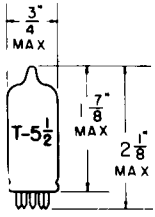
TUNG-SOL

TRIODE

MINIATURE TYPE



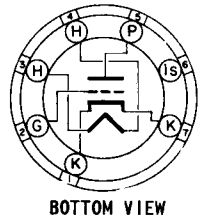
GLASS BULB

COATED UNIPOTENTIAL CATHODE

HEATER

3.0 VOLTS 0.45±6% AMP.

ANY MOUNTING POSITION



BOTTOM VIEW

SMALL BUTTON MINIATURE
7 PIN BASE

7FP

THE 3ES5 IS A TRIODE TUNER IN THE 7 PIN MINIATURE CONSTRUCTION. IT IS DESIGNED FOR USE IN GROUNDED CATHODE RF AMPLIFIERS. EXCEPT FOR HEATER RATINGS AND HEATER WARM-UP TIME, THE 3ES5 IS IDENTICAL TO THE 2ES5 AND THE 6ES5.

DIRECT INTERELECTRODE CAPACITANCES

	WITH SHIELD[A]	WITHOUT SHIELD	
GRID TO PLATE: G TO P (MAX.)	0.5	0.5	μμf
INPUT: G TO (H+K+I.S.)	3.2	3.2	μμf
OUTPUT: P TO(H+K+I.S.)	4.0	3.2	μμf

[A] WITH EXTERNAL SHIELD #316 CONNECTED TO PIN 1.

RATINGS

INTERPRETED ACCORDING TO DESIGN MAXIMUM SYSTEM[B]

HEATER VOLTAGE	3.0	VOLTS
MAXIMUM PLATE VOLTAGE	250	VOLTS
MAXIMUM POSITIVE GRID VOLTAGE	0	VOLTS
MAXIMUM PLATE DISSIPATION	2.2	WATTS
MAXIMUM DC CATHODE CURRENT	22	MA.
MAXIMUM GRID CIRCUIT RESISTANCE	1.0	MEGOHM
MAXIMUM HEATER-CATHODE VOLTAGE: (TOTAL DC AND PEAK)		
HEATER NEGATIVE WITH RESPECT TO CATHODE	100	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE	100	VOLTS
HEATER WARM-UP TIME (APPROX.)*	11.0	SECONDS

CONTINUED ON FOLLOWING PAGE

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

CLASS A_1 AMPLIFIER

HEATER VOLTAGE	3.0	VOLTS
HEATER CURRENT	0.45±6%	AMP.
PLATE VOLTAGE	200	VOLTS
GRID VOLTAGE	-1.0	VOLT
PLATE RESISTANCE (APPROX.)	8000	OHMS
TRANSCONDUCTANCE	9000	μMHOS
AMPLIFICATION FACTOR	75	
PLATE CURRENT	10	MA.
GRID VOLTAGE (APPROX.) FOR 100 μA PLATE CURRENT	-6.0	VOLTS

*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.

[B] 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.