

## Sharp-Cutoff Pentode With Two Independent Control Grids

7-PIN MINIATURE TYPE  
For FM Detector Service

### GENERAL DATA

#### Electrical:

Heater, for Unipotential Cathode:

Voltage (AC or DC) . . . . .	6.3 ± 10%	volts
Current at 6.3 volts . . . . .	0.3	amp

Direct Interelectrode Capacitances  
(Approx.):▲

Grid No.1 to plate . . . . .	0.02	μf
Grid No.1 to cathode & internal shield, grid No.3, grid No.2, and heater . . . . .	5.8	μf
Grid No.3 to plate . . . . .	1.7	μf
Grid No.1 to grid No.3 . . . . .	0.1	μf
Grid No.3 to cathode & internal shield, plate, grid No.2, grid No.1, and heater . . . . .	6.1	μf

#### Characteristics, Class A<sub>1</sub> Amplifier:

Plate Supply Voltage . . . . .	150	volts
Grid No.3 . . . . .	<i>Connected to cathode at socket</i>	
Grid-No.2 Supply Voltage . . . . .	100	volts
Cathode Resistor . . . . .	560	ohms
Plate Resistance (Approx.) . . . . .	0.15	megohm
Transconductance, Grid No.1 to Plate . . . . .	1350	μmhos
Transconductance, Grid No.3 to Plate . . . . .	515	μmhos
Plate Current . . . . .	1.55	ma
Grid-No.2 Current . . . . .	1.8	ma
Grid-No.1 Voltage (Approx.) for plate μ <sub>a</sub> = 10 . . . . .	-5.2	volts
Grid-No.3 Voltage (Approx.) for plate μ <sub>a</sub> = 10 . . . . .	-4.2	volts

#### Mechanical:

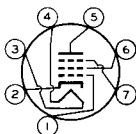
Operating Position . . . . .	Any
Maximum Overall Length . . . . .	2-1/8"
Maximum Seated Length . . . . .	1-7/8"
Length, Base Seat to Bulb Top (Excluding tip) . . . . .	1-1/2" ± 3/32"
Diameter . . . . .	0.650" to 0.750"
Dimensional Outline . . . . .	See <i>General Section</i>
Bulb . . . . .	T5-1/2
Base . . . . .	Small-Button Miniature 7-Pin (JEDEC No.E7-1)



# 6DT6-A

Basing Designation for BOTTOM VIEW. . . . . 7EN

Pin 1—Grid No.1  
Pin 2—Cathode,  
Internal  
Shield  
Pin 3—Heater



Pin 4—Heater  
Pin 5—Plate  
Pin 6—Grid No.2  
Pin 7—Grid No.3

## FM DETECTOR

### Maximum Ratings, Design-Maximum Values:

PLATE VOLTAGE. . . . . 330 max. volts  
GRID-No.3 (CONTROL-GRID) VOLTAGE . . . . . 28 max. volts  
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE . . . . . 330 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:  
Positive-bias value. . . . . 0 max. volts

GRID-No.2 INPUT:  
For grid-No.2 voltages up to 165 volts . . . . . 1.1 max. watts  
For grid-No.2 voltages between 165  
and 330 volts. . . . . See Grid-No.2 Input Rating Chart  
at front of Receiving Tube Section

PLATE DISSIPATION. . . . . 1.7 max. watts

PEAK HEATER-CATHODE VOLTAGE:  
Heater negative with respect to cathode. . . . . 200 max. volts  
Heater positive with respect to cathode. . . . . 200<sup>•</sup> max. volts

