

Dual Triode—Sharp-Cutoff Pentode

Dual Triode Has High-Mu & Medium-Mu Units

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
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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	0.13	pf
Input: G_{1p} to ($K_{T2} + 1S$, $K_p + G_{3p} + 1S$, G_{2p} , H)	11.0	pf
Output: P_p to ($K_{T2} + 1S$, $K_p + G_{3p} + 1S$, G_{2p} , H)	4.6	pf
Pentode plate to plate of triode No. 2.	0.045 max.	pf
Plate of triode No. 1 to plate of triode No. 2. . .	0.075 max.	pf

Characteristics, Class A₁ Amplifier:

	<i>Triode Units</i>	
	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 hos
Plate Current	7	9.2 ma
Grid Voltage for plate $\mu a = 100$	-5.5	-6.5 volts

Pentode Unit

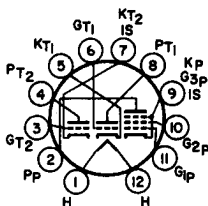
Plate Supply Voltage	35	135	volts
Grid-No. 2 Supply Voltage	135	135	volts
Grid-No. 1 Voltage.	0 ^a	-	volts
Cathode Resistor	-	100	ohms
Plate Resistance (Approx.)	-	45000	ohms
Transconductance	-	10400	μ hos
Plate Current	34 ^b	17	ma
Grid-No. 2 Current.	13 ^b	4	ma
Grid-No. 1 Voltage (Approx.) for plate $\mu a = 100$	-	-6	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 A_j

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	1.5	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	1.1	watts
For grid-No. 2 voltages between 165 and 330 volts	See <i>Grid-No. 2 Input Rating Chart</i> at front of Receiving Tube Section	
Plate Dissipation	4	watts

Maximum Circuit Values: (Values are for Each Unit)

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

^a Applied for short interval (2 sec. max.) so as not to damage tube.

^b Value measured by recurrent waveform such that maximum ratings of tube are not exceeded.

