

12FU

## DUAL PENTODE

## 8BM11

Duodecar type used as if amplifier in television receivers. Unit No.1 is a semiremote-cutoff pentode, and unit No. 2 is a sharp-cutoff pentode. Outlines section, 8B; requires duodecar 12-contact socket. Heater: volts (ac/dc), 8.4; amperes, 0.45; maximum heater-cathode volts,  $\pm 200$  peak, 100 average.

 Class A<sub>1</sub> Amplifier

## MAXIMUM RATINGS (Design-Maximum Values)

|                                                             |      |
|-------------------------------------------------------------|------|
| Plate Voltage .....                                         | 160  |
| Grid-No.3 (Suppressor-Grid) Voltage .....                   | 0    |
| Grid-No.2 (Screen-Grid) Voltage .....                       | 160  |
| Grid-No.1 (Control-Grid) Voltage, Positive-bias value ..... | 0    |
| Plate Dissipation .....                                     | 2.2  |
| Grid-No.2 Input .....                                       | 0.55 |

## Unit No.1 Unit No.2

|      |      |       |
|------|------|-------|
| 160  | 160  | volts |
| 0    | 0    | volts |
| 160  | 160  | volts |
| 0    | 0    | volts |
| 2.2  | 2.2  | watts |
| 0.55 | 0.55 | watt  |

## CHARACTERISTICS

|                                                                        |                                |        |            |
|------------------------------------------------------------------------|--------------------------------|--------|------------|
| Plate Supply Voltage .....                                             | 125                            | 125    | volts      |
| Grid No.3 .....                                                        | Connected to cathode at socket |        |            |
| Grid-No.2 Voltage .....                                                | 125                            | 125    | volts      |
| Cathode-Bias Resistor .....                                            | 56                             | 120    | ohms       |
| Plate Resistance (Approx.) .....                                       | 220000                         | 300000 | ohms       |
| Transconductance .....                                                 | 8800                           | 8500   | $\mu$ mhos |
| Plate Current .....                                                    | 14                             | 9      | mA         |
| Grid-No.2 Current .....                                                | 3.6                            | 2.5    | mA         |
| Grid-No.1 Voltage (Approx.) for plate current of 20 $\mu$ A .....      | —                              | —5.5   | volts      |
| Grid-No.1 Voltage (Approx.) for transconductance of 50 $\mu$ mho ..... | —16.5                          | —      | volts      |

## MAXIMUM CIRCUIT VALUES

|                                                                |   |      |        |
|----------------------------------------------------------------|---|------|--------|
| Grid-No.1-Circuit Resistance, for cathode-bias operation ..... | 1 | 0.25 | megohm |
|----------------------------------------------------------------|---|------|--------|

Refer to type 6BN8.

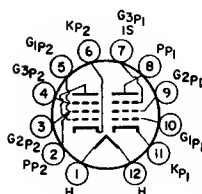
8BN8

Refer to chart at end of section.

8BN11

Refer to type 6BQ5.

8BQ5



12DM

 SEMIREMOTE-CUTOFF  
DUAL PENTODE

## 8BQ11

11BQ11, 16BQ11

Duodecar type used as intermediate-frequency amplifier in television receivers. Outlines section, 8B; requires duodecar 12-contact socket. Types 11BQ11 and 16BQ11 are identical with type 8BQ11 except for heater ratings.

|                                     | 8BQ11         | 11BQ11        | 16BQ11        |         |
|-------------------------------------|---------------|---------------|---------------|---------|
| Heater Voltage (ac/dc) .....        | 8.4           | 11.2          | 16            | volts   |
| Heater Current .....                | 0.6           | 0.45          | 0.315         | ampere  |
| Heater Warm-up Time (Average) ..... | 11            | 11            | 11            | seconds |
| Heater-Cathode Voltage:             |               |               |               |         |
| Peak value .....                    | $\pm 200$ max | $\pm 200$ max | $\pm 200$ max | volts   |
| Average value .....                 | 100 max       | 100 max       | 100 max       | volts   |

## Direct Interelectrode Capacitances:

|                                                                                                       | Unit No.1 | Unit No.2 |    |
|-------------------------------------------------------------------------------------------------------|-----------|-----------|----|
| Grid No.1 to Plate .....                                                                              | 0.022     | 0.024     | pF |
| Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield .....                         | 10        | —         | pF |
| Plate to Cathode, Heater, Grid No.2, Grid No.3, and Internal Shield .....                             | 2.8       | —         | pF |
| Grid No.1 to Cathode, Heater, Grid No.2, Grid No.3, Grid No.3 of Unit No.1, and Internal Shield ..... | —         | 11        | pF |