



12AF6

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REMOTE-CUTOFF PENTODE

7-PIN MINIATURE TYPE

For use in automobile radio receivers
operating directly from 12-volt storage batteries

GENERAL DATA

Electrical:

Heater^o, for Unipotential Cathode:

Voltage range. . . . 10.0 to 15.9 dc volts

This voltage range is on an absolute basis. For longest life, it is recommended that the heater be operated within the voltage range of 11 to 14 volts.

Current (Approx.)

at 12.6 volts. . . . 0.15 amp

Direct Interelectrode Capacitances:^o

Grid No.1 to plate 0.006 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. 4.8 μf

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" \pm 3/32"

Maximum Diameter 3/4"

Dimensional Outline. See General Section

Bulb T5-1/2

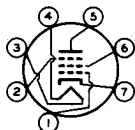
Base Small-Button Miniature 7-Pin (JETEC No.E7-1)

Basing Designation for BOTTOM VIEW 7BK

Pin 1 - Grid No.1

Pin 2 - Grid No.3,
Internal
Shield

Pin 3 - Heater



Pin 4 - Heater

Pin 5 - Plate

Pin 6 - Grid No.2

Pin 7 - Cathode

AMPLIFIER — Class A₁

Maximum Ratings, Design-Center Values:

PLATE VOLTAGE. 16 max. volts

GRID-No.2 (SCREEN-GRID) VOLTAGE. 16 max. volts

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

Positive bias value. 0 max. volts

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode. . 16 max. volts

Heater positive with respect to cathode. . 16 max. volts

^o: See next page.



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Characteristics with 12.6 Volts on Heater:

Plate Voltage	12.6	volts
Grid-No.3 (Suppressor-Grid) Voltage.	0	volts
Grid-No.2 Voltage	12.6	volts
Grid-No.1 Supply Voltage.	0	volts
Grid-No.1 Resistor (Bypassed)	2.2	megohms
Plate Resistance (Approx.)	0.3	megohm
Transconductance.	1250	μ mhos
Plate Current	0.8	ma
Grid-No.2 Current	0.3	ma
Grid-No.1 Voltage (Approx.) for transconductance of 40 μ mhos.	-2.7	volts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance. 2.2 max. megohms

o without external shield.

• Operation of heater in series with other heaters is not recommended.

OPERATING CONSIDERATIONS

The *maximum ratings* in the tabulated data for the 12AF6 are working design-center maximums established according to the standard design-center system of rating electron tubes. Tubes so rated will give satisfactory performance in storage-battery-operated equipment provided the following stipulations are observed:

In the case of storage-battery-with-charger supply or similar supplies, the normal battery-voltage fluctuation may be as much as 35 per cent or more. This fluctuation imposes severe operating conditions on tubes. Under these conditions, the equipment should be designed so that 90 per cent of the design-center maximum values of plate voltage, grid-No.2 voltage, plate dissipation, and grid-No.2 input is never exceeded for a battery-terminal potential of 13.2 volts. Although the operating voltages of the 12AF6 in this service will, at times, exceed the design-center maximum values, satisfactory performance with probable sacrifice in life will be obtained.