

# 6B10

## Twin Diode—Medium-Mu-Twin Triode

### DUODECAR TYPE

With Heater Having Controlled Warm-Up Time

#### GENERAL DATA

##### Electrical:

Heater Characteristics and Ratings (*Design-Maximum Values*):  
 Voltage (AC or DC) . . . . . 6.3<sup>a</sup> 6.3 ± 0.6 volts  
 Current . . . . . 0.600 ± 0.040 0.600<sup>b</sup> amp  
 Warm-up time (Average) . . . . . 11 - sec

Peak heater-cathode voltage (Each unit):  
 Heater negative with respect to cathode . . . . . 200 max. volts  
 Heater positive with respect to cathode . . . . . 200<sup>c</sup> max. volts

Direct Interelectrode Capacitances (Approx.):<sup>d</sup>

##### Diode Units:

Plate of unit No.1 to cathode, internal shield, and heater . . . . . 1.9 pf  
 Plate of unit No.2 to cathode, internal shield, and heater . . . . . 1.8 pf

##### Triode Units:

	Unit No. 1	Unit No. 2	
Grid to plate . . . . .	1.5	1.5	pf
Grid to cathode, internal shield, and heater . . . . .	1.7	1.8	pf
Plate to cathode, internal shield, and heater . . . . .	1.6	0.6	pf
Plate of diode unit No.1 to plate of diode unit No.2 . . . . .	0.7		pf
Triode grid to plate of diode unit No.1 . . . . .	0.015	0.005	pf
Triode grid to plate of diode unit No.2 . . . . .	0.02	0.005	pf
Plate of triode unit No.1 to plate of triode unit No.2 . . . . .	0.9		pf

##### Characteristics, Class A<sub>1</sub> Amplifier (Each Triode Unit):

Plate Voltage . . . . . 250 volts  
 Grid Voltage . . . . . -8 volts  
 Amplification Factor . . . . . 18  
 Plate Resistance (Approx.) . . . . . 7200 ohms  
 Transconductance . . . . . 2500  $\mu$ mhos  
 Plate Current . . . . . 10 ma  
 Grid Voltage (Approx.) for plate  $\mu$ a = 50 . . . . . -20 volts

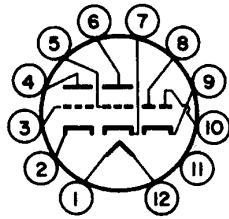


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**Mechanical:**

Operating Position. . . . . Any  
 Types of Cathodes . . . . . Coated Unipotential  
 Maximum Overall Length. . . . . 1.875"  
 Seated Length . . . . . 1.250" to 1.500"  
 Diameter. . . . . 1.062" to 1.188"  
 Bulb. . . . . T9  
 Base. . . . . Small-Button Duodecar 12-Pin (JEDEC No.E12-70)  
 Basing Designation for BOTTOM VIEW. . . . . 12BF

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|-------------------------------------|--|
| Pin 1 - Heater                      | Pin 7 - Cathode of Triode Unit No.1        |
| Pin 2 - Cathode of Triode Unit No.2 | Pin 8 - Plate of Diode Unit No.2           |
| Pin 3 - Grid of Triode Unit No.2    | Pin 9 - Cathode of Diode Units No.1 & No.2 |
| Pin 4 - Plate of Triode Unit No.2   | Pin 10 - Plate of Diode Unit No.1          |
| Pin 5 - Grid of Triode Unit No.1    | Pin 11 - Internal Shield                   |
| Pin 6 - Plate of Triode Unit No.1   | Pin 12 - Heater                            |



**TRIODE UNITS — AMPLIFIER — Class A<sub>1</sub>**

*Values are for Each Unit*

**Maximum Ratings, Design-Maximum Values:**

PLATE VOLTAGE . . . . .	330 max.	volts
DC CATHODE CURRENT. . . . .	20 max.	ma
PLATE DISSIPATION . . . . .	3 max.	watts

**Maximum Circuit Values:**

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

**DIODE UNITS — Two**

*Values are for Each Unit*

**Maximum Ratings, Design-Maximum Values:**

PLATE CURRENT . . . . .	5 max.	ma
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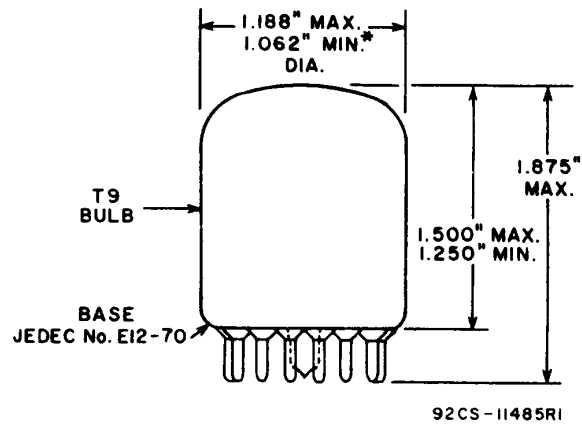
**Characteristics, Instantaneous Value:**

Plate Current for plate volts = 5 . . .	20	ma
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- <sup>a</sup> At heater amperes = 0.600.
- <sup>b</sup> At heater volts = 6.3.
- <sup>c</sup> The dc component must not exceed 100 volts.
- <sup>d</sup> Without external shield.



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\* APPLIES TO MINIMUM DIAMETER EXCEPT IN AREA OF SEAL.



RADIO CORPORATION OF AMERICA  
Electron Tube Division  
Harrison, N. J.

DATA 2  
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