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POWER PENTODE

FOR "ON-OFF" CONTROL APPLICATIONS INVOLVING
LONG PERIODS OF OPERATION UNDER CUTOFF CONDITIONS

GENERAL DATA

Electrical:

Heater, Pure Tungsten, for Unipotential Cathode:

Voltage	6.3 ± 5%	ac or dc volts
Current at 6.3 volts	0.65	amp

Direct Interelectrode Capacitances
(Approx. with no external shield):

Grid No.1 to Plate	0.125	μf
Grid No.1 to Cathode and Heater	11.5	μf
Plate to Cathode and Heater	5.0	μf
Heater to Cathode	8.5	μf

Characteristics, Class A₁ Amplifier:

Heater Voltage	6.3	volts
Plate Voltage	250	volts
Grid No.3	Connected to Cathode at Socket	
Grid-No.2 Voltage	150	volts
Grid-No.1 Voltage	-3	volts
Mu-Factor, Grid No.2 to Grid No.1	22	
Plate Resistance	90000	ohms
Transconductance	11000	μmhos
Plate Current	30	ma
Grid-No.2 Current	7	ma
Maximum Plate Current for grid-No.1 voltage of -12 volts	100	μamp

Mechanical:

Mounting Position	Vertical; Horizontal operation permitted if pins No.3 and No.8 are in a vertical plane
Maximum Overall Length	2-5/8"
Maximum Seated Length	2-3/8"
Length, Base Seat to Bulb Top (Excluding tip)	2" ± 3/32"
Maximum Diameter	7/8"
Bulb	T-6-1/2
Base	Small-Button Noval 9-Pin (JETEC No.E9-1)

BOTTOM VIEW

- Pin 1: Cathode
- Pin 2: Grid No.1
- Pin 3: Grid No.2
- Pin 4: Heater
- Pin 5: Heater



- Pin 6: Plate
- Pin 7: Grid No.3,
Int. Shield
- Pin 8: Grid No.2
- Pin 9: Grid No.1

FREQUENCY DIVIDER IN COMPUTER SERVICE and "ON-OFF" CONTROL SERVICE

Maximum Ratings, Absolute Values:

PLATE VOLTAGE	300 max.	volts
GRID-No.3 (SUPPRESSOR) VOLTAGE	0 max.	volts



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GRID-No.2 (SCREEN) VOLTAGE	250 max.	volts
GRID-No.1 (CONTROL-GRID) VOLTAGE	-50 max.	volts
PLATE DISSIPATION	7.5 max.	watts
GRID-No.2 INPUT	2.5 max.	watts
CATHODE CURRENT	50 max.	ma
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	180 [•] max.	volts
Heater positive with respect to cathode	180 [•] max.	volts
BULB TEMPERATURE (At hottest point		
on bulb surface)	200 max.	°C

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

For fixed-bias operation	0.1 max.	megohm
For cathode-bias operation	0.5 max.	megohm

CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

	Note	Min.	Max.	
Heater Current	1	0.61	0.69	amp
Mu-Factor, Grid No.2				
to Grid No.1	1,2	19	25	
Plate Current (1)	1,3	26	46	ma
Plate Current (2)	1,4	20	40	ma
Plate Current (3)	1,5	-	100	μamp
Grid-No.2 Current	1,4	5	9	ma
Reverse Grid-No.1 Current	1,6	-	2	μamp
Heater-Cathode Leakage Current:				
Heater negative with respect				
to cathode	1,7	-	40	μamp
Heater positive with respect				
to cathode	1,7	-	40	μamp
Transconductance	1,4	9000	13000	μmhos

Note 1: With 6.3 volts ac or dc on heater.

Note 2: With grid No.3 tied to cathode, grid No.2 tied to plate, plate voltage of 150 volts, grid-No.2 voltage of 150 volts, and grid-No.1 voltage of -3 volts.

Note 3: With plate voltage of 50 volts, grid No.3 tied to cathode, grid No.2 voltage of 100 volts, and grid-No.1 voltage of 0 volts.

Note 4: With plate voltage of 250 volts, grid No.3 connected to cathode, grid-No.2 voltage of 150 volts, and grid-No.1 voltage of -3 volts.

Note 5: With plate voltage of 250 volts, grid No.3 connected to cathode, grid-No.2 voltage of 150 volts, and grid-No.1 voltage of -12 volts.

Note 6: With plate voltage of 250 volts, grid No.3 connected to cathode, grid-No.2 voltage of 150 volts, grid-No.1 supply voltage of -3 volts, and grid-No.1 resistor of 0.25 megohm.

Note 7: With 90 volts dc between heater and cathode.