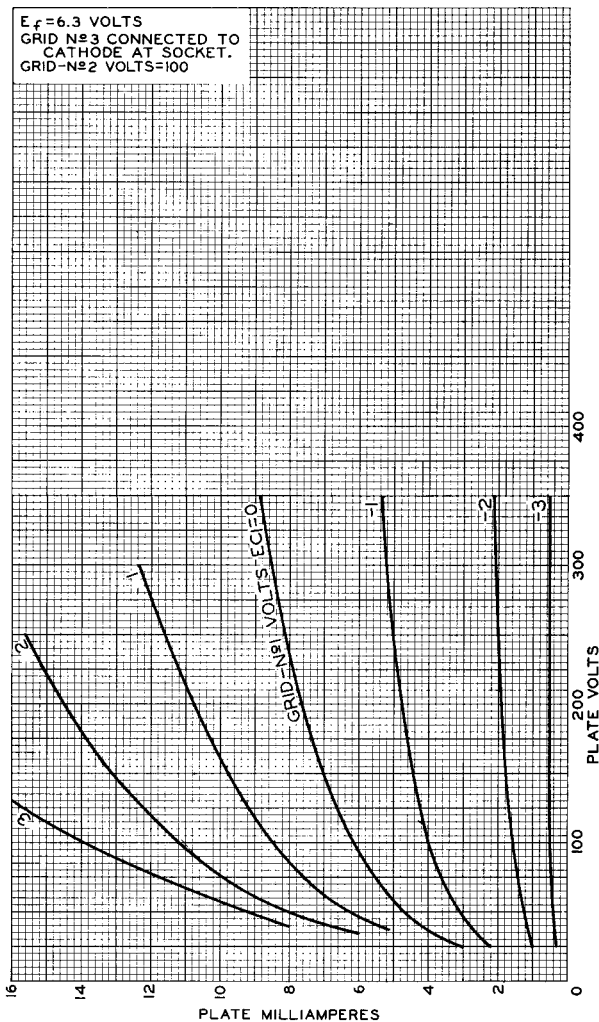
### Maximum Circuit Values:

Grid-No.1—Circuit Resistance:  
For fixed-bias operation . . . . . 0.25 max. megohm  
For cathode-bias operation . . . . . 0.5 max. megohm

- ▲ With external shield JEDEC No.316 connected to cathode.
- The dc component must not exceed 100 volts.



