

6J7

Description and Rating

RADIO-FREQUENCY-AMPLIFIER PENTODE

GENERAL DESCRIPTION

Principal Application: The 6J7 is a heater-cathode type pentode amplifier tube with a sharp cut-off characteristic and is designed for service as a biased detector or high-gain amplifier. Except

Cathode: Coated Unipotential
Heater Voltage (A-C or D-C). 6.3 Volts
Heater Current: 0.3 Ampere
Envelope: MTT-8 Metal Shell
Base: . . . B7-22 Small Wafer Octal 7-Pin Phenolic
Top Cap: Cl-4 Miniature with Wafer

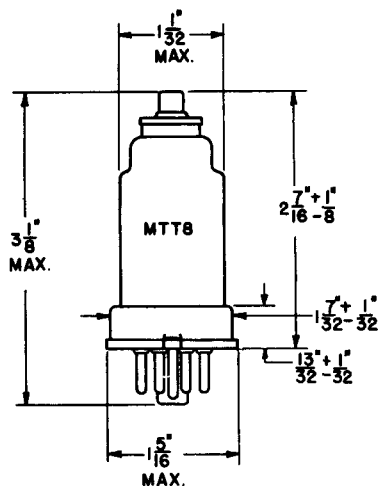
for capacitances the electrical ratings and characteristics of the 6J7 are the same as those of the 6J7-G, 6J7-GT and 6C6.

Mounting Position: Any

Direct Interelectrode Capacitances: *

	Triode §	Pentode	
Grid to Plate	2.0	0.005 Max	μμf
Input	5	7	μμf
Output	14	12	μμf

PHYSICAL DIMENSIONS

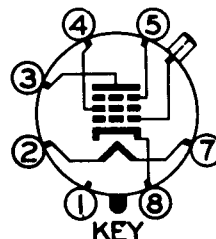


RMA B-4

TERMINAL CONNECTIONS

Pin 1 - Shell and Internal Shield
Pin 2 - Heater
Pin 3 - Plate
Pin 4 - Grid Number 2 (Screen)
Pin 5 - Grid Number 3 (Suppressor)
Pin 7 - Heater
Pin 8 - Cathode
Top Cap - Grid Number 1

BASING DIAGRAM



RMA 7R
BOTTOM VIEW

MAXIMUM RATINGS

	Triode Connection §		Pentode Connection		
	Design	Center	Design	Center	
Plate Voltage	250	275	300	330	Volts
Screen (Grid Number 2) Voltage	---	---	125	140	Volts
Screen Supply Voltage	---	---	300	330	Volts
External Grid Bias Voltage	Never Positive		Never Positive		
Plate Dissipation	1.75	1.93	0.75	0.83	Watts
Screen Dissipation	---	---	0.10	0.11	Watt
D-C Heater-Cathode Voltage	90	100	90	100	Volts

§ With grid number 2 and grid number 3 connected to plate.

* With shell and internal shield connected to cathode.

CHARACTERISTICS AND TYPICAL OPERATION

CLASS A AMPLIFIER

	Triode Connection §				Pentode Connection				
Heater Voltage	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	Volts
Plate Voltage	180	250	100	250	100	250	100	250	Volts
Screen Voltage	180	250	100	250	100	250	100	250	Volts
Suppressor Voltage	180	250	0 ^o	250	0 ^o	250	0 ^o	250	Volts
Grid Bias Voltage **	-5.3	-8	-3	-8	-3	-8	-3	-8	Volts
Amplification Factor	20	20	---	20	---	20	---	20	
Plate Resistance	0.0110	0.0105	1.0	0.0105	1.0	0.0105	1.0	0.0105	Megohm
Transconductance	1800	1900	1185	1900	1185	1900	1185	1900	Micromhos
Grid Bias for Cathode-Current Cutoff	---	---	-7	---	-7	---	-7	---	Volts
Plate Current	5.3	6.5	2.0	6.5	2.0	6.5	2.0	6.5	Milliamperes
Screen Current	---	---	0.5	---	0.5	---	0.5	---	Milliamperes

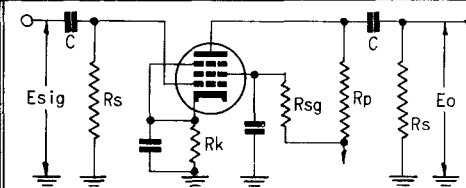
§ With grid number 2 and grid number 3 connected to plate.

