

ELECTRONIC TUBE REFERENCE

6FQ5A

Voltage - Triode (single high frequency) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION
CONSTRUCTION
TRIODE

High-mu frame-grid miniature triode used as a grounded-cathode RF amplifier in VHF television tuners.

GENERAL CHARACTERISTICS

BASE DESIGNATION	7FP	BASE PINS	7
NOMINAL HEATER	6.3 V / 180 mA	PARALLEL HEATER	– / –
HEATING	Indirect	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

7FP - TERMINAL PINOUT

TERMINAL	SECTION	ELEMENT	STATUS
PIN1 – K	A	K – Cathode	CONNECTED
PIN2 – G1	A	G1 – Control Grid	CONNECTED
PIN3 – H	–	H – Heater	CONNECTED
PIN4 – H	–	H – Heater	CONNECTED
PIN5 – P	A	P – Plate (Anode)	CONNECTED
PIN6 – IS	A	IS – Internal Screen	CONNECTED
PIN7 – K	A	K – Cathode	CONNECTED

SECTION RATINGS

SECTION1 Triode	
PLATE RESISTANCE	6300 Ω
TRANSCONDUCTANCE	0.012 S
AMPLIFICATION FACTOR	74
MAXIMUM PLATE VOLTAGE	250 V
MAXIMUM PLATE DISSIPATION	2.5 W
MAXIMUM CATHODE CURRENT	22 mA
<i>Promoted Class A1 characteristics at 135 V plate and design-maximum ratings.</i>	

High-mu frame-grid miniature triode used as a grounded-cathode RF amplifier in VHF television tuners.



SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1966 Tung Sol Electronic Tubes 2 of 4

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1966 TUNG SOL ELECTRONIC TUBES 2 OF 4

Section 1 · Triode

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	0.42 pF	—
Input capacitance	5 pF	—
Output capacitance	3.5 pF	—
Heater-to-cathode capacitance	2.5 pF	—

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	135 V	ClassA
Grid voltage	-1.2 V	ClassA
Plate current	8.3 mA	ClassA

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	12000 uS	ClassA
Amplification factor	74	ClassA
Plate resistance	6300 ohm	ClassA
Grid voltage at 100 uA plate current	-4.5 V	—



1971 RCA HB3 Binder 4 of 7

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1971 RCA HB3 BINDER 4 OF 7

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage nominal	6.3 V	—
Heater voltage tolerance	0.6 V	±
Heater current	180 mA	HeaterVoltage=6.3V
Peak heater-cathode voltage, heater negative	100 V	—
Peak heater-cathode voltage, heater positive	100 V	—
Maximum plate voltage	200 V	ClassA1
Maximum negative grid-bias magnitude	50 V	ClassA1
Maximum cathode current	22 mA	ClassA1
Maximum plate dissipation	2.5 W	ClassA1
Maximum grid-circuit resistance	1 MΩ	ClassA1;CathodeBias

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid-to-plate capacitance	0.52 pF	—
Grid-to-cathode/internal-shield/heater capacitance	5 pF	—
Plate-to-cathode/internal-shield/heater capacitance	3.5 pF	—
Heater-to-cathode capacitance	2.5 pF	ExternalShield=Ground

CHARACTERISTICS		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate voltage	135 V	ClassA1
Grid voltage	-1.2 V	ClassA1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Amplification factor	74	ClassA1
Plate resistance	6300 ohm	ClassA1
Transconductance	12000 μ S	ClassA1
Plate current	8.9 mA	ClassA1
Grid voltage for plate current 100 μ A	-4.5 V	ClassA1