## AVERAGE PLATE CHARACTERISTICS

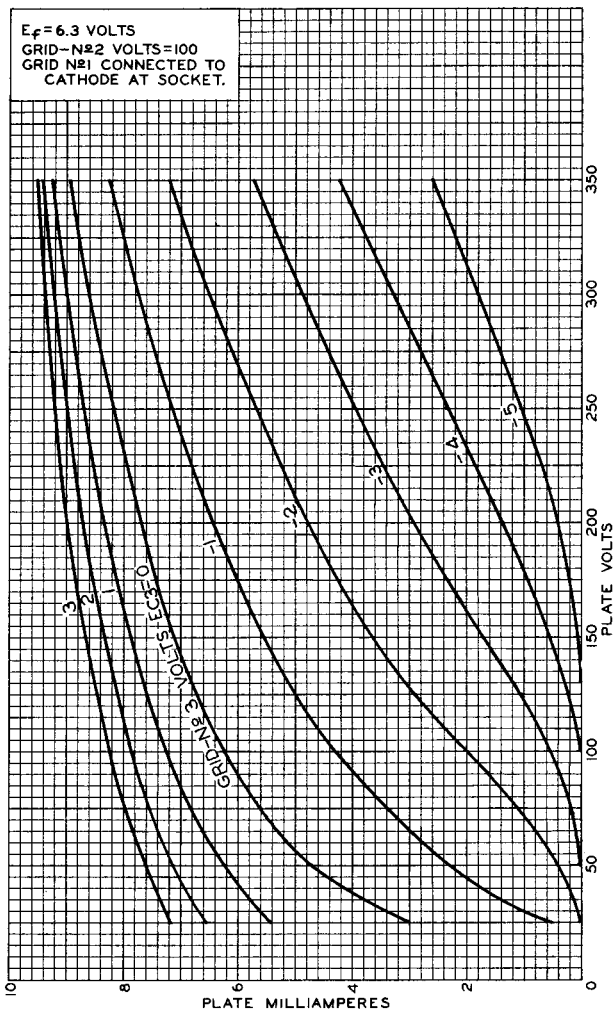


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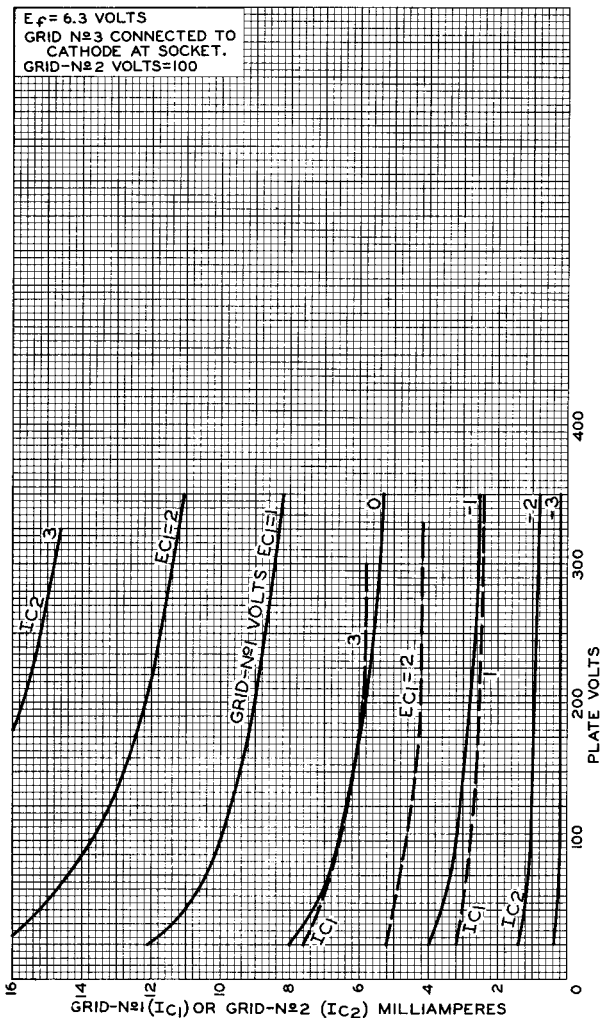
## AVERAGE PLATE CHARACTERISTICS



