



6BY8

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DIODE—SHARP-CUTOFF PENTODE

9-PIN MINIATURE TYPE

Intended for use in equipment having series heater-string arrangement

GENERAL DATA

Electrical:

Heater, for Unipotential Cathodes:

Voltage	6.3	ac or dc volts
Current	0.6	amp
Warm-up time (Average).	11	sec

For definition of heater warm-up time and method of determining it, see sheet HEATER WARM-UP TIME MEASUREMENT at front of this Section.

Direct Interelectrode Capacitances:°

Diode Unit:

Plate to cathode, pentode plate, pentode grid No.3 & internal shield, pentode grid No.2, pentode grid No.1, pentode cathode, and heater.	4.8 [•]	$\mu\mu\text{f}$
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Pentode Unit:

Grid No.1 to plate.	0.0035 max.	$\mu\mu\text{f}$
Grid No.1 to cathode, grid No.3 & internal shield, grid No.2, and heater.	5.5	$\mu\mu\text{f}$
Plate to cathode, grid No.3 & internal shield, grid No.2, and heater.	5	$\mu\mu\text{f}$

Characteristics, Class A, Amplifier (Pentode Unit):

Plate-Supply Voltage.	100	250	volts
Grid No.3 (Suppressor Grid) . . .	Connected to cathode at socket		
Grid-No.2 (Screen-Grid) Supply Voltage.	100	150	volts
Cathode Resistor.	150	68	ohms
Plate Resistance (Approx.). . . .	0.5	1	megohm
Transconductance.	3900	5200	μmhos
Plate Current	5	10.6	ma
Grid-No.2 Current	2.1	4.3	ma
Grid-No.1 (Control-Grid) Voltage (Approx.) for plate $\mu\text{a} = 10$. . .	-4.2	-6.5	volts

Mechanical:

Operating Position.	Any
Maximum Overall Length.	2-5/8"
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 (JETEC No.E9-1)

°, •: See next page.



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Basing Designation for BOTTOM VIEW 9FN

Pin 1—Pentode
Grid No.1

Pin 2—Pentode
Grid No.3,
Internal
Shield

Pin 3—Diode
Cathode



Pin 4—Heater

Pin 5—Heater

Pin 6—Diode Plate

Pin 7—Pentode Plate

Pin 8—Pentode
Grid No.2

Pin 9—Pentode
Cathode

PENTODE UNIT — AMPLIFIER - Class A₁

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE. 300 max. volts

GRID-No.3 (SUPPRESSOR-GRID) VOLTAGE. . . 0 max. volts

GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE . 300 max. volts

GRID-No.2 VOLTAGE. See Grid-No.2 Input Rating Chart
at front of Receiving Tube Section

GRID-No.1 (CONTROL-GRID) VOLTAGE:

Negative-bias value. 50 max. volts

Positive-bias value. 0 max. volts

GRID-No.2 INPUT:

For grid-No.2 voltages up to 150 volts. 0.65 max. watt

For grid-No.2 voltages between 150
and 300 volts. See Grid-No.2 Input Rating Chart
at front of Receiving Tube Section

PLATE DISSIPATION. 3 max. watts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode. 200 max. volts

Heater positive with respect to cathode. 200[▲] max. volts

Maximum Circuit Values:

Grid-No.1—Circuit Resistance:

For fixed-bias operation 0.25 max. megohm

For cathode-bias operation 1 max. megohm

DIODE UNIT

Maximum Ratings, Design-Center Values:

PEAK INVERSE PLATE VOLTAGE 430 max. volts

PLATE CURRENT:

Peak 180 max. ma

DC 45 max. ma

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode. 200 max. volts

Heater positive with respect to cathode. 200[▲] max. volts

○ With external shield JETEC No.315 connected to pentode cathode (pin 9) except as noted.

● With external shield JETEC No.315 connected to ground.

▲ The dc component must not exceed 100 volts.



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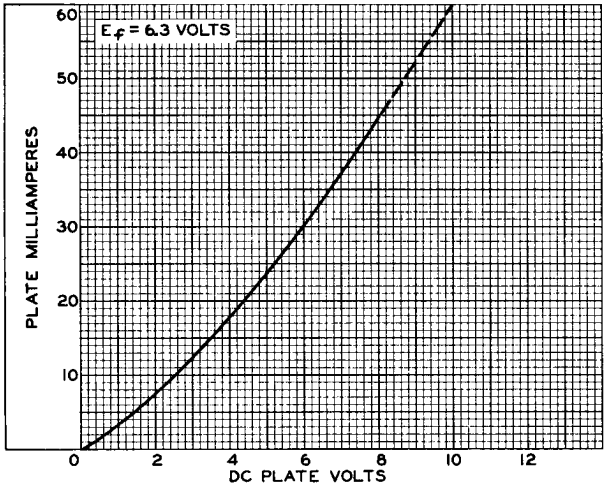
DIODE—SHARP-CUTOFF PENTODE

CURVES
shown under Type 6AU6 also apply to the
pentode unit of the 6BY8

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TENTATIVE DATA 2

AVERAGE PLATE CHARACTERISTIC DIODE UNIT



92CS-9616