



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:^o

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 [•]	μf

Pentode Unit:

Grid No.1 to plate.	0.0035	max. μf
Grid No.1 to cathode, grid		
No.3 & internal shield,		
grid No.2, and heater	5.5	μf
Plate to cathode, grid No.3		
& internal shield, grid		
No.2, and heater.	5	μf

Characteristics, Class A₁ 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)

o, •: See next page.

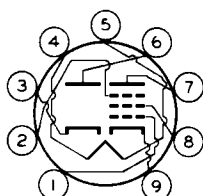


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DIODE—SHARP-CUTOFF PENTODE

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.	<i>See Grid-No.2 Input Rating Chart at front of Receiving Tube Section</i>		
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.	<i>See Grid-No.2 Input Rating Chart at front of Receiving Tube Section</i>		
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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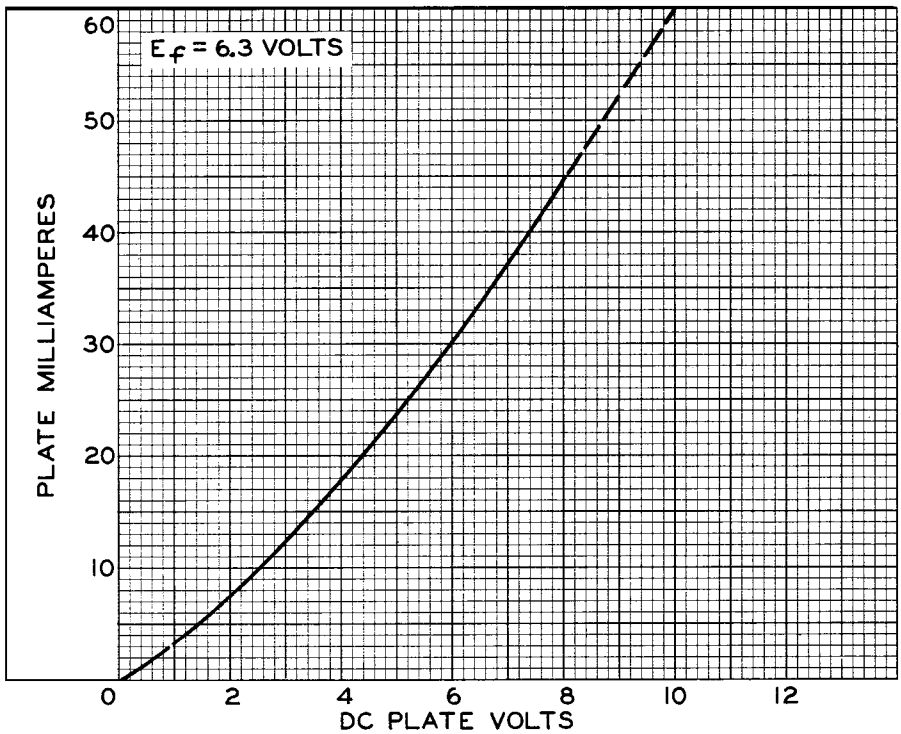
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CURVES
shown under Type 6AU6 also apply to the
pentode unit of the 6BY8

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TENTATIVE DATA

AVERAGE PLATE CHARACTERISTIC DIODE UNIT



92CS-9616