

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

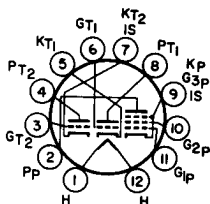
Plate Supply Voltage	50	200		volts
Grid-No. 2 Supply Voltage	150	150		volts
Grid-No. 1 Voltage	0	-		volts
Cathode Resistor	-	100		ohms
Plate Resistance (Approx.)	-	68000		ohms
Transconductance	-	11000		μ mhos
Plate Current	55 ^a	24		ma
Grid-No. 2 Current	18 ^a	4.8		ma
Grid No. 1 Voltage for $I_b = 100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

	<i>Triode Units No. 1</i>	<i>No. 2</i>	
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)

	<i>Triode Units</i>	<i>Pentode Unit</i>
Grid-No. 1-Circuit Resistance:		
For fixed-bias operation	0.5	0.25
For cathode-bias operation	1	1

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

