

TUNG-SOL

THYRATRON

MINIATURE TYPE

PHYSICAL SPECIFICATIONS

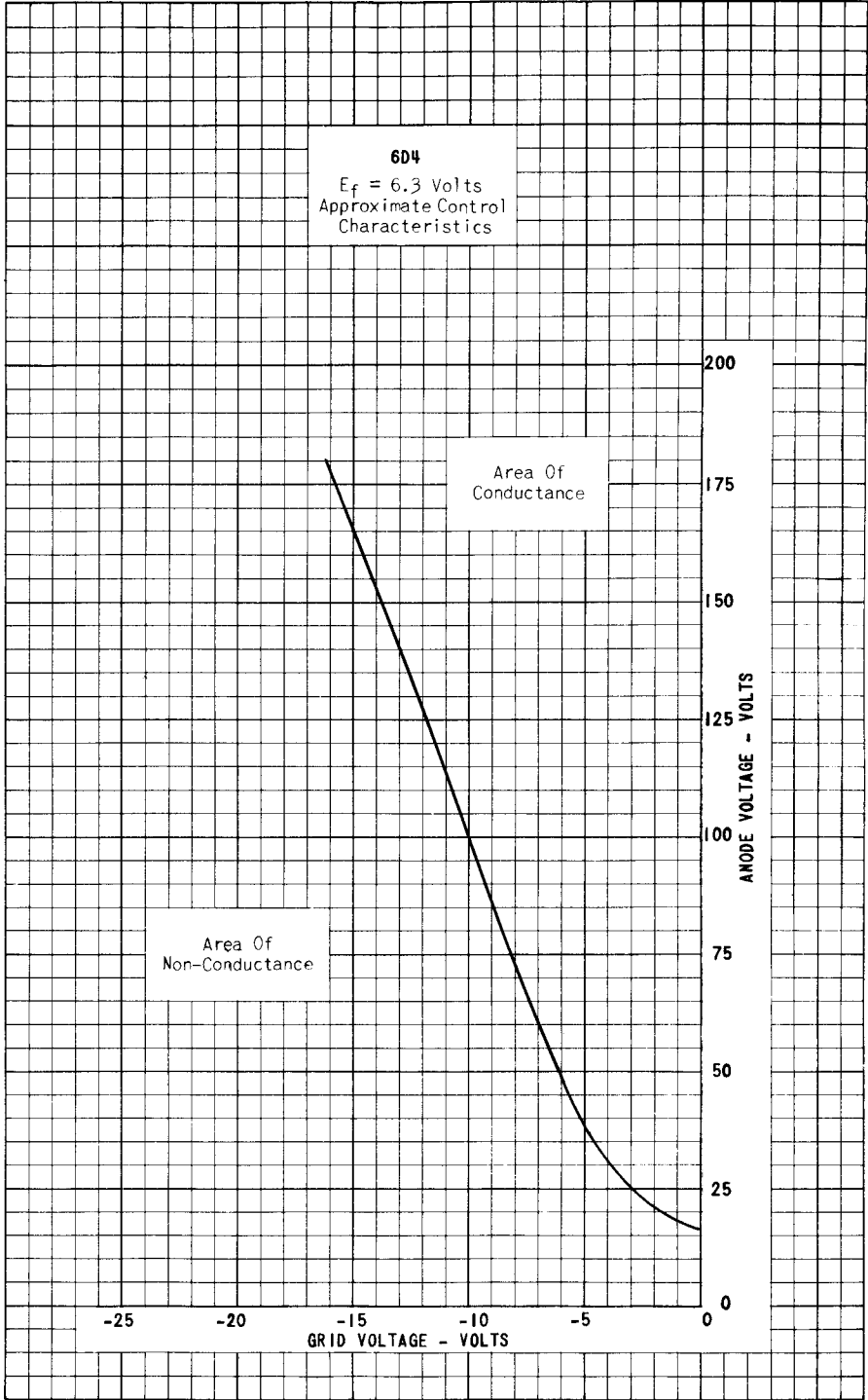
EMITTER COATED UNIP. CATHODE	PIN CONNECTIONS	
BASE MIN. BUTTON 7-PIN	PIN 1 GRID	PIN 7 PLATE
CAP	PIN 2 NO CONNECTION	PIN 8 NONE
BULB T-5 $\frac{1}{2}$	PIN 3 HEATER	
MAX. DIAMETER $\frac{3}{4}$ "	PIN 4 HEATER	MOUNTING POS. ANY
MAX. SEATED HEIGHT 1 $\frac{7}{8}$ "	PIN 5 CATHODE	
MAX. OVERALL LENGTH 2 $\frac{1}{8}$ "	PIN 6 NO CONNECTION	

RATINGS

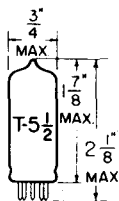
INTERPRETED ACCORDING TO RMA STANDARD M8-210

HEATER VOLTAGE (AC OR DC)	6.3	VOLTS
HEATER CURRENT	0.250	AMPERE
MINIMUM HEATING TIME	30	SECONDS
MAXIMUM VOLTAGE BETWEEN ELEMENTS	450	VOLTS
PEAK ANODE CURRENT	100	MA.
AVERAGE ANODE CURRENT ^A	25	MA.
TUBE VOLTAGE DROP AT 25 MA. (APPROX.)	16	VOLTS

^AAVERAGED OVER PERIOD OF 30 SECONDS MAXIMUM.



