



ELECTRONIC TUBE REFERENCE

6870

Power - Pentode (NOT beam) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

PENTODE

High-slope pentode for RF, video, wideband amplification, and small-transmitter service, bridging broadband voltage gain with modest RF power capability.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	9
NOMINAL HEATER	6.3 V / 600 mA	PARALLEL HEATER	— / —
HEATING	Indirect	SERIES OPERATION	Capable
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Pentode	
PLATE RESISTANCE	230000 Ω
TRANSCONDUCTANCE	0.0085 S
MAXIMUM PLATE VOLTAGE	300 V
MAXIMUM SCREEN VOLTAGE	250 V
MAXIMUM PLATE DISSIPATION	6.3 W
MAXIMUM SCREEN DISSIPATION	2 W
MAXIMUM CATHODE CURRENT	50 mA
STC/Brimar 6870 indirectly heated fully screened VHF power pentode for Class C RF power amplification, frequency multiplication up to 150 MHz and high-level video service, also rugged mobile/aircraft applications. Center-tapped heater supports 6.3 V 0.6 A parallel or 12.6 V 0.3 A series wiring; parent HasSeries true and existing alternate heater parameters retained. Manufacturer normal maximum plate 300 V, grid-2 screen 250 V, plate dissipation 6.3 W, screen dissipation 2 W, cathode current 50 mA. Higher 500 V no-current plate/screen supply allowances are distinct from normal operating electrode maxima. Typical Class A at $V_a=V_{g2}=250$ V, cathode resistor 120 Ω: I_a 25 mA, screen 3.5 mA, gm 8500 μmhos (0.0085 S), approximate rp 230 kΩ. Alternate at $V_a=V_{g2}=180$ V, cathode resistor 56 Ω: I_a 25 mA, screen 3.5 mA, gm ~9000 μmhos, rp ~170 kΩ. Unshielded capacitances input 8.5 pF, output 7 pF, grid-to-plate 0.025 pF max. Basing JETEC 9BF.	

High-slope Trustworthy RF and video pentode for small transmitting, video, and wide-band amplifier service, with 6.3/12.6 V heater operation.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1954 STC Brimar

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

1954 STC BRIMAR

Section 1 · Pentode

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater voltage (A-C. or DOCo).ll.tooooo.-n-.oo.o.-ooc.o-....o.t 1 2.6/\$.3volts	3 V	Heater voltage (A-C. or DOCo).ll.tooooo.-n-.oo.o.-ooc.o-....o.t 1 2.6/\$.3volts
Grid Noe.2 voltageCeesesesssesosese 250 180 DCvolts	2 V	Grid Noe.2 voltageCeesesesssesosese 250 180 DCvolts
Cathode bias resistOresesssesssssns 120 56 ohms	56 ohms	Cathode bias resistOresesssesssssns 120 56 ohms
Grid No.1 voltage (approximately)	1 V	Grid No.1 voltage (approximately)

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum heater—cathode VOLltaZCeesesnsnsossscesssssssssassnesne ~90volts	90 V	Maximum heater—cathode VOLltaZCeesesnsnsossscesssssssssassnesne ~90volts
Maxcimum grid No.2 VOLta-geot- uoooooaaooooouoo-n-u'c-o.ot.o.oo..o 250DCvolts	2 V	Maxcimum grid No.2 VOLta-geot- uoooooaaooooouoo-n-u'c-o.ot.o.oo..o 250DCvolts
Maximum plate supply voltage (Ib =0 mA)oo-u- ooo~.ocooo.o-foono 500ICvolts	0 mA	Maximum plate supply voltage (Ib =0 mA)oo-u- ooo~.ocooo.o-foono 500ICvolts
Maxcinmm grid No.2 diSSip&tiOn..u...o...u.u...u.....n...o 20watts	20 W	Maxcinmm grid No.2 diSSip&tiOn..u...o...u.u...u.....n...o 20watts
Maximum grid Noe! currentescsesccscscscssscsescssscoscscscs 3.0mA	3 mA	Maximum grid Noe! currentescsesccscscscscssscsescssscoscscscs 3.0mA
Maximum cathode ourenTescssssssocrrssscssssnsnssncssssessnns 50 mA	50 mA	Maximum cathode ourenTescssssssocrrssscssssnsnssncssssessnns 50 mA

1958 Brimar Radio Valve No 7

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

1958 BRIMAR RADIO VALVE NO 7

Section 1 · Pentode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Heater Voltage Alternate	12.6 V	Series
Heater Current Alternate	300 mA	Series

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Application	RF and video amplifier / small transmitting valve —	

TUBE TINKER

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