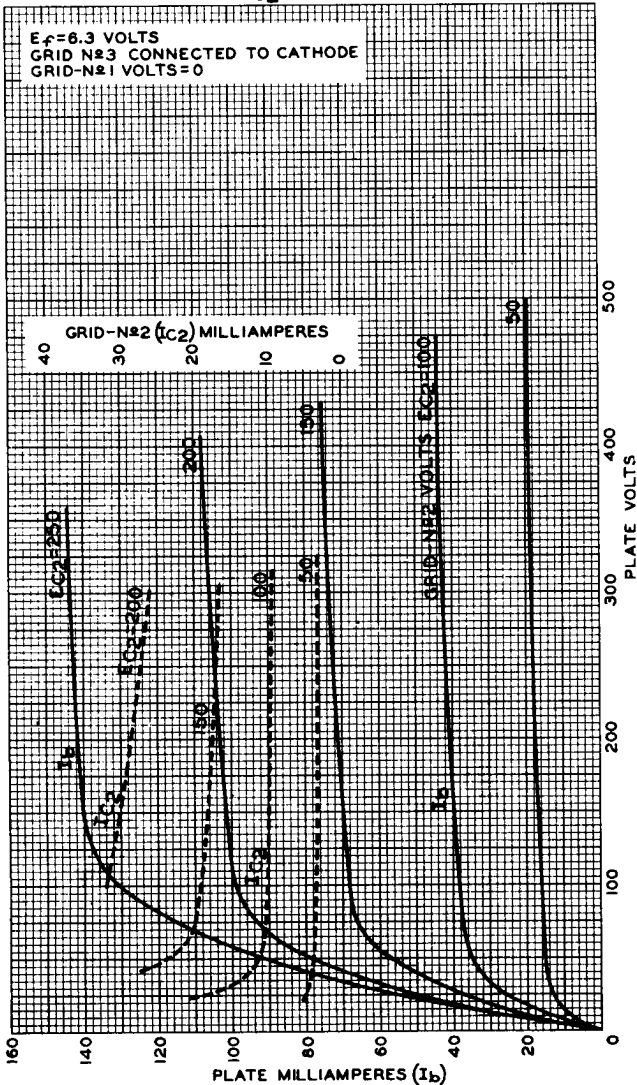
• DC component must not exceed 90 volts.



