

TWIN TRIODE TYPES 6FQ7 AND 8FQ7

The 6FQ7 and 8FQ7 are 9-pin miniature medium-mu twin triode types designed for use as vertical deflection oscillators and horizontal deflection oscillators in television receivers. They may also be used as phase inverters, multivibrators, and resistance-coupled amplifiers in electronic equipment.

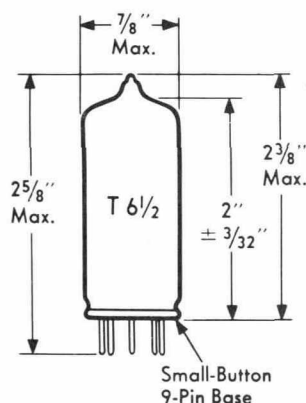
The 6FQ7 and 8FQ7 have been designed for use in receivers which employ series connected heaters especially in television receivers where the picture-tube heater is in series with other heaters. When each is employed in this type of circuit with other tubes similarly designed having the same heater current rating, heater voltage surges across individual tubes are minimized inasmuch as heater warm-up characteristic is controlled.

ELECTRICAL

Cathodes	Coated Unipotential		
Heater:	6FQ7	8FQ7	
Voltage (ac or dc)	6.3	8.4	Volts
Current	0.60 ± 6%	0.45 ± 6%	Ampere
Warm-up Time (Note 1)	11	11	Seconds
Direct Interelectrode Capacitances: (Unshielded)			
	Unit 1	Unit 2	
Grid to Plate	3.6	3.8	μμf
Input	2.4	2.4	μμf
Output	0.34	0.26	μμf
Plate Unit 1 to Plate Unit 2	1.0		μμf

MECHANICAL

Bulb	T-6½
Base	JEDEC E9-1 (Small Button 9-Pin)
Basing	.9LP
Mounting Position	Any



MAXIMUM RATINGS

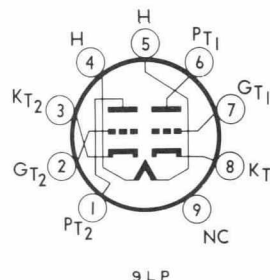
Design Maximum Values		
Plate Voltage	330 max.	Volts
Grid Voltage:		
Positive Bias Value	0 max.	Volts
Plate Dissipation:		
Each Plate	4.0 max.	Watts
Both Plates	5.7 max.	Watts
Cathode Current	22 max.	Ma.
Heater-Cathode Voltage		
Heater Negative with Respect to Cathode		
Total DC + Peak	200 max.	Volts
Heater Positive with Respect to Cathode		
DC Component	100 max.	Volts
Total DC + Peak	200 max.	Volts

MAXIMUM CIRCUIT VALUE

Grid Circuit Resistance	
Fixed Bias Operation	1.0 max. Megohm

CHARACTERISTICS

Plate Voltage	90	250	Volts
Grid Voltage	0	-8	Volts
Amplification Factor	20	20	-
Plate Resistance (Approx.)	6700	7700	Ohms
Transconductance	3000	2600	μmhos
Grid Voltage for Plate			
Current of 10 μamp	-7	-18	Volts
Plate Current for Grid Voltage of -12.5 Volts ..	-	1.3	Ma.
Plate Current	10	9	Ma.



MAXIMUM RATINGS (Note 2)

Design Maximum Values

	Vertical Deflection Oscillator	Horizontal Deflection Oscillator		
DC Plate Voltage	330	330	max.	Volts
Peak Negative Pulse Grid Voltage	440 (Note 3)	660 (Note 4)	max.	Volts
Cathode Current				
Peak	77	33	max.	Ma.
DC	22	22	max.	Ma.
Plate Dissipation				
Each Plate	4	4.0	max.	Watts
Both Plates	5.7	5.7	max.	Watts
Heater-Cathode Voltage				
Heater Negative with Respect to Cathode				
Total DC + Peak	200	200	max.	Volts
Heater Positive with Respect to Cathode				
DC Component	100	100	max.	Volts
Total DC + Peak	200	200	max.	Volts

