

Dual Triode—Sharp-Cutoff Pentode

Dual Triode Has High-Mu Unit & Medium-Mu Unit

DUODECAR TYPE

Electrical:

Heater Characteristics and Ratings:

Voltage (AC or DC)	6.3 ± 0.6	volts
Current at 6.3 volts	1.050	amp

Maximum Heater Cathode Voltage:

Heater negative with respect to cathode:		
Peak	200	volts
Heater positive with respect to cathode:		
Peak	200	volts
DC component	100	volts

Direct Interelectrode Capacitances: (Without external shield)

Triode Unit No.1

Grid to plate.	1.9	pf
Input: G_{T1} to (K_{T1} , $K_{T2} + 1S$, $K_p + G_{3p} + 1S$, H)	3.0	pf
Output: P_{T1} to (K_{T1} , $K_{T2} + 1S$, $K_p + G_{3p} + 1S$, H)	2.2	pf

Triode Unit No.2

Grid to plate.	3.6	pf
Input: G_{T2} to ($K_{T2} + 1S$, $K_p + G_{3p} + 1S$, H)	2.4	pf
Output: P_{T2} to ($K_{T2} + 1S$, $K_p + G_{3p} + 1S$, H)	3.8	pf

Pentode Unit

Grid No.1 to plate	0.12	pf
Input: G_{1p} to ($K_{T2} + 1S$, $K_p + G_{3p} + 1S$, G_{2p} , H)	10.0	pf
Output: P_p to ($K_{T2} + 1S$, $K_p + G_{3p} + 1S$, G_{2p} , H)	4.5	pf
Pentode plate to plate of triode No.2	0.045 max.	pf
Plate of triode No.1 to plate of triode No.2	0.06 max.	pf

Characteristics, Class A₁ Amplifier:

	Triode Units No.1	No.2	
Plate Supply Voltage	200	200	volts
Grid Voltage	-2	-	volts
Cathode Resistor	-	220	ohms
Amplification Factor	68	41	
Plate Resistance (Approx.)	12400	9400	ohms
Transconductance	5500	4400	μ mhos
Plate Current.	7	9.2	ma
Grid Voltage for $I_b = 10 \mu a$	-5.5	-	volts
Grid Voltage for $I_b = 100 \mu a$	-	-6.5	volts

Pentode Unit

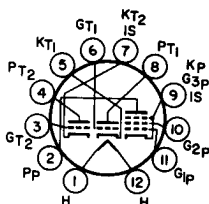
Plate Supply Voltage	50	200	volts
Grid-No.2 Supply Voltage	150	150	volts
Grid-No.1 Voltage.	0	-	volts
Cathode Resistor	-	100	ohms
Plate Resistance (Approx.)	-	68000	ohms
Transconductance	-	11000	μ mhos
Plate Current.	55 ^a	24	ma
Grid-No.2 Current.	18 ^a	4.8	ma
Grid No.1 Voltage for $I_b = 100 \mu a$	-	-10	volts



Mechanical:

Operating Position Any
 Types of Cathodes Coated Unipotential
 Maximum Overall Length 2.375"
 Seated Length 1.750" to 2.000"
 Diameter 1.062" to 1.188"
 Dimensional Outline (JEDEC 9-58) See *General Section*
 Bulb T9
 Base Small-Button Duodecar 12-Pin (JEDEC No. E12-70)
 Basing Designation for BOTTOM VIEW 12DP

Pin 1-Heater
 Pin 2-Pentode Plate
 Pin 3-Grid of Triode Unit No.2
 Pin 4-Plate of Triode Unit No.2
 Pin 5-Cathode of Triode Unit No.1
 Pin 6-Grid of Triode Unit No.1
 Pin 7-Cathode of Triode Unit No.2,
 Internal Shield
 Pin 8-Plate of Triode Unit No.1
 Pin 9-Pentode Cathode, Pentode Grid
 No.3, Internal Shield
 Pin 10-Pentode Grid No.2
 Pin 11-Pentode Grid No.1
 Pin 12-Heater



AMPLIFIER — Class A₁

Maximum Ratings, Design-Maximum Values:

	Triode Units No.1 No.2		
Plate Voltage	330	330	volts
Grid (Control-Grid) Voltage:			
Positive-bias value	0	0	volts
Plate Dissipation	1.1	2	watts

Pentode Unit

Plate Voltage	330	volts
Grid-No.2 (Screen-Grid) Supply Voltage	330	volts
Grid-No.2 Voltage	See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section	
Grid-No.1 (Control-Grid) Voltage:		
Positive-bias value	0	volts
Grid-No.2 Input:		
For grid-No.2 voltages up to 165 volts	1.25	watts
For grid-No.2 voltages between 165 and 330 volts.	See <i>Grid-No.2 Input Rating Chart</i>	
Plate Dissipation	5	watts

Maximum Circuit Values: (Values are for Each Unit)

	Triode Units	Pentode Unit
Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.5	0.25 megohm
For cathode-bias operation	1	1 megohm

* value measured by recurrent waveform such that maximum ratings of tube are not exceeded.

