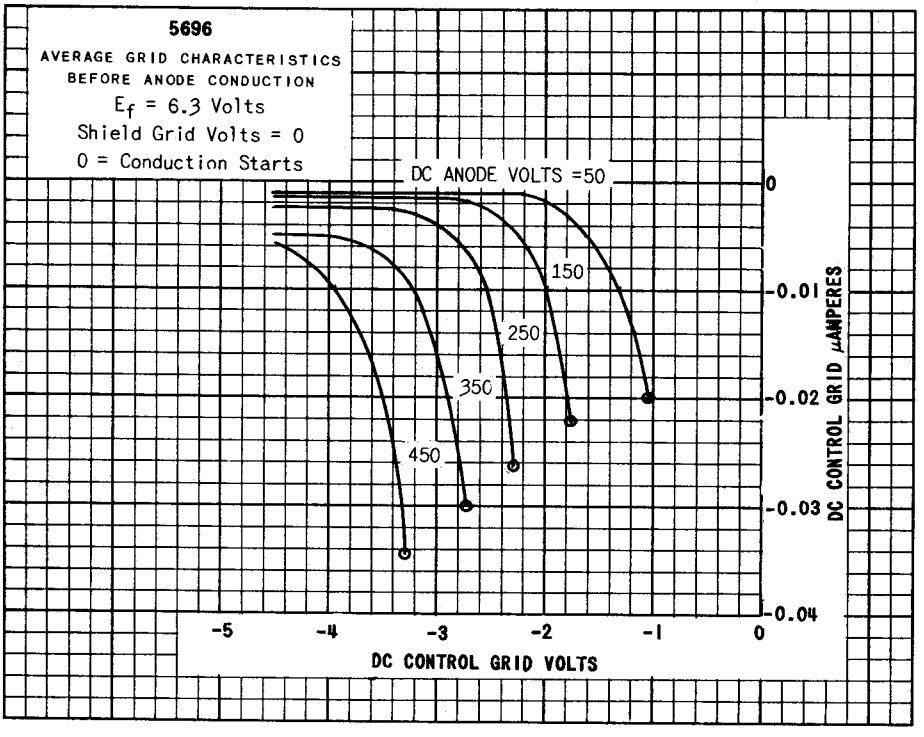
AVERAGE CONTROL CHARACTERISTICS

R_{g1} = 0.1 Megohms
R_{g2} = 0 Ohms

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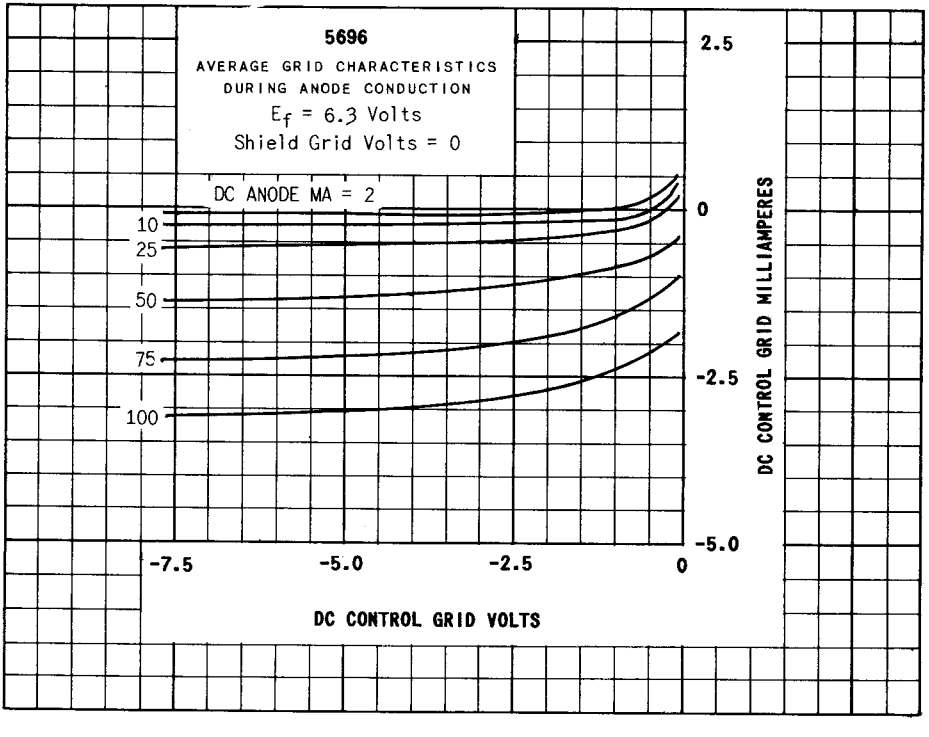
AVERAGE GRID CHARACTERISTICS
BEFORE ANODE CONDUCTION
E_f = 6.3 Volts
Shield Grid Volts = 0
0 = Conduction Starts
DC ANODE VOLTS =50
150
250
350
450
0
-0.01
-0.02
-0.03
-0.04
DC CONTROL GRID μAMPERES
-5
-4
-3
-2
-1
0
DC CONTROL GRID VOLTS


5696
AVERAGE GRID CHARACTERISTICS
DURING ANODE CONDUCTION
E_f = 6.3 Volts
Shield Grid Volts = 0
DC ANODE MA = 2
10
25
50
75
100
2.5
0
-2.5
-5.0
DC CONTROL GRID MILLIAMPERES
-7.5
-5.0
-2.5
0
DC CONTROL GRID VOLTS