

Dual Triode—Sharp-Cutoff Pentode

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

DUODECAR TYPE

GENERAL DATA

Electrical:

Heater Characteristics and Ratings (*Design-Maximum Values*):

Voltage (AC or DC) 6.3 ± 0.6 volts

Current at heater volts = 6.3 1.050 amp

Peak heater-cathode voltage

(Each unit):

Heater negative with respect to cathode 200 max. volts

Heater positive with respect to cathode 200^a max. volts

Direct Interelectrode Capacitances:^b

Triode Unit No.1:

Grid to plate 1.9 pf

Grid to cathode, cathode of triode unit No.2 & internal shield, pentode cathode & pentode grid No.3 & internal shield, and heater. 3.0 pf

Plate to cathode, cathode of triode unit No.2 & internal shield, pentode cathode & pentode grid No.3 & internal shield, and heater. 2.2 pf

Triode Unit No.2:

Grid to plate 3.6 pf

Grid to cathode & internal shield, pentode cathode & pentode grid No.3 & internal shield, and heater. 2.4 pf

Plate to cathode & internal shield, pentode cathode & pentode grid No.3 & internal shield, and heater. 3.8 pf

Pentode Unit:

Grid No.1 to plate 0.11 pf

Grid No.1 to cathode of triode unit No.2 & internal shield, cathode & grid No.3 & internal shield, grid No.2, and heater 9.5 pf

Plate to cathode of triode unit No.2 & internal shield, cathode & grid No.3 & internal shield, grid No.2, and heater 4.4 pf

Pentode plate to plate of triode unit No.2 0.044 max. pf

Plate of triode unit No.1 to plate of triode unit No.2 0.06 max. pf



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Characteristics, Class A₁ Amplifier:

Triode Units

Unit No.1 Unit 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 (Approx.) for plate μ a = 10	-5.5	-	volts
Grid Voltage (Approx.) for plate μ a = 100.	-	-6.5	volts

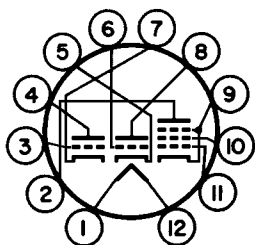
Pentode Unit

Plate Supply Voltage.	200	volts
Grid-No.2 Supply Voltage.	125	volts
Cathode Resistor.	68	ohms
Plate Resistance (Approx.)	70000	ohms
Transconductance.	10500	μ mhos
Plate Current	24	ma
Grid-No.2 Current	5.2	ma
Grid-No.1 Voltage (Approx.) for plate μ a = 100.	-8	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"
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

	<i>Unit No.1</i>	<i>Unit No.2</i>	
PLATE VOLTAGE	330 max.	330 max.	volts
GRID (CONTROL-GRID) VOLTAGE:			
Positive-bias value	0 max.	0 max.	volts
PLATE DISSIPATION	1.5 max.	2 max.	watts

Pentode Unit

PLATE VOLTAGE	330 max.	volts
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE	330 max.	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 max.	volts
GRID-No.2 INPUT:		
For grid-No.2 voltages up to 165 volts.	1.1 max.	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	5 max.	watts

Maximum Circuit Values:

Values are for Each Unit

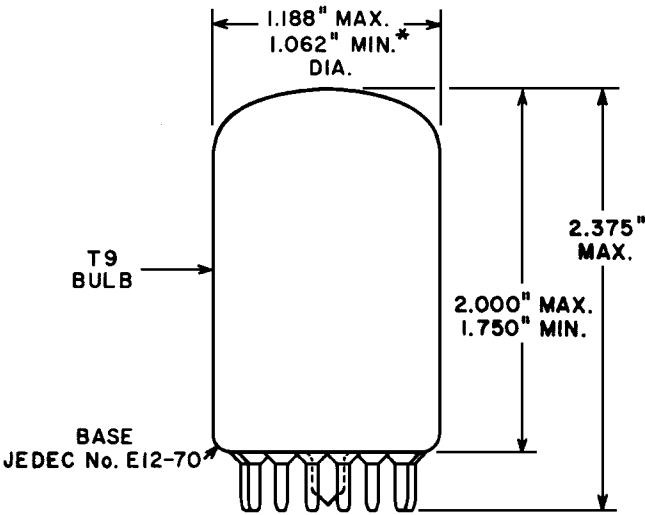
	<i>Triode Units</i>	<i>Pentode Unit</i>	
Grid-No.1-Circuit Resistance:			
For fixed-bias operation.	0.5 max.	0.25 max.	megohm
For cathode-bias operation.	1 max.	1 max.	megohm

^a The dc component must not exceed 100 volts.

^b Without external shield.



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* APPLIES TO MINIMUM DIAMETER EXCEPT IN AREA OF SEAL.

