

SEMI-REMOTE-CUTOFF PENTODE TYPES 3HT6, 4HT6 AND 6HT6

The 3HT6, 4HT6 and 6HT6 are semi-remote-cutoff, 9-pin miniature, frame-grid pentode types designed for service in television receiver I.F. amplifier stages. They feature very high transconductance and low interelectrode capacitance values. The cathode has 2 terminals to increase the input impedance at high frequencies. Grid 3 has a separate pin to facilitate grounding. Their semi-remote cutoff characteristic is desirable for use in a g c controlled stages.

The 3HT6 and 4HT6 have been designed for use in receivers which employ series connected heaters, especially in television receivers where the picture-tube heater is in series with other heaters. When each is employed in this type of circuit with other tubes similarly designed having the same heater current rating, heater voltage surges across individual tubes are minimized inasmuch as heater warm-up characteristic is controlled.

ELECTRICAL

Cathode.....	Coated Unipotential			
Heater:	3HT6	4HT6	6HT6	
Voltage (ac or dc)	3.15	4.2	6.3	Volts
Current	0.60	0.45	0.30	Ampere
Warm-up Time (Note 1)	11	11	--	Seconds
Direct Interelectrode Capacitances:				
	Shielded (Note 2)		Unshielded	
Grid 1 to Plate	0.024		0.031	$\mu\mu\text{f}$
Input	8.70		8.70	$\mu\mu\text{f}$
Output	3.00		2.15	$\mu\mu\text{f}$

MECHANICAL

Bulb	T-6½
Base	Miniature 9-Pin (JEDEC E9-1)
Outline	6-2
Basing	9PM
Mounting Position	Any

RATINGS

Design Maximum Values

Plate Voltage	250	max.	Volts
Grid 2 Supply Voltage	250	max.	Volts
Grid 2 Voltage	See Grid 2 Input Rating Curve		
Plate Dissipation	2.5	max.	Watts
Grid 2 Dissipation	0.6	max.	Watts
Grid 1 Negative Voltage	50	max.	Volts
Cathode Current	25	max.	Ma.
Grid 1 Circuit Resistance:			
Cathode Resistor Bias	1	max.	Megohm
Fixed Bias	0.25	max.	Megohm

Heater:

Voltage:	Minimum	Maximum	
6HT6	5.7	6.9	Volts
Current:			
3HT6	560	640	Ma.
4HT6	420	480	Ma.

Heater-Cathode Voltage:

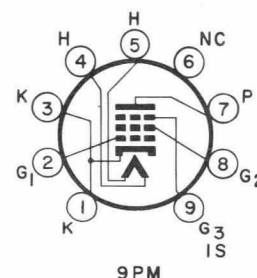
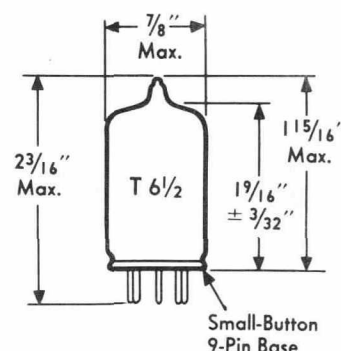
Heater Negative with Respect to Cathode:			
Total DC and Peak	200	max.	Volts
Heater Positive with Respect to Cathode:			
Total DC and Peak	200	max.	Volts

