

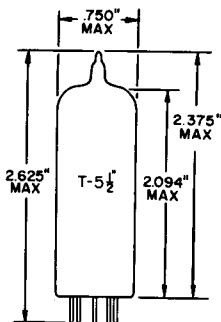
TUNG-SOL

PENTODE
MINIATURE TYPE

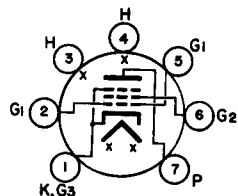
COATED UNIPOTENTIAL CATHODE

AUDIO POWER AMPLIFIER
FOR SERIES STRING OPERATION

ANY MOUNTING POSITION



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



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		200	VOLTS
TOTAL DC AND PEAK		100	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE		200	VOLTS
DC		200	VOLTS
TOTAL DC AND PEAK		20	SECONDS
HEATER WARM-UP TIME ^A			

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

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TUNG-SOL

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.