

6FM8**TWIN DIODE—
HIGH-MU TRIODE**

Miniature type used in television receiver applications and as combined FM detector and af voltage amplifier in FM receivers. Outlines section, 6B; requires miniature 9-contact socket. Heater: volts (ac/dc), 6.3; amperes, 0.45; maximum heater-cathode volts, ± 200 peak, 100 average.

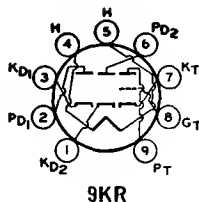
**9KR****Triode Unit as Class A₁ Amplifier****MAXIMUM RATINGS (Design-Maximum Values)**

Plate Voltage	330	volts
Grid Voltage, Positive-bias value	0	volts
Plate Dissipation	1.1	watts
CHARACTERISTICS		
Plate Voltage	250	volts
Grid Voltage	-3	volts
Amplification Factor	70	
Plate Resistance (Approx.)	58000	ohms
Transconductance	1200	μ mhos
Plate Current	1	mA

Diode Units (Each Unit)**MAXIMUM RATINGS (Design-Maximum Values)**

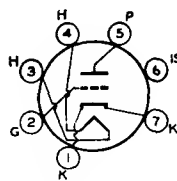
Plate Current	5	mA
CHARACTERISTICS, Instantaneous Value		
Tube Voltage Drop for plate current of 20 mA	5	volts

6FQ5A

2FQ5A

HIGH-MU TRIODE

Miniature type with frame grid used as rf-amplifier tube in vhf tuners of television receivers. Outlines section, 5C; requires miniature 7-contact socket. Type 2FQ5A is identical with type 6FQ5A except for heater ratings.

**7FP**

Heater Voltage (ac/dc)	2FQ5A 2.3	6FQ5A 6.3	volts
Heater Current	0.6	0.18	ampere
Heater Warm-up Time (Average)	11	—	seconds
Peak Heater-Cathode Voltage	± 100 max	± 100 max	volts
Direct Interelectrode Capacitances:°			
Grid to Plate		0.52	pF
Grid to Cathode, Heater, and Internal Shield		5	pF
Plate to Cathode, Heater, and Internal Shield		3.5	pF
Heater to Cathode		2.5	pF

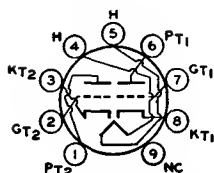
° With external shield connected to cathode except as noted.

Class A₁ Amplifier**MAXIMUM RATINGS (Design-Maximum Values)**

Plate Voltage	200	volts
Grid Voltage, Negative-bias value	50	volts
Average Cathode Current	22	mA
Plate Dissipation	2.5	watts
CHARACTERISTICS		
Plate Voltage	135	volts
Grid Voltage	-1.2	volts
Amplification Factor	74	
Plate Resistance (Approx.)	6300	ohms
Transconductance	12000	μ mhos
Plate Current	8.9	mA
Grid Voltage (Approx.) for plate current of 100 μ A	-4.5	volts

MAXIMUM CIRCUIT VALUE

Grid-Circuit Resistance, for cathode-bias operation	1	megohm
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9LP

MEDIUM-MU TWIN TRIODE

**6FQ7/
6CG7**
8FQ7/8CG7

Miniature type used as combined vertical- and horizontal-deflection oscillator in color and black-and-white television receivers. Outlines section, 6E; requires miniature 9-contact socket. Type 8FQ7/8CG7 is identical with type 6FQ7/6CG7 except for heater ratings. For typical operation as a resistance-coupled amplifier, refer to Resistance-Coupled Amplifier section.

	6FQ7/6CG7	8FQ7/8CG7	
Heater Voltage (ac/dc)	6.3	8.4	volts
Heater Current	0.6	0.45	ampere
Heater Warm-up Time (Average)	11	—	seconds
Heater-Cathode Voltage:			
Peak value	±200 max	±200 max	volts
Average value	100 max	100 max	volts
Direct Interelectrode Capacitances (Approx.):			
Grid to Plate	Unit No.1 3.6	Unit No.2 3.8	pF
Grid to Cathode and Heater	2.4	2.4	pF
Plate to Cathode and Heater	0.34	0.26	pF
Plate of Unit No.1 to Plate of Unit No.2	1		pF

MAXIMUM RATINGS (Design-Maximum Values)

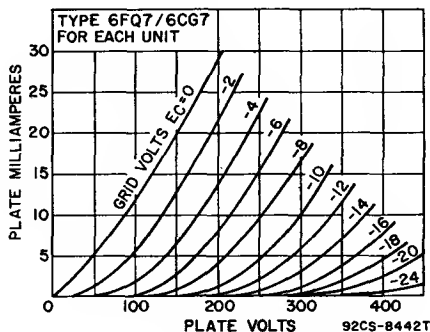
Plate Voltage	330	volts
Grid Voltage, Positive-bias value	0	volts
Cathode Current	22	mA
Plate Dissipation:		
For either plate	4	watts
For both plates with both units operating	5.7	watts

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
Plate Current	10	9	mA
Grid Voltage (Approx.) for plate current of 10 μA	—7	—18	volts
Plate Current for grid voltage of —12.5 volts	—	1.3	mA

MAXIMUM CIRCUIT VALUE

Grid Circuit Resistance, for fixed-bias operation	1	megohm
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Oscillator

For operation in a 525-line, 30-frame system

	Vertical-Deflection Oscillator	Horizontal-Deflection Oscillator	
MAXIMUM RATINGS (Design-Maximum Values)			
DC Plate Voltage	330	330	volts
Peak Negative-Pulse Grid Voltage	440	660	volts