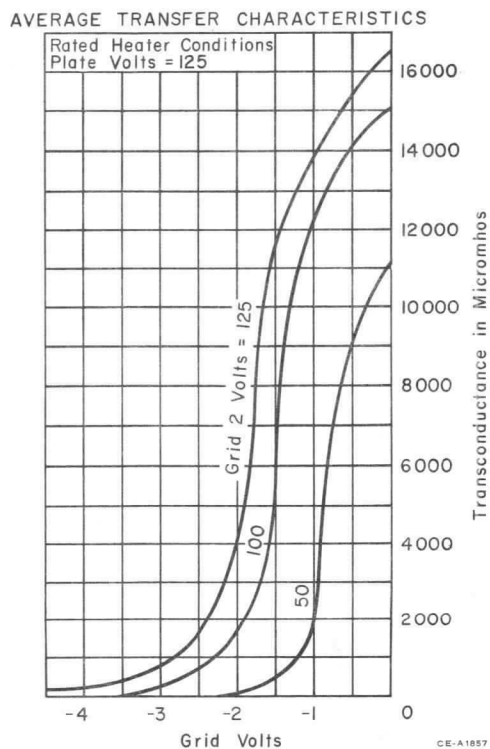
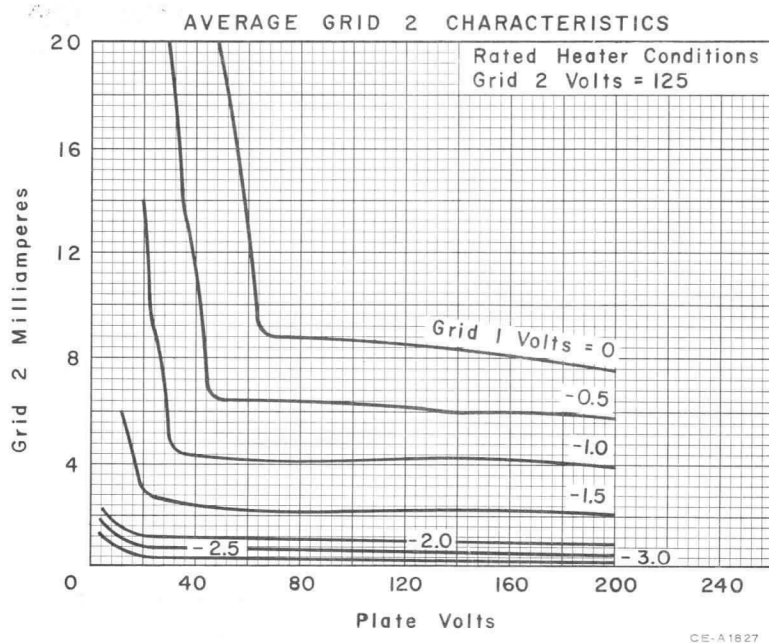
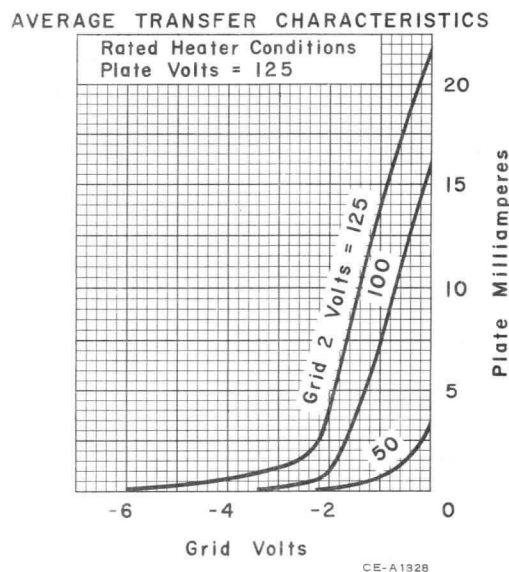
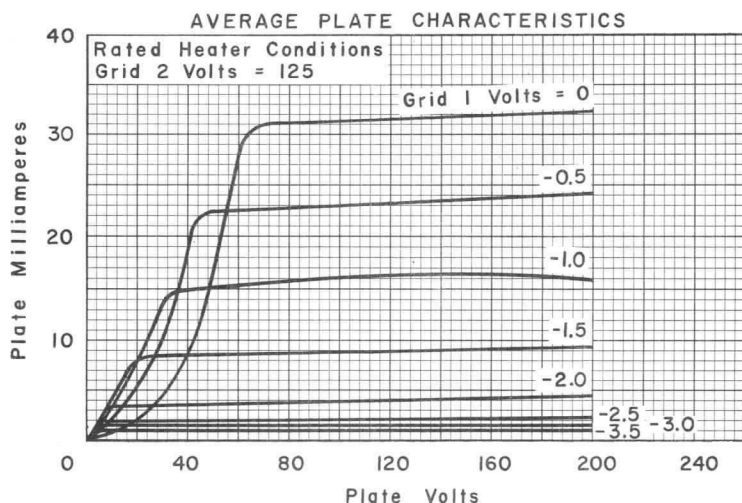
TYPICAL OPERATION AND CHARACTERISTICS