MAXIMUM CIRCUIT VALUES

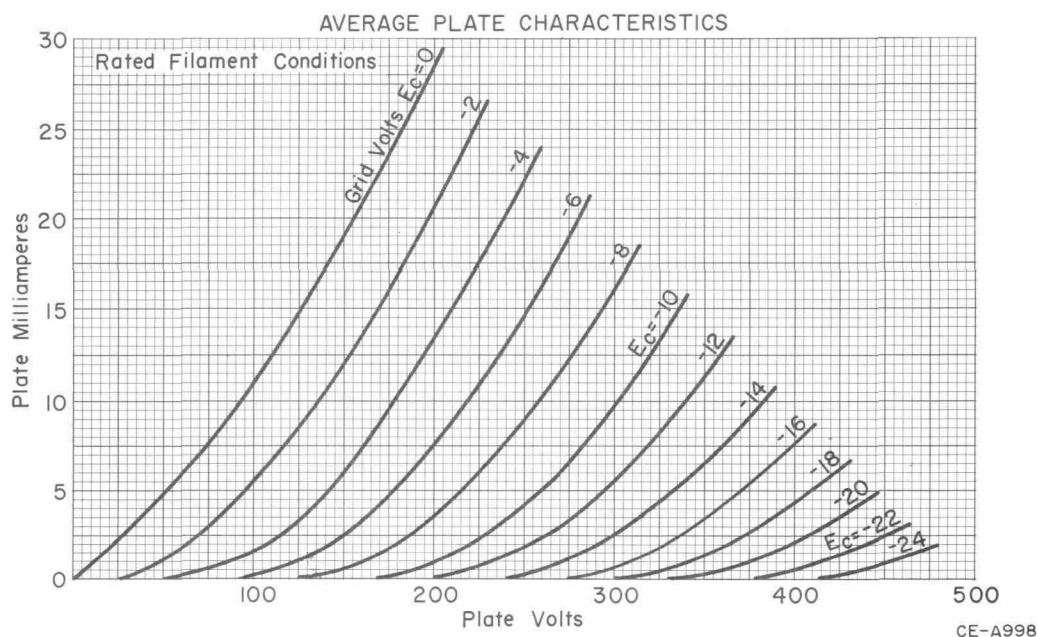
Grid Circuit Resistance

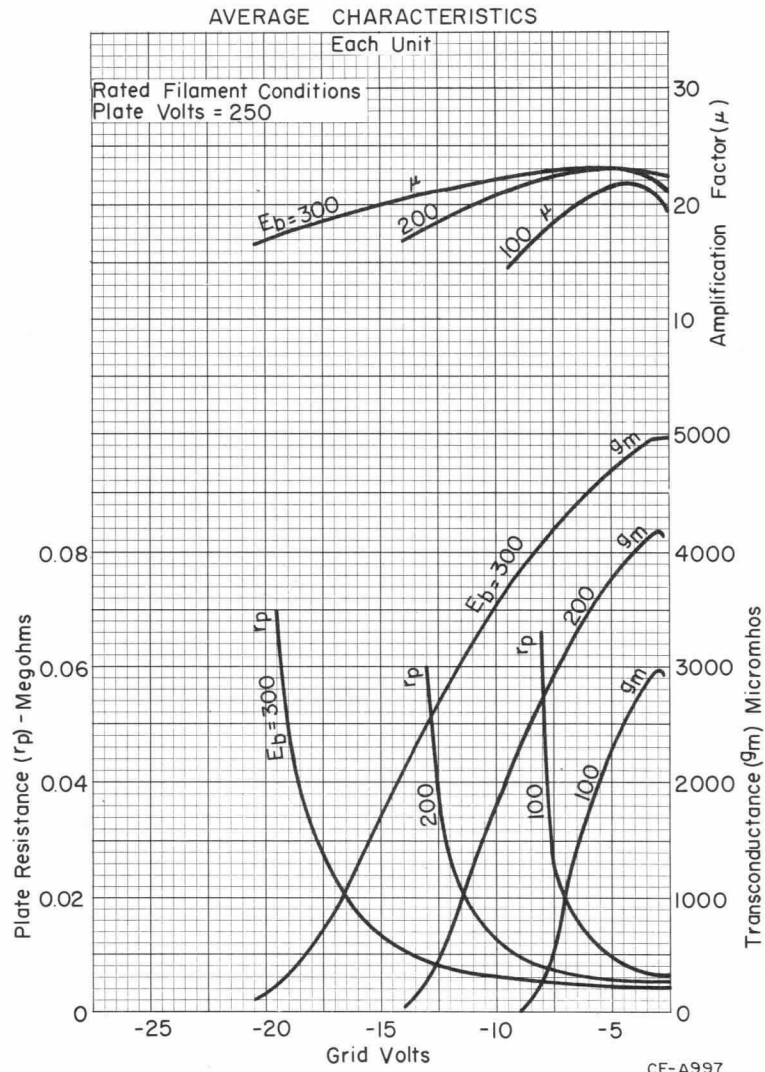
Fixed-Bias, Grid-Resistor
Bias, or Cathode-Bias

Operation 2.2 2.2 max. Megohms

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 four 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. For operation in a 525-line, 30-frame system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.
3. This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one vertical scanning cycle. In a 525-line, 30-frame system, 15 per cent of one vertical scanning cycle is 2.5 milliseconds.
4. This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one horizontal scanning cycle. In a 525-line, 30-frame system, 15 per cent of one horizontal scanning cycle is 10 microseconds.





6FQ7
8FQ7

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Page 4

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