92CM-8830R2



## AVERAGE CHARACTERISTICS

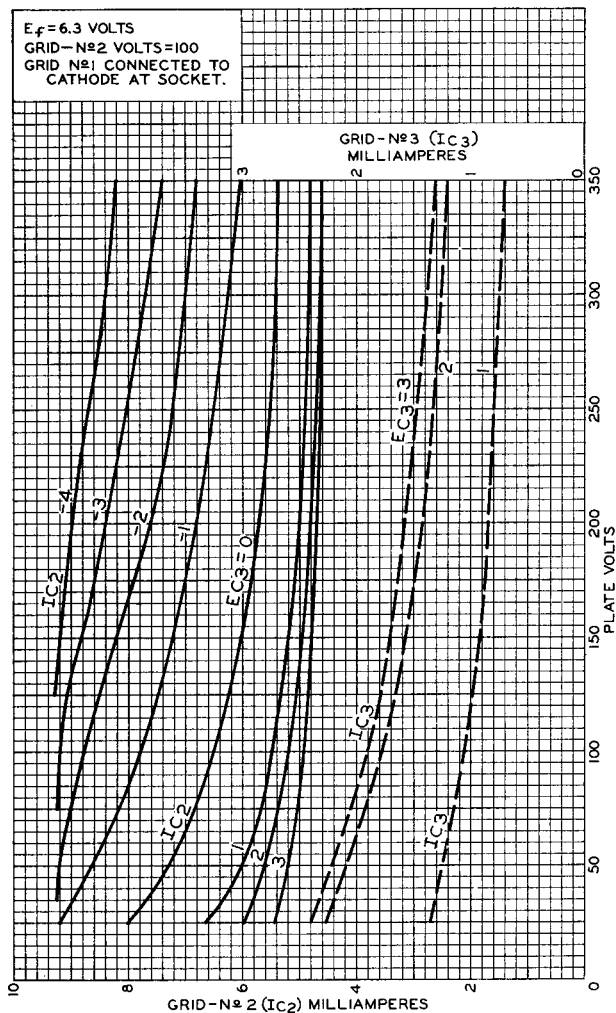


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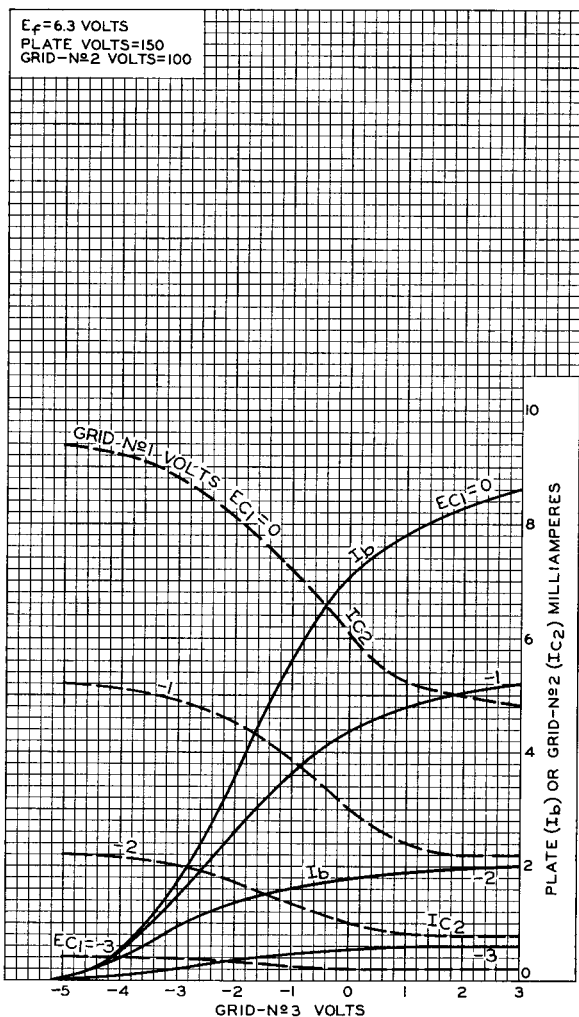
## AVERAGE CHARACTERISTICS



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## AVERAGE CHARACTERISTICS

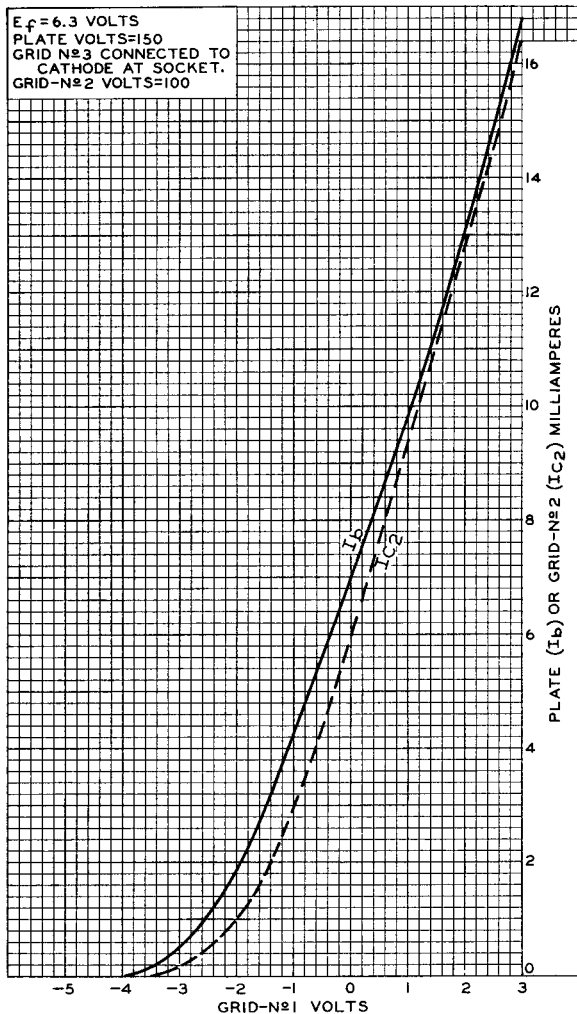


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## AVERAGE CHARACTERISTICS



92CM-8825R1

