

Twin Diode— Semiremote-Cutoff Pentode

9-PIN MINIATURE TYPE

GENERAL DATA

Electrical:

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

Voltage (AC or DC) 6.3 ± 0.6 volts

Current at heater volts = 6.3 0.300 amp

Peak heater-cathode voltage:

Heater negative with respect to cathode 100 max. volts

Heater positive with respect to cathode 100 max. volts

Direct Interelectrode Capacitances:^a

Pentode Unit:

Grid No.1 to plate 0.0025 max. $\mu\mu\text{f}$

Grid No.1 to all other electrodes except plate 5.0 $\mu\mu\text{f}$

Plate to all other electrodes except grid No.1 5.2 $\mu\mu\text{f}$

Grid No.1 to heater 0.05 max. $\mu\mu\text{f}$

Diode Units:

Diode-No.1 plate to all other electrodes 2.5 $\mu\mu\text{f}$

Diode-No.2 plate to all other electrodes 2.5 $\mu\mu\text{f}$

Diode-No.1 plate to diode-No.2 plate 0.25 max. $\mu\mu\text{f}$

Diode-No.1 plate to heater 0.015 max. $\mu\mu\text{f}$

Diode-No.2 plate to heater 0.003 max. $\mu\mu\text{f}$

Diode-No.1 plate to pentode grid No.1 0.0008 max. $\mu\mu\text{f}$

Diode-No.2 plate to pentode grid No.1 0.001 max. $\mu\mu\text{f}$

Diode-No.1 plate to pentode plate 0.15 max. $\mu\mu\text{f}$

Diode-No.2 plate to pentode plate 0.025 max. $\mu\mu\text{f}$

Characteristics, Class A₁ Amplifier (Pentode Unit):

Plate Voltage 170 200 250 250 volts

Grid No.3 Connected to cathode at socket

Grid-No.2 Voltage 100 100 80 100 volts

Grid-No.1 Voltage -1^b -1.5 -1^b -2 volts

Amplification Factor,

Grid No.2 to Grid No.1 20 20 20 20

Plate Resistance (Approx.) 0.4 0.6 0.9 1 megohm

Transconductance 5000 4500 4500 3800 μmhos

Plate Current 12 11 9 9 ma

Grid-No.2 Current 4 3.3 2.7 2.7 ma

Mechanical:

Operating Position Any

Type of Cathode Coated Unipotential

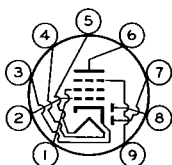
Maximum Overall Length 2-5/8"



6DC8

Maximum Seated Length 2-3/8"
 Length, Base Seat to Bulb Top (Excluding tip) . . . 2" ± 3/32"
 Diameter 0.750" to 0.875"
 Dimensional Outline See *General Section*
 Bulb T6-1/2
 Base Small-Button Noval 9-Pin (JEDEC No.E9-1)
 Basing Designation for BOTTOM VIEW 9HE

Pin 1 - Pentode
 Grid No.2
 Pin 2 - Pentode
 Grid No.1
 Pin 3 - Cathode,
 Internal
 Shield
 Pin 4 - Heater
 Pin 5 - Heater



Pin 6 - Pentode
 Plate
 Pin 7 - Diode-No.1
 Plate
 Pin 8 - Diode No.2
 Plate
 Pin 9 - Pentode
 Grid No.3

PENTODE UNIT — AMPLIFIER — Class A₁

Maximum Ratings, Design-Center Values:

PLATE SUPPLY VOLTAGE	550 max.	volts
PLATE VOLTAGE	300 max.	volts
GRID No.3 (SUPPRESSOR GRID) . . .	<i>Connect to cathode at socket</i>	
GRID-No.2 VOLTAGE:		
With plate ma. > 8	125 max.	volts
With plate ma. < 4	300 max.	volts
CATHODE CURRENT	16.5 max.	ma
GRID-No.2 INPUT	0.45 max.	watt
PLATE DISSIPATION	2.25 max.	watts

Typical Operation:

Plate Voltage	200	250	250	volts
Grid No.3	<i>Connected to cathode at socket</i>			
Grid-No.2 Supply Voltage	200	250	250	volts
Grid-No.2 Series Resistor	30000	62000	56000	ohms
Grid-No.1 Voltage	-1.5	-1 ^b	-2	volts
Plate Resistance (Approx.)	0.6	0.9	1	megohm
Transconductance	4500	4500	3800	μmhos
Plate Current	11	9	9	ma
Grid-No.2 Current	3.3	2.7	2.7	ma
Transconductance at grid-No.1 volts = -20	120	200	200	μmhos

Maximum Circuit Values:

Grid-No.1 Circuit Resistance	3 max.	megohms
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DIODE UNITS — Two

Values are for Each Unit

Maximum Ratings, Design-Center Values:

PEAK INVERSE PLATE VOLTAGE.	200 max.	volts
PLATE CURRENT:		
Peak.	5 max.	ma
Average	0.8 max.	ma

^a Without external shield.

^b At this value, grid-No.1 current may flow. Grid-No.1 current can be stopped by increasing the grid-No.1 voltage to -1.5 volts.