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1975 RCA RC30

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1975 RCA RC30

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage (ac/dc) 2.3 2.8 4	6.3 V	Published in approved 2GK5 target datasheet entry; Section1
Heater Current 0.6 0.45 0.3	180 mA	Published in approved 2GK5 target datasheet entry; Section1
Negative-bias value	50 V	Published in approved 2GK5 target datasheet entry; Section1
Positive-bias value	0 V	Published in approved 2GK5 target datasheet entry; Section1
Average Cathode Current	22 mA	Published in approved 2GK5 target datasheet entry; Section1
Plate Dissipation	2.5 W	Published in approved 2GK5 target datasheet entry; Section1
Plate Voltage	135 V	Published in approved 2GK5 target datasheet entry; Section1
Grid Voltage	-1 V	Published in approved 2GK5 target datasheet entry; Section1
Plate Resistance (Approx.)	5400 Ω	Published in approved 2GK5 target datasheet entry; Section1
Transconductance	15000 μ S	Published in approved 2GK5 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Plate Current	11.5 mA	Published in approved 2GK5 target datasheet entry; Section1
Grid-Circuit Resistance, for cathode-bias operation	1 MΩ	Published in approved 2GK5 target datasheet entry; Section1
• Measured at	200 MHz	Published in approved 2GK5 target datasheet entry; Section1
f For a neutralized triode amplifier at a frequency of	200 MHz	Published in approved 2GK5 target datasheet entry; Section1
Heater Voltage (ac/dc) 6.3 10	16 V	Published in approved 2GK5 target datasheet entry; Section1
Heater Current 0.76 0.45	300 mA	Published in approved 2GK5 target datasheet entry; Section1
11	11 seconds	Published in approved 2GK5 target datasheet entry; Section1
Plate Supply Voltage	605 V	Published in approved 2GK5 target datasheet entry; Section1
Plate Voltage	330 V	Published in approved 2GK5 target datasheet entry; Section1
Grid-No.2 Supply Voltage	605 V	Published in approved 2GK5 target datasheet entry; Section1
Grid-No.2 (Screen-Grid) Voltage	330 V	Published in approved 2GK5 target datasheet entry; Section1
Grid-No.1 (Control-Grid) Voltage, Negative-bias value	100 V	Published in approved 2GK5 target datasheet entry; Section1
Cathode Current	65 mA	Published in approved 2GK5 target datasheet entry; Section1
Plate Dissipation	13.2 W	Published in approved 2GK5 target datasheet entry; Section1
Grid-No.2 Input, Peak	4 W	Published in approved 2GK5 target datasheet entry; Section1
Grid-No.2 Input, Average	2 W	Published in approved 2GK5 target datasheet entry; Section1
Plate Supply Voltage	250 V	Published in approved 2GK5 target datasheet entry; Section1
Grid-No.2 Supply Voltage	250 V	Published in approved 2GK5 target datasheet entry; Section1
Cathode-Bias Resistor	135 Ω	Published in approved 2GK5 target datasheet entry; Section1
Plate Resistance (Approx.)	38000 Ω	Published in approved 2GK5 target datasheet entry; Section1

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Transconductance	11300 μS	Published in approved 2GK5 target datasheet entry; Section1
Peak AF Grid-No.1 Voltage	7.3 V	Published in approved 2GK5 target datasheet entry; Section1
Zero-Signal Plate Current	48 mA	Published in approved 2GK5 target datasheet entry; Section1
Maximum-Signal Plate Current	50.6 mA	Published in approved 2GK5 target datasheet entry; Section1
Zero-Signal Grid-No.2 Current	5.5 mA	Published in approved 2GK5 target datasheet entry; Section1
Maximum-Signal Grid-No.2 Current	10 mA	Published in approved 2GK5 target datasheet entry; Section1
Effective Load Resistance	5200 Ω	Published in approved 2GK5 target datasheet entry; Section1

CAPACITANCE		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to Plate	0.62 pF	Published in approved 2GK5 target datasheet entry; Section1
Grid to Cathode, Heater, and Internal Shield	5 pF	Published in approved 2GK5 target datasheet entry; Section1
Plate to Cathode, Heater, and Internal Shield	3.5 pF	Published in approved 2GK5 target datasheet entry; Section1
Internal Shield	10 pF	Published in approved 2GK5 target datasheet entry; Section1
Internal Shield	7 pF	Published in approved 2GK5 target datasheet entry; Section1

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Input Resistance*	275 Ω	Published in approved 2GK5 target datasheet entry; Section1
Input Capacitance*	11.2 pF	Published in approved 2GK5 target datasheet entry; Section1
Grid Voltage (Approx.) for transconductance of	1500 μS	Published in approved 2GK5 target datasheet entry; Section1
Grid Voltage (Approx.) for transconductance of 1500 /imhos	-2.5 V	Published in approved 2GK5 target datasheet entry; Section1