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AVERAGE PLATE CHARACTERISTICS WITH EC_2 AS VARIABLE



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AVERAGE PLATE CHARACTERISTICS WITH E_{C1} AS VARIABLE

$E_f = 6.3$ VOLTS
GRID N° 3 CONNECTED TO CATHODE
GRID-N° 2 VOLTS = 150

GRID-N° 1 (I_{C1}) MILLIAMPERES

30 20 10 0

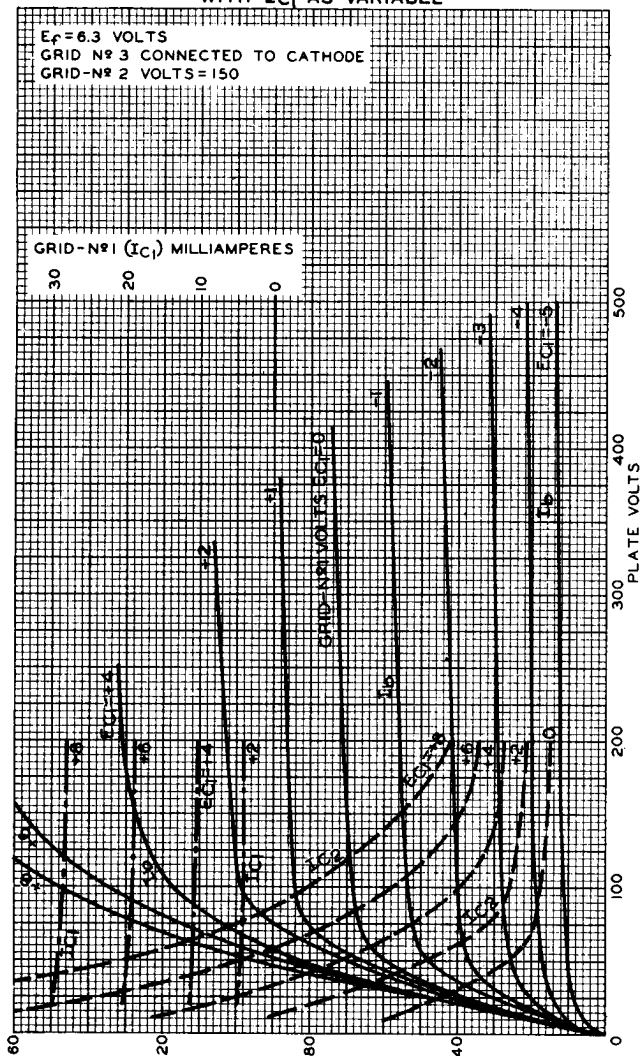


PLATE (I_b) OR GRID-N° 2 (I_{C2}) MILLIAMPERES

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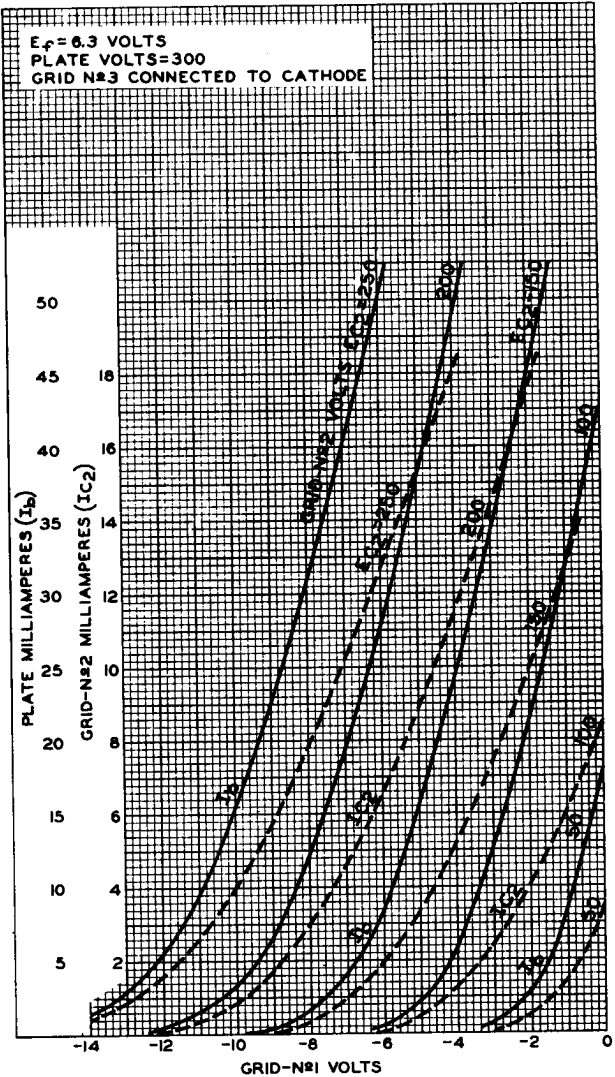
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AVERAGE CHARACTERISTICS



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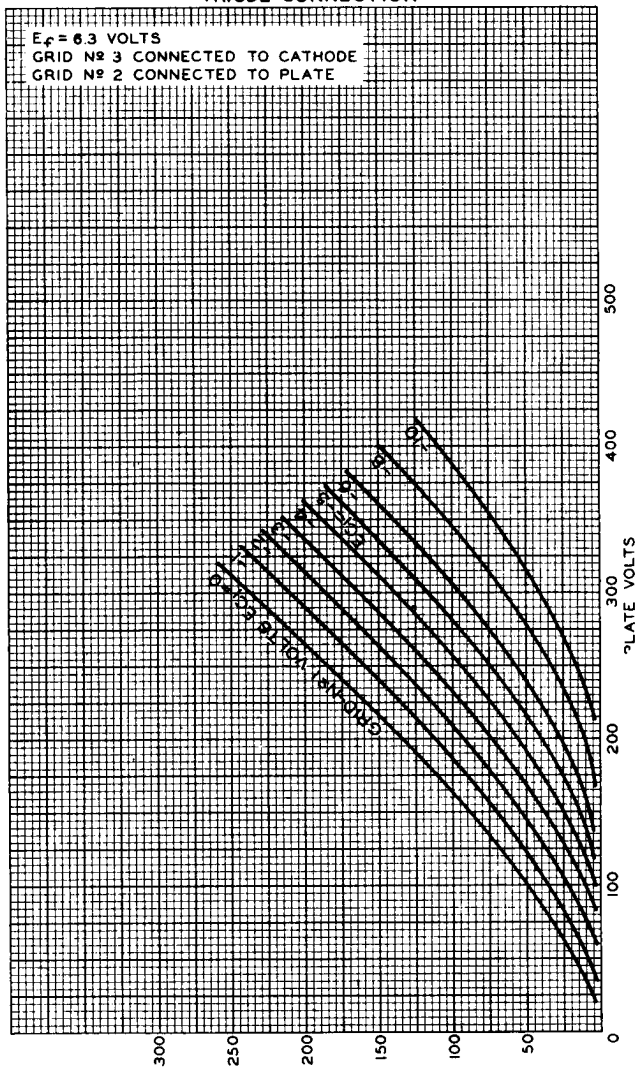
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AVERAGE PLATE CHARACTERISTICS TRIODE CONNECTION



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 PLATE MILLIAMPERES
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