12F8

TWIN DIODE—REMOTE-CUTOFF PENTODE

9-PIN MINIATURE TYPE

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

GENERAL DATA

Electrical:

Heater•, 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

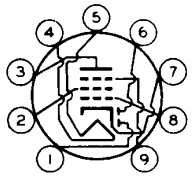
Direct Interelectrode Capacitances (Approx.):°

Grid No.1 to plate	0.06	μμf
Grid No.1 to cathode, grid No.3, grid No.2, and heater.	4.5	μμf
Plate to cathode, grid No.3, grid No.2, and heater.	3	μμf
Plate of diode unit No.1 to plate of diode unit No.2	0.3	μμf

Mechanical:

Operating Position	Any
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"
Maximum Diameter	7/8"
Dimensional Outline.	*See General Section*
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JETEC No.E9-1)
Basing Designation for BOTTOM VIEW	9FH

Pin 1 – Plate of Diode Unit No.2
Pin 2 – Pentode Grid No.2
Pin 3 – Pentode Plate
Pin 4 – Heater
Pin 5 – Heater
Pin 6 – Plate of Diode Unit No.1
Pin 7 – Cathode of Pentode Unit and Diode Units No.1 and 2
Pin 8 – Pentode Grid No.1
Pin 9 – Pentode Grid No.3



PENTODE UNIT — AMPLIFIER — Class A_1

Maximum Ratings, *Design Center Values:*

PLATE VOLTAGE.	30 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE.	30 max.	volts
GRID-No.1 (CONTROL-GRID) VOLTAGE:		
Positive bias value.	0 max.	volts

•,°: See next page.

ELECTRON TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

12F8

12F8

TWIN DIODE—REMOTE-CUTOFF PENTODE

PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	30 max.	volts
Heater positive with respect to cathode.	30 max.	volts
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 Voltage	0	volts
Plate Resistance (Approx.)	0.33	megohm
Transconductance	1000	μmhos
Plate Current	1	ma
Grid-No.2 Current	0.38	ma
Grid-No.1 Voltage (Approx.) for transconductance of 10 μmhos	-5	volts
Maximum Circuit Values:		
Grid-No.1-Circuit Resistance	10 max.	megohms

DIODE UNITS — Two

Maximum Ratings, *Design-Center Values:*

Values are for Each Unit

PLATE CURRENT	1 max.	ma
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	30 max.	volts
Heater positive with respect to cathode.	30 max.	volts
Characteristics with 12.6 Volts on Heater:		
Plate Current for plate volts = 10	2	ma

• Operation of heater in series with other heaters is not recommended.
° Without external shield.

OPERATING CONSIDERATIONS

The *maximum ratings* in the tabulated data for the 12F8 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 value of plate voltage and grid-No.2 voltage is never exceeded for a battery-terminal potential of 13.2 volts. Although the operating voltages of the 12F8 in this service will, at times, exceed the design-center maximum values, satisfactory performance with probable sacrifice in life will be obtained.

ELECTRON TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY