6BR8A

Medium-Mu Triode—Sharp-Cutoff Pentode

9-PIN MINIATURE TYPE

Especially Useful as Combined Triode Oscillator and Pentode Mixer in VHF TV Tuners

ELECTRICAL

Heater Characteristics and Ratings

Voltage (AC or DC)	6.3[a]	6.3 ± 0.6	V
Current	0.450 ± 0.030	0.450[b]	A
Warm-up time (average)	11	-	s
Peak heater-cathode voltage (Each unit)			
Heater negative with respect to cathode		200 max	V
Heater positive with respect to cathode		200[c] max	V

Direct Interelectrode Capacitances (Approx.) ←

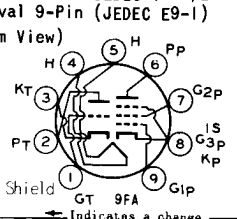
	Without External Shield	*With External Shield*[d]	
Triode Unit			
Grid to plate	1.8	1.8	pF
Input: G_T to (K_T, K_P + $G3_P$ + IS, H)	2.8	2.8	pF
Output: P_T to (K_T, K_P + $G3_P$ + IS, H)	1.5	2.0	pF
Pentode Unit			
Grid No.1 to plate	0.02	0.01	pF
Input: $G1_P$ to (K_P + $G3_P$ + IS, $G2_P$, H)	4.6	4.6	pF
Output: P_P to (K_P + $G3_P$ + IS, $G2_P$, H)	2.4	3.2	pF
Triode Cathode to Heater	2.4	2.4[e]	pF
Pentode Cathode to Heater	2.4	2.4[e]	pF
Pentode Grid No.1 to Triode Plate	0.2 max	0.2 max	pF
Pentode Plate to Triode Plate	0.1 max	0.02 max	pF

MECHANICAL

Operating Position . . . . . Any
Type of Cathode . . . . . Coated Unipotential
Maximum Overall Length . . . . . 2.187 in
Maximum Seated Length . . . . . 1.937 in
Maximum Diameter . . . . . 0.875 in
Length, Base Seat to Bulb Top . . . . . 1.469 to 1.656 in
Excluding tip
Dimensional Outline (JEDEC 6-2) . . . . . See *General Section*
Envelope . . . . . JEDEC T6-1/2
Base . . . . . Small-Button Noval 9-Pin (JEDEC E9-1)

TERMINAL DIAGRAM (Bottom View)

Pin 1 – Triode Grid
Pin 2 – Triode Plate
Pin 3 – Triode Cathode
Pin 4 – Heater
Pin 5 – Heater
Pin 6 – Pentode Plate
Pin 7 – Pentode Grid No.2
Pin 8 – Pentode Cathode, Grid No.3, Internal Shield
Pin 9 – Pentode Grid No.1



← Indicates a change.

CHARACTERISTICS, CLASS A_1 AMPLIFIER

	Triode Unit	*Pentode Unit*	
Plate Voltage	125	125	V
Grid No.2 Voltage	-	110	V
Grid No.1 Voltage	-1	-1	V
Amplification Factor	40	-	
Plate Resistance (Approx.)	-	0.2	MΩ
Transconductance	7500	5000	μmho
Plate Current	13.5	9.5	mA
Grid-No.2 Current	-	3.5	mA
Grid-No.1 Voltage (Approx.) for plate μA = 20	-9	-9	V

CLASS A_1 AMPLIFIER

Design Maximum Ratings

	Triode Unit	*Pentode Unit*	
Plate Voltage	330	330	V
Grid-No.2 (Screen-Grid) Supply Voltage	-	330	V
Grid-No.2 Voltage	-	See *Grid-No.2 Input Rating Chart* at front of Receiving Tube Section	
Grid-No.1 (Control-Grid) Voltage	0	0	V
Positive-bias value			
Grid-No.2 Input			
For grid-No.2 voltages up to 165 volts	-	0.55	W
For grid-No.2 voltages between 165 and 330 volts	-	See *Grid-No.2 Input Rating Chart* at front of Receiving Tube Section	
Plate Dissipation	2.5	3	W

[a] At heater amperes = 0.450.
[b] At heater volts = 6.3.
[c] The dc component must not exceed 100 volts.
[d] With external shield JEDEC No.315 connected to Pin 4, except as noted.
[e] With external shield JEDEC No.315 connected to Pin 6.

Curves shown under Type 6U8A also apply to the 6BR8A.

→ Indicates a change.

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