

Twin Diode—High-Mu Triode

9-PIN MINIATURE TYPE

With Heater Having Controlled Warm-Up Time

GENERAL DATA

Electrical:

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

Heater-section arrangement	Parallel	Series	Series	
Voltage (AC or DC)	3.15 ^a	6.3 ^b	6.3 ± 0.6	volts
Current . . .	0.600 ± 0.040	0.300 ± 0.020	0.300 ^c	amp
Warm-up time (Average)	11	11	—	sec
Peak heater-cathode voltage (Each unit):				
Heater negative with respect to cathode			200 max.	volts
Heater positive with respect to cathode			200 ^d max.	volts

Direct Interelectrode Capacitances (Approx):^e

Triode Unit:

Grid to plate	1.8	pf
Grid to cathode and heater	1.5	pf
Plate to cathode and heater	0.5	pf

Diode Units:

Diode-No.1 plate to cathode of diodes No.1 and No.2 & internal shield, and heater.	3.6	pf
Diode-No.2 plate to cathode of diodes No.1 and No.2 & internal shield, and heater.	3.6	pf
Triode grid to either diode plate	0.006	pf

Characteristics, Class A₁ Amplifier (Triode Unit):

Plate Voltage	100	250	volts
Grid Voltage	-1	-3	volts
Amplification Factor	70	70	
Plate Resistance (Approx.)	54000	58000	ohms
Transconductance	1300	1200	μmhos
Plate Current	0.8	1	ma

Mechanical:

Operating Position	Any
Type of Cathodes	Coated Unipotential
Maximum Overall Length	2-3/16"
Maximum Seated Length	1-15/16"
Length, Base Seat to Bulb Top (Excluding tip)	1-9/16" ± 3/32"
Diameter	0.750" to 0.875"
Dimensional Outline	See <i>General Section</i>
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JEDEC No.E9-1)

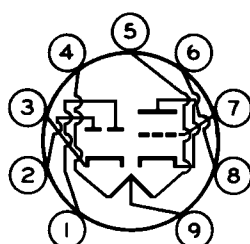
← Indicates a change.



6CN7

Basing Designation for BOTTOM VIEW. 9EN

Pin 1—Diode—No.2
Plate
Pin 2—Diode—No.1
Plate
Pin 3—Cathode of
Diodes No.1
& No.2,
Internal
Shield



Pin 4—Heater
Pin 5—Heater
Pin 6—Triode
Cathode
Pin 7—Triode Grid
Pin 8—Triode Plate
Pin 9—Heater Tap

TRIODE UNIT — AMPLIFIER — Class A₁

Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE	330	max.	volts
GRID VOLTAGE:			
Positive-bias value	0	max.	volts
PLATE DISSIPATION	1.1	max.	watts

Typical Operation as Resistance-Coupled Amplifier:

See *RESISTANCE-COUPLED AMPLIFIER CHART No.7*
at front of this section

DIODE UNITS — Two

Values are for Each Unit

Maximum Ratings, Design-Maximum Values:

PLATE CURRENT	5.5	max.	ma
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Characteristics, Instantaneous Value:

Plate Current for plate volts = 5	20	ma
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- ^a At heater amperes = 0.600.
- ^b At heater amperes = 0.300.
- ^c At heater volts = 6.3
- ^d The dc component must not exceed 100 volts.
- ^e Without external shield.

CURVES

For Triode shown under Type 6T8A also apply to the 6CN7