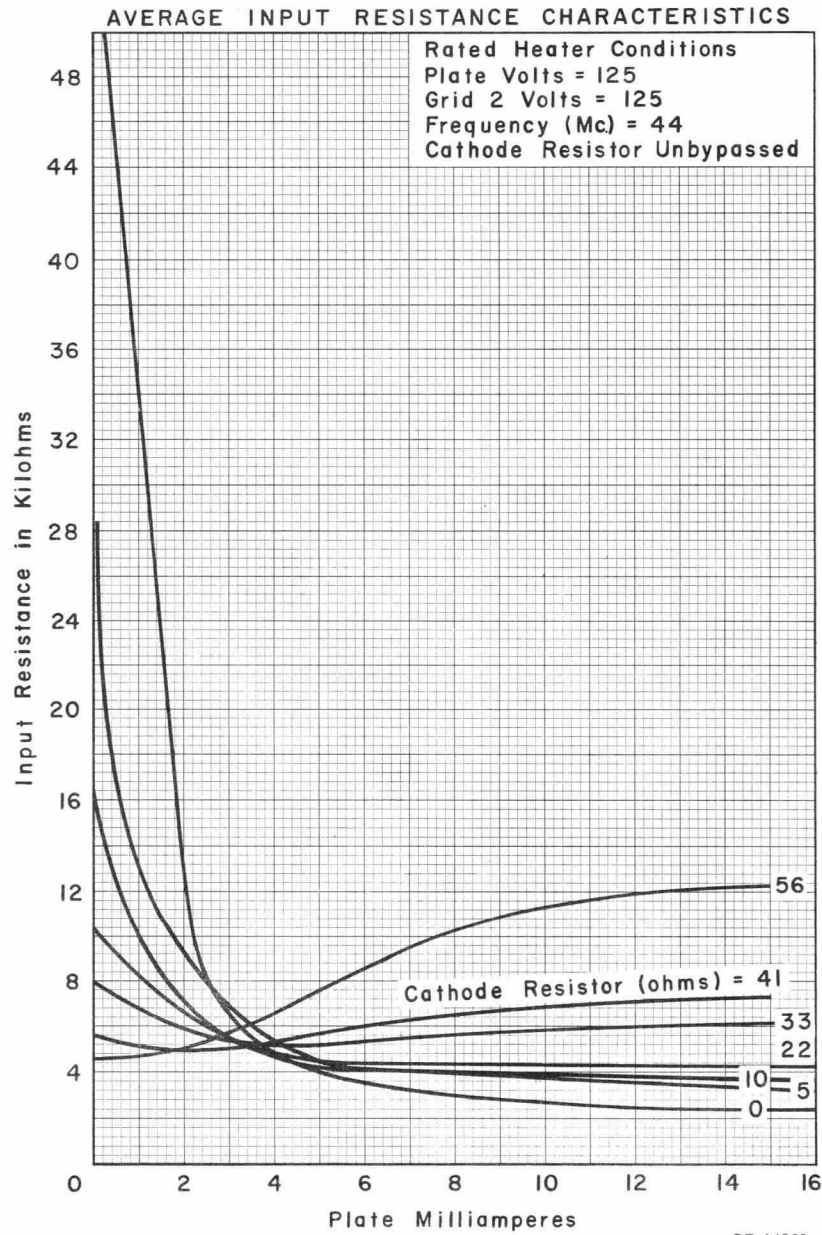
Plate Voltage	125	Volts
Grid 3 (Suppressor)	Connected to Cathode at Socket	
Grid 2 Voltage	125	Volts
Cathode Bias Resistor	56	Ohms
Plate Resistance	0.143	Megohm
Transconductance	14000	μmhos
Plate Current	15	Ma.
Grid 2 Current	4.0	Ma.
Grid 1 Cutoff Bias (Note 3)	-6.7	Volts
Cutoff Transconductance:		
For Grid 1 Volts = -1.5	12000	μmhos
For Grid 1 Volts = -3.5	300	μmhos
For Grid 1 Volts = -4.5	100	μmhos
Hot Input Resistance (Note 4)	12700	Ohms
Hot Input Capacitance (Note 4)	7.45	$\mu\mu\text{f}$

