

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. μf

Grid No.1 to all other electrodes
except plate. 5.0 μf

Plate to all other electrodes
except grid No.1. 5.2 μf

Grid No.1 to heater 0.05 max. μf

Diode Units:

Diode-No.1 plate to all
other electrodes. 2.5 μf

Diode-No.2 plate to all
other electrodes. 2.5 μf

Diode-No.1 plate to diode-No.2 plate. 0.25 max. μf

Diode-No.1 plate to heater. 0.015 max. μf

Diode-No.2 plate to heater. 0.003 max. μf

Diode-No.1 plate to pentode grid No.1 0.0008 max. μf

Diode-No.2 plate to pentode grid No.1 0.001 max. μf

Diode-No.1 plate to pentode plate 0.15 max. μf

Diode-No.2 plate to pentode plate 0.025 max. μf

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

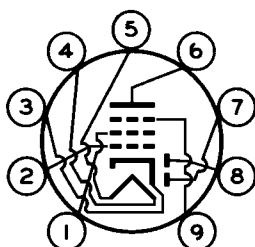
Maximum Overall Length. 2-5/8"



6DC8

Maximum Seated Length 2-3/8"
 Length, Base Seat to Bulb Top (Excluding tip) . . . 2" $\pm$ 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	μ mhos
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	μ mhos

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.

