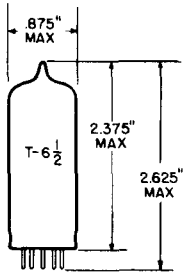
TUNG-SOL

DOUBLE TRIODE

MINIATURE TYPE



GLASS BULB

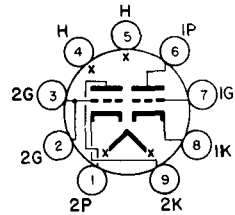
MINIATURE BUTTON
9 PIN BASE E9-1
OUTLINE DRAWING
JEDEC 6-3

COATED UNIPOTENTIAL CATHODE

HEATER

6.3 VOLTS 0.90 AMP.
AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW
BASING DIAGRAM
JEDEC 9HF

THE 6DE7 IS A MINIATURE DOUBLE TRIODE IN THE 9-PIN MINIATURE CONSTRUCTION. SECTION #1 IS INTENDED FOR USE AS A VERTICAL DEFLECTION OSCILLATOR HAVING MEDIUM MU AND SECTION #2 IS INTENDED FOR USE AS A VERTICAL DEFLECTION AMPLIFIER WITH LOW MU. EXCEPT FOR HEATER RATINGS AND HEATER WARM-UP TIME THE 6DE7 IS IDENTICAL TO THE 10DE7 AND 13DE7.

DIRECT INTERELECTRODE CAPACITANCES – APPROX.

GRID TO PLATE: (G TO P)	4.0	8.5	μμf
INPUT: G TO (H+K)	2.2	5.5	μμf
OUTPUT: P TO (H+K)	0.52	1.0	μμf

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM ←

VERTICAL DEFLECTION OSCILLATOR AND AMPLIFIER[A]

	TRIODE #1 OSCILLATOR	TRIODE #2 AMPLIFIER	
			VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE[B]			
HEATER NEGATIVE WITH RESPECT TO CATHODE			
TOTAL DC AND PEAK	200		VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE			
DC	100		VOLTS
TOTAL DC AND PEAK	200		VOLTS
MAXIMUM DC PLATE VOLTAGE	330	275	
MAXIMUM PEAK POSITIVE PULSE PLATE VOLTAGE (ABS. MAX.)	---	1500	VOLTS
MAXIMUM PEAK NEGATIVE PULSE GRID VOLTAGE	400	250	VOLTS
MAXIMUM PLATE DISSIPATION[C]	1.5	7.0	WATTS
MAXIMUM AVERAGE CATHODE CURRENT	22	50	MA.
MAXIMUM PEAK CATHODE CURRENT	77	175	MA.
MAXIMUM GRID CIRCUIT RESISTANCE SELF BIAS	2.2	2.2	MEGOHMS

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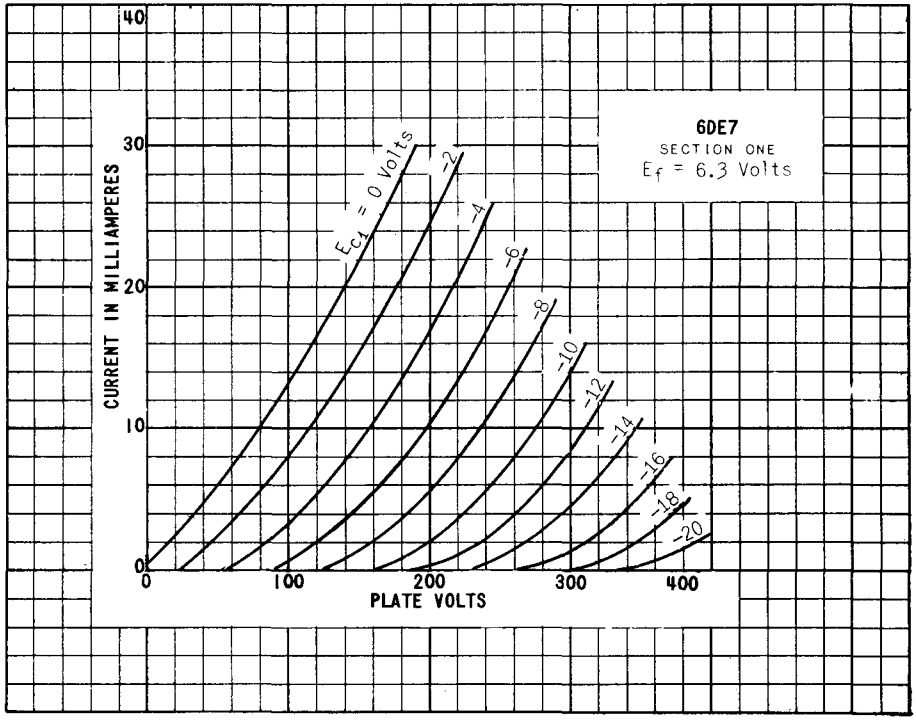
TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