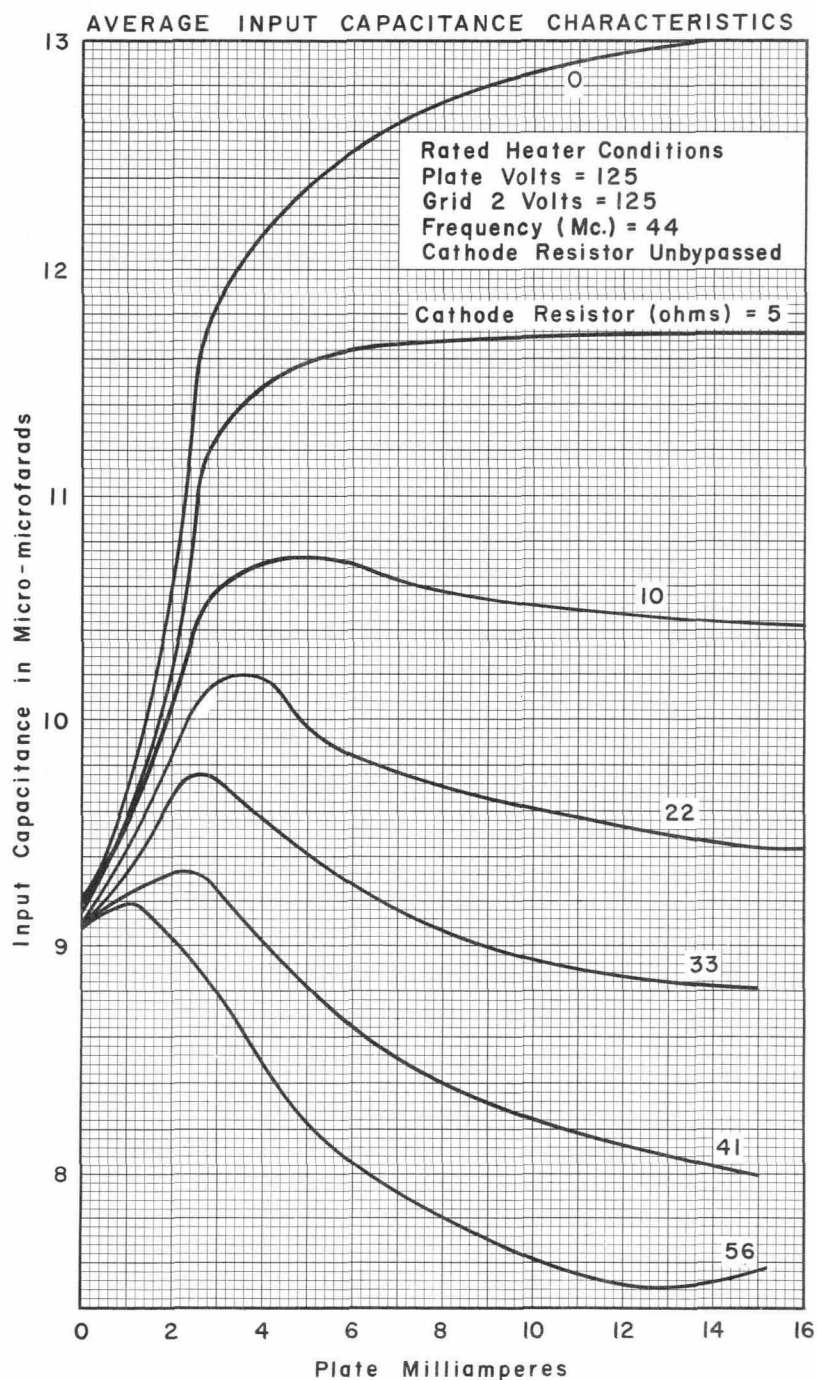
NOTES

1. Heater Warm-up Time is defined as the time required for the voltage across the heater to reach 80% of its rated value after applying 4 times rated heater voltage to a circuit consisting of the tube heater in series with a resistance equal to three times rated heater voltage divided by rated heater current.
2. With JEDEC Shield No. 315 connected to ground.
3. For transconductance of 50 μmhos .
4. Measured at 44 Mc with unbypassed 56 ohm cathode resistance.









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