** The d-c resistance in the grid circuit should not exceed 1.0 megohm under rated maximum conditions.

^o Suppressor-grid connected to cathode at socket terminal.

CLASS A RESISTANCE-COUPLED AMPLIFIER

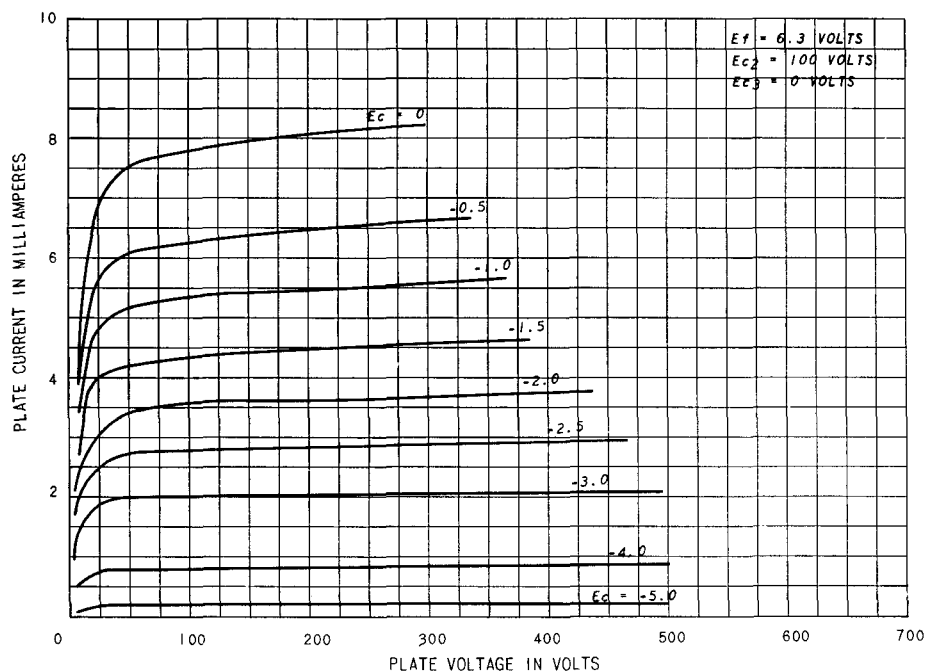
Rp Meg.	Rg1 Meg.	Rs Meg.	Ebb = 90 Volts				Ebb = 180 Volts				Ebb = 300 Volts			
			Rk	Rsg	Gain	Eo	Rk	Rsg	Gain	Eo	Rk	Rsg	Gain	Eo
0.10	*	0.10	1100	.39	40	16	910	.43	50	42	620	.47	60	54
0.10	*	0.24	1100	.43	53	21	820	.47	68	50	560	.51	80	80
0.24	*	0.24	2400	1.0	67	23	1200	1.1	91	40	1000	1.2	102	78
0.24	*	0.51	2700	1.1	82	31	1500	1.2	115	60	1100	1.3	140	100
0.51	*	0.51	4700	2.2	92	28	2400	2.4	130	44	1600	2.4	157	72
0.51	*	1.0	5100	2.4	116	29	3000	2.7	160	55	2000	3.0	239	95
0.24	10	0.24	---	1.2	71	4.5	---	1.3	112	20	---	1.3	130	39
0.24	10	0.51	---	1.3	86	10	---	1.5	138	35	---	1.5	172	52
0.51	10	0.51	---	2.4	96	6.5	---	2.7	145	29	---	2.7	185	40
0.51	10	1.0	---	2.7	122	11	---	3.0	178	40	---	3.0	280	54



Note: Coupling capacitors (C) should be adjusted to give desired frequency response. Rk and Rsg should be adequately by-passed.

Notes: 1. Eo is maximum RMS voltage output for five percent (5%) total harmonic distortion. 2. Gain measured at 2.0 volts RMS output. 3. For zero-bias data generator impedance is negligible. * Value of Rg1 is non-critical.

AVERAGE PLATE CHARACTERISTICS



AVERAGE PLATE CHARACTERISTICS

TRIODE CONNECTION

