Electronic TUBE
KEN-RAD

6J7

Description and Rating

RADIO-FREQUENCY-AMPLIFIER PENTODE

GENERAL DESCRIPTION

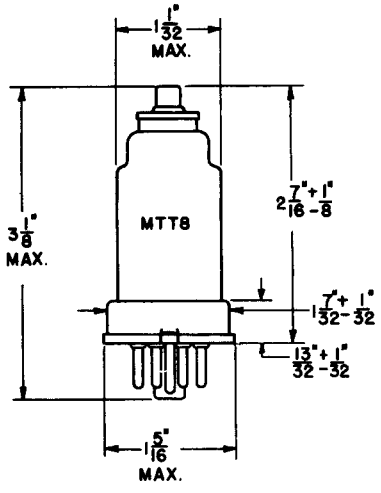
Principal Application: The 6J7 is a heater-cathode type pentode amplifier tube with a sharp cut-off characteristic and is designed for service as a biased detector or high-gain amplifier. Except for capacitances the electrical ratings and characteristics of the 6J7 are the same as those of the 6J7-G, 6J7-GT and 6C6.

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	C1-4 Miniature with Wafer
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

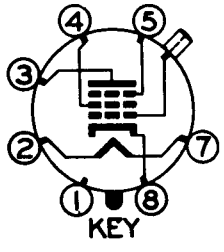


RMA 8-4

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	Absolute	Design Center	Absolute	
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	Volts
Plate Voltage	180	250	100	250	Volts
Screen Voltage	180	250	100	100	Volts
Suppressor Voltage	180	250	0 °	0 °	Volts
Grid Bias Voltage **	-5.3	-8	-3	-3	Volts
Amplification Factor	20	20	---	---	
Plate Resistance	0.0110	0.0105	1.0	>1.0	Megohm
Transconductance	1800	1900	1185	1225	Micromhos
Grid Bias for Cathode-Current Cutoff			-7	-7	Volts
Plate Current	5.3	6.5	2.0	2.0	Milliamperes
Screen Current	---	---	0.5	0.5	Milliampere

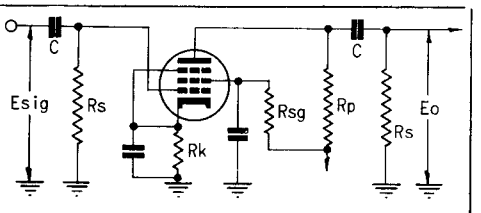
§ *With grid number 2 and grid number 3 connected to plate.*

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

° *Suppressor-grid connected to cathode at socket terminal.*

CLASS A RESISTANCE-COUPLED AMPLIFIER

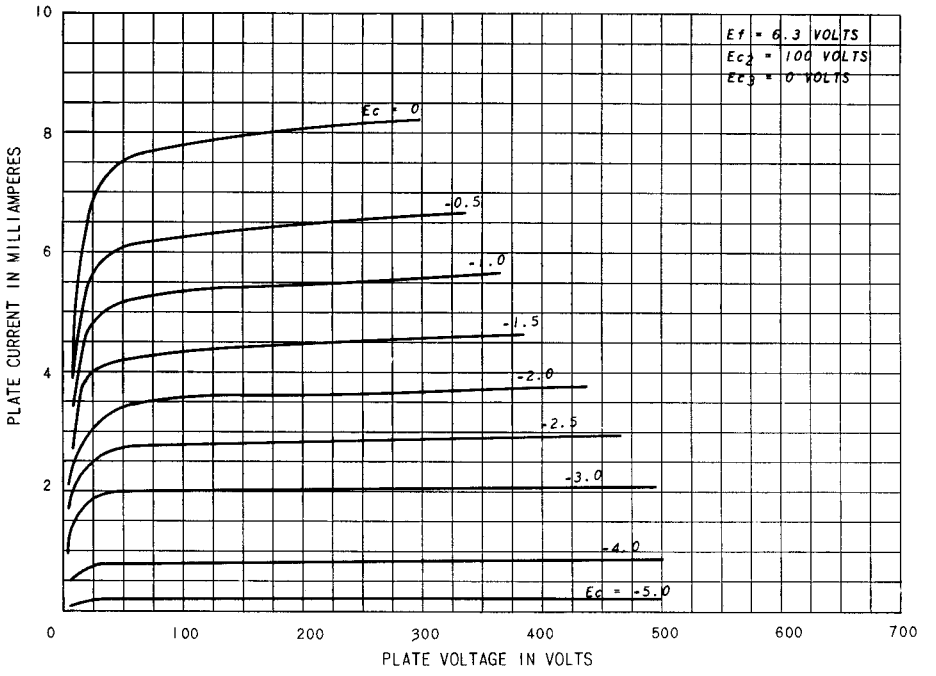
Rp Meg.	Rg1 Meg.	Rs Meg.	Ebb = 90 Volts				Ebb = 180 Volts				Ebb = 300 Volts			
			Rk	Rsg	Gain	Eo	Rk	Rsg	Gain	Eo	Rk	Rsg	Gain	Eo
0.10	*	0.10	1100	.39	40	16	910	.43	50	42	620	.47	60	54
0.10	*	0.24	1100	.43	53	21	820	.47	68	50	560	.51	80	80
0.24	*	0.24	2400	1.0	67	23	1200	1.1	91	40	1000	1.2	102	78
0.24	*	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