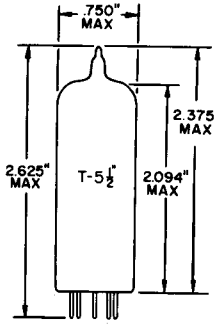
TUNG-SOL

PENTODE

MINIATURE TYPE

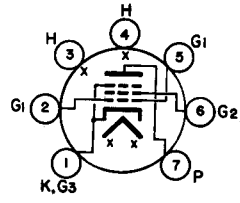


GLASS BULB
MINIATURE BUTTON
7 PIN BASE E7-1
OUTLINE DRAWING
JEDEC 5-3

COATED UNIPOTENTIAL CATHODE

AUDIO POWER AMPLIFIER
FOR SERIES STRING OPERATION

ANY MOUNTING POSITION



BOTTOM VIEW
BASING DIAGRAM
JEDEC 7CV

THE 40FR5 IS A POWER PENTODE IN THE 7 PIN MINIATURE CONSTRUCTION. IT IS DESIGNED FOR SERVICE AS AN AUDIO POWER AMPLIFIER.

DIRECT INTERELECTRODE CAPACITANCES

WITHOUT EXTERNAL SHIELD

GRID #1 TO PLATE	0.3	pf
INPUT: G_1 TO $(K+G_3+G_2+H)$	12	pf
OUTPUT: P TO $(K+G_3+G_2+H)$	9.0	pf

HEATER CHARACTERISTICS AND RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	40 VOLTS	100	MA.
HEATER SUPPLY LIMITS:			
CURRENT OPERATION		100±6	MA.
MAXIMUM HEATER-CATHODE VOLTAGE:			
HEATER NEGATIVE WITH RESPECT TO CATHODE			
TOTAL DC AND PEAK		200	VOLTS
HEATER POSTIVE WITH RESPECT TO CATHODE			
DC		100	VOLTS
TOTAL DC AND PEAK		200	VOLTS
HEATER WARM-UP TIME [A]		20	SECONDS

MAXIMUM RATINGS

DESIGN MAXIMUM VALUES - SEE EIA STANDARD RS-239

CLASS A_1 AMPLIFIER

PLATE VOLTAGE	150	VOLTS
GRID #2 VOLTAGE	130	VOLTS
PLATE DISSIPATION	5.2	WATTS
GRID #2 DISSIPATION	1.2	WATTS
GRID #1 CIRCUIT RESISTANCE:		
FIXED BIAS	0.1	MEGOHM
CATHODE BIAS	0.5	MEGOHM

CONTINUED ON FOLLOWING PAGE

CONTINUED FROM PRECEDING PAGE

TYPICAL OPERATING CHARACTERISTICS

PLATE VOLTAGE	115	110	VOLTS
GRID #2 VOLTAGE	115	110	VOLTS
GRID #1 VOLTAGE	---	-7.5	VOLTS
CATHODE RESISTOR	180	---	OHMS
PEAK AF GRID #1 VOLTAGE	7.0	7.5	VOLTS
ZERO-SIGNAL PLATE CURRENT	34	32	MA.
MAX.-SIGNAL PLATE CURRENT	31	35	MA.
ZERO-SIGNAL GRID #2 CURRENT	3.2	3	MA.
MAX.-SIGNAL GRID #2 CURRENT	7.	7.5	MA.
TRANSCONDUCTANCE	---	6000	μMHOS
PLATE RESISTANCE, APPROX.	---	20,000	OHMS
LOAD RESISTANCE	3200	2800	OHMS
MAX.-SIGNAL POWER OUTPUT	1.3	1.5	WATTS
TOTAL HARMONIC DISTORTION	10	10	PERCENT

A
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.