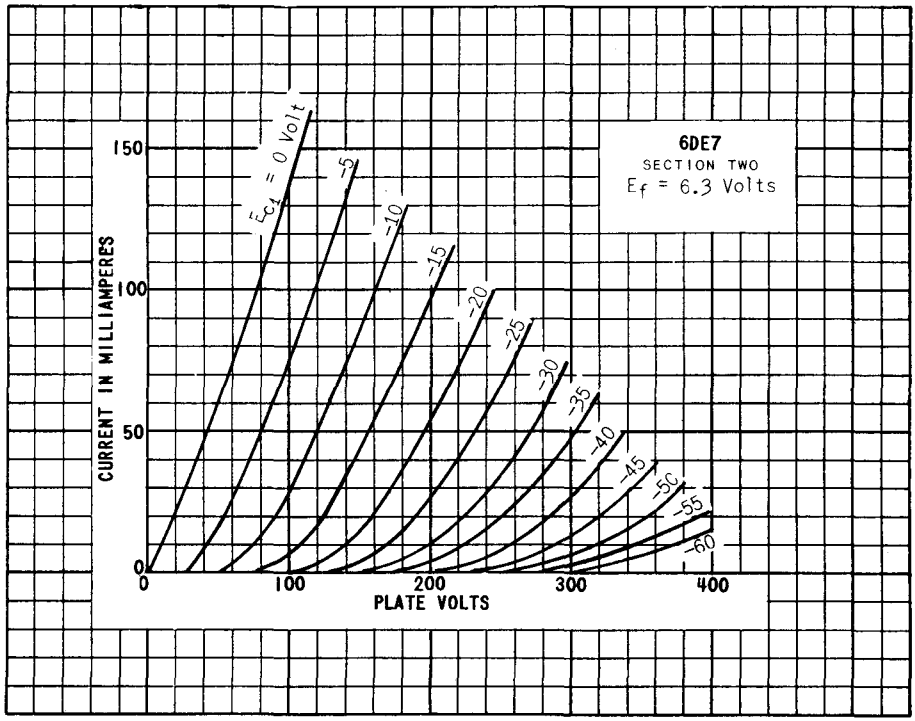
	TRIODE #1	TRIODE #2	
PLATE VOLTAGE	250	150	VOLTS
GRID #1 VOLTAGE	-11	-17.5	VOLTS
PLATE CURRENT	5.5	35	MA.
TRANSCONDUCTANCE	2000	6500	μMHOS
AMPLIFICATION FACTOR	17.5	6.0	
PLATE RESISTANCE (APPROX.)	8750	925	
GRID VOLTAGE FOR Ib = 10 μA	-20	---	VOLTS
GRID VOLTAGE FOR Ib = 50 μA	---	-44	VOLTS
PLATE CURRENT AT Ec =-24 Vdc	---	10	MA.
ZERO BIAS PLATE CURRENT Eb = 60V; Ec = 0 (INSTANTANEOUS VALUES))	---	80	MA.

[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", THE DUTY CYCLE OF THE VOLTAGE PULSE MUST NOT EXCEED 15% OF ONE SCANNING CYCLE.

[B] DESIGN-MAXIMUM RATINGS ARE THE LIMITING VALUES EXPRESSED WITH RESPECT TO BOGIE TUBES AT WHICH SATISFACTORY TUBE LIFE CAN BE EXPECTED TO OCCUR. TO OBTAIN SATISFACTORY CIRCUIT PERFORMANCE, THEREFORE, THE EQUIPMENT DESIGNER MUST ESTABLISH THE CIRCUIT DESIGN SO THAT NO DESIGN-MAXIMUM VALUE IS EXCEEDED WITH A BOGIE TUBE UNDER THE WORST PROBABLE OPERATING CONDITIONS WITH RESPECT TO SUPPLY-VOLTAGE VARIATION, EQUIPMENT COMPONENT VARIATION, EQUIPMENT CONTROL ADJUSTMENT, LOAD VARIATION, AND ENVIRONMENTAL CONDITIONS.

[C] IN STAGES OPERATING WITH GRID LEAK BIAS, AN ADEQUATE CATHODE BIAS RESISTOR OR OTHER SUITABLE MEANS IS REQUIRED TO PROTECT THE TUBE IN THE ABSENCE OF EXCITATION.


6DE7
SECTION ONE
Ef = 6.3 Volts
CURRENT IN MILLIAMPERES
PLATE VOLTS
0
10
20
30
40
100
200
300
400
Ec1 = 0 Volts
-2
-4
-6
-8
-10
-12
-14
-16
-18
-20


6DE7
SECTION TWO
Ef = 6.3 Volts
CURRENT IN MILLIAMPERES
PLATE VOLTS
0
50
100
150
200
300
400
Ec1 = 0 Volt
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-55
-60