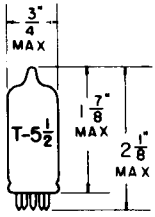
TUNG-SOL

TRIODE

MINIATURE TYPE



GLASS BULB

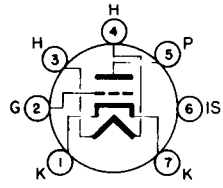
MINIATURE BUTTON 7 PIN BASE E7-1 OUTLINE DRAWING JEDEC 5-2

COATED UNIPOTENTIAL CATHODE

HEATER

2.8 VOLTS 0.45[8] AMP.

ANY MOUNTING POSITION



BOTTOM VIEW

BASING DIAGRAM JEDEC 7FP

THE 3FQ5A IS A SEMI-REMOTE CUTOFF TRIODE IN THE 7 PIN MINIATURE CONSTRUCTION. IT IS DESIGNED FOR USE AS A VHF AND RF AMPLIFIER AT A B+ OF 135 VOLTS. EXCEPT FOR HEATER RATINGS AND HEATER WARM-UP TIME, THE 3FQ5A IS IDENTICAL TO THE 2FQ5A AND THE 6FQ5A.

DIRECT INTERELECTRODE CAPACITANCES

WITH EXTERNAL SHIELD

GRID TO PLATE	0.52	pf
INPUT: G TO (H+K+I.S.+E.S.)	5.0	pf
OUTPUT: P TO (H+K+I.S.+E.S.)	3.5	pf
HEATER TO CATHODE	2.5	pf

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM[C]

HEATER VOLTAGE[D]	2.8	VOLTS
MAXIMUM PLATE VOLTAGE	200	VOLTS
MAXIMUM PLATE DISSIPATION	2.5	WATTS
MAXIMUM DC CATHODE CURRENT	22	MA.
MAXIMUM NEGATIVE GRID VOLTAGE	50	VOLTS
MAXIMUM GRID CIRCUIT RESISTANCE (SELF BIAS)	1.0	MEGOHMS
MAXIMUM HEATER-CATHODE VOLTAGE:		
HEATER NEGATIVE WITH RESPECT TO CATHODE		
TOTAL DC AND PEAK	100	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE		
TOTAL DC AND PEAK	100	VOLTS
HEATER WARM-UP TIME (APPROX.)*	11.0	SECONDS

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A_1 AMPLIFIER

HEATER VOLTAGE[D]	2.8	VOLTS
HEATER CURRENT[D]	0.45±.03	AMP.
PLATE VOLTAGE	135	VOLTS
GRID VOLTAGE	-1.2	VOLTS
PLATE CURRENT	8.9	MA.
TRANSCONDUCTANCE	12000	μMHOS
AMPLIFICATION FACTOR	74	
PLATE RESISTANCE (APPROX.)	6300	OHMS
Ec FOR Ib = 100 μA (APPROX.)	-4.5	VOLTS

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NOTES

[B] FOR SERIES/PARALLEL OPERATION OF HEATERS, EQUIPMENT SHOULD BE DESIGNED THAT AT NORMAL SUPPLY VOLTAGE BOGEY TUBES WILL OPERATE AT THIS VALUE OF HEATER/CURRENT VOLTAGE.

[C] DESIGN-MAXIMUM RATINGS ARE LIMITING VALUES OF OPERATING AND ENVIRONMENTAL CONDITIONS APPLICABLE TO A BOGEY ELECTRON DEVICE OF A SPECIFIED TYPE AS DEFINED BY ITS PUBLISHED DATA, AND SHOULD NOT BE EXCEEDED UNDER THE WORST PROBABLE CONDITIONS. THE DEVICE MANUFACTURER CHOOSES THESE VALUES TO PROVIDE ACCEPTABLE SERVICEABILITY OF THE DEVICE, TAKING RESPONSIBILITY FOR THE EFFECTS OF CHANGES IN OPERATING CONDITIONS DUE TO VARIATIONS IN DEVICE CHARACTERISTICS. THE EQUIPMENT MANUFACTURER SHOULD DESIGN SO THAT INITIALLY AND THROUGHOUT LIFE NO DESIGN-MAXIMUM VALUE FOR THE INTENDED SERVICE IS EXCEEDED WITH A BOGEY DEVICE UNDER THE WORST PROBABLE OPERATING CONDITIONS WITH RESPECT TO SUPPLY-VOLTAGE VARIATION, EQUIPMENT COMPONENT VARIATION, EQUIPMENT CONTROL ADJUSTMENT, LOAD VARIATION, SIGNAL VARIATION, AND ENVIRONMENTAL CONDITIONS.

[D] HEATER VOLTAGE SUPPLY VARIATIONS SHALL BE RESTRICTED TO MAINTAIN HEATER VOLTAGE/CURRENT WITHIN THE SPECIFIED TOLERANCE.

*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.