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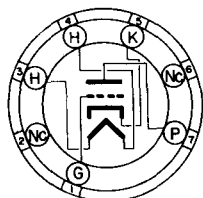
ARGON THYRATRON
MINIATURE TYPE

GLASS BULB

HEATER

6.3±10% VOLTS 0.25 AMP.

ANY MOUNTING POSITION



BOTTOM VIEW

SMALL MINIATURE BUTTON
7 PIN BASE

5 A7

THE 6D4 IS AN ARGON FILLED TRIODE THYRATRON WITH NEGATIVE CONTROL GRID CHARACTERISTICS. ALTHOUGH THE 6D4 HAS FOUND USE AS A RELAY TUBE AND SAW TOOTH OSCILLATOR, ITS PRINCIPAL APPLICATION HAS BEEN AS AN RF NOISE GENERATOR. BECAUSE OF ITS SMALL SIZE, LIGHT WEIGHT, AND RELATIVE FREEDOM FROM TEMPERATURE RESTRICTIONS, THIS TUBE IS SUITED PARTICULARLY FOR USE IN COMPACT OR PORTABLE EQUIPMENT.

ELECTRICAL DATA

HEATER VOLTAGE	6.3±10%	VOLTS
HEATER CURRENT ($E_f = 6.3$ VOLTS)	0.25	AMP.
MINIMUM CATHODE HEATING TIME	30	SECONDS
ANODE TO CONTROL GRID CAPACITANCE	2.6	μfd
CONTROL GRID TO CATHODE CAPACITANCE	1.2	μfd
ANODE TO CATHODE CAPACITANCE	1.0	μfd
HEATER TO CATHODE CAPACITANCE	2.9	μfd
ANODE VOLTAGE DROP (AT 100 MA dc) (APPROX.)	12	VOLTS
NOISE OUTPUT (VIDEO BAND WIDTH 4 MC. FIG. 2 CONDITIONS WITH $E_{dc} = 250V$ DC AND $R = 33,000$ OHM) (P TO P) (MIN.)	9	VOLTS

MECHANICAL DATA

MOUNTING POSITION	ANY	
AVERAGE WEIGHT	0.3	OZ.
MAXIMUM VIBRATION RATING ($D = .08"$, 25 CPS)	2.5	G.
BULB	T-5 1/2	
BASE	7 PIN MINIATURE BUTTON	

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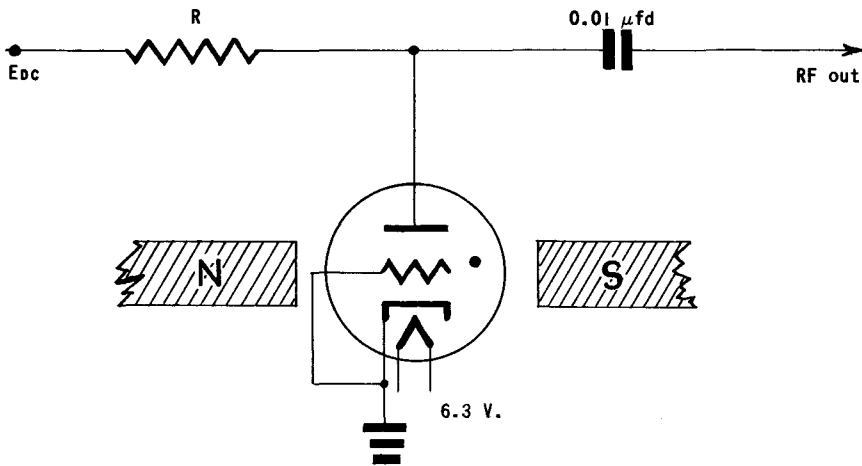
RATINGS
ABSOLUTE VALUES

	MINIMUM	MAXIMUM	
PEAK ANODE VOLTAGE			
FORWARD		350	VOLTS
INVERSE		350	VOLTS
DC PLATE SUPPLY VOLTAGE		250	VOLTS
CATHODE CURRENT			
PEAK		110	MA.
AVERAGE		25	MA.
AVERAGING TIME		30	SECONDS
NEGATIVE CONTROL GRID VOLTAGE	-150		
HEATER CATHODE VOLTAGE	-110	0	
AMBIENT TEMPERATURE	-55	90	°C
CONTROL GRID CIRCUIT RESISTANCE		0.5	MEGOHM

APPLICATION NOTES

THE TUBE CAN BE USED IN CONJUNCTION WITH A 375 GAUSS MAGNET AS AN R.F. NOISE GENERATOR. THE MAGNETIC FIELD IS APPLIED PERPENDICULAR TO THE NORMAL ELECTRON PATH IN SUCH A WAY AS TO DEFLECT THE ELECTRONS UPWARD (NORTH POLE OF THE MAGNET AT PIN 7). MINIMUM OUTPUT FIGURES LISTED, ARE AS MEASURED THROUGH A TUNED FILTER, 1000 CPS BANDWIDTH AT 3 db POINTS, WITH $R = 56,000$ OHMS, $E_{dc} = 300$ V DC.

TUNG-SOL



FREQUENCY IN MEGACYCLES	MINIMUM NOISE VOLTAGE IN MICROVOLTS RMS
0.1	10,000
0.2	14,000
0.5	25,000
1.0	22,000
2.0	7,000
5.0	500.
10.0	70

