



5691

# HIGH-MU TWIN TRIODE

5691  
SPECIAL RED  
TUBE

*Intended for critical industrial applications where 10,000-hour life, extreme uniformity, rigid construction, and exceptional stability are paramount. Within its ratings, the 5691 may be used to replace its receiving-tube counterpart, type 6SL7-GT, where heater transformer will carry increased current.*

## GENERAL DATA

### Electrical:

Heater, for Unipotential Cathodes:

Voltage . . . . . 6.3 ± 5%\* . . . . . ac or dc volts  
Current . . . . . 0.6 . . . . . amp

Direct Interelectrode Capacitances:<sup>0</sup>

	Min.	Av.	Max.	
<b>Triode No.1:</b>				
Grid to Plate . . . . .	3.1	3.6	4.1	μμf
Grid to Cathode . . . . .	1.9	2.4	2.9	μμf
Plate to Cathode . . . . .	1.8	2.3	2.8	μμf
<b>Triode No.2:</b>				
Grid to Plate . . . . .	3.1	3.6	4.1	μμf
Grid to Cathode . . . . .	2.2	2.7	3.2	μμf
Plate to Cathode . . . . .	2.1	2.6	3.1	μμf
<b>Plate of Triode No.1 to</b>				
Plate of Triode No.2 . . . . .	0.27	0.32	0.37	μμf

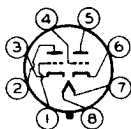
\* May deviate ±10% from rated value provided such deviation occurs for less than 2% of the operating time.

<sup>0</sup> With no external shield.

### Mechanical:

Mounting Position . . . . . Any  
 Maximum Overall Length . . . . . 2-7/8"  
 Maximum Seated Length . . . . . 2-5/16"  
 Maximum Diameter . . . . . 1-9/32"  
 Bulb . . . . . T-9  
 Base . . . . . Short Intermediate-Shell Octal  
 8-Pin, Non-Hygroscopic  
 Basing Designation for BOTTOM VIEW . . . . . 8BD

Pin 1 - Grid of Triode No.2  
 Pin 2 - Plate of Triode No.2  
 Pin 3 - Cathode of Triode No.2  
 Pin 4 - Grid of Triode No.1



Pin 5 - Plate of Triode No.1  
 Pin 6 - Cathode of Triode No.1  
 Pin 7 - Heater  
 Pin 8 - Heater

(continued on next page)

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## HIGH-MU TWIN TRIODE

INDUSTRIAL SERVICE

Includes applications such as dc and audio amplifiers

Values are for each unit

**Maximum Ratings, Absolute Values:**

DC PLATE VOLTAGE . . . . .	275 max.	volts
DC PLATE-SUPPLY VOLTAGE. . . . .	330 max.	volts
GRID VOLTAGE:		
Negative bias range. . . . .	1 <sup>•</sup> min. to 100 max.	volts
Negative peak value. . . . .	200 max.	volts
DC GRID CURRENT. . . . .	2 max.	ma
DC CATHODE CURRENT . . . . .	10 max.	ma
PLATE DISSIPATION. . . . .	1 max.	watt
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode. . . . .	100 max.	volts
Heater positive with respect to cathode. . . . .	100 max.	volts
AMBIENT TEMPERATURE RANGE. . . . .	-55 to +90	°C

• For resistance-coupled amplifier applications, the negative bias may be as low as 0.5 volt.

**Maximum Circuit Value (for any operating condition):**

Grid-Circuit Resistance. . . . .	2 max.	megohms
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**Characteristics and Range Values:**

Heater Volts, 6.3; Plate Volts, 250; Grid Volts, -2

	<u>Min.</u>	<u>Average</u>	<u>Max.</u>	
Heater Current . . . . .	0.55	0.6	0.65	amp
Heater-Cathode Current with heater-cathode voltage of ± 100 volts. . . . .	-	-	5	μamp
Plate Current. . . . .	1.7	2.3	2.9	ma
Difference in Plate Current between triode units . . . . .	-	-	0.9	ma
Plate Current for grid volt- age of -5.5 volts. . . . .	-	-	15	μamp
Reverse Grid Current . . . . .	-	-	0.2	μamp
Amplification Factor . . . . .	60	70	80	
Plate Resistance . . . . .	-	44000	-	ohms
Transconductance . . . . .	1300	1600	1900	μmhos

**Typical Operation as Resistance-Coupled Amplifier (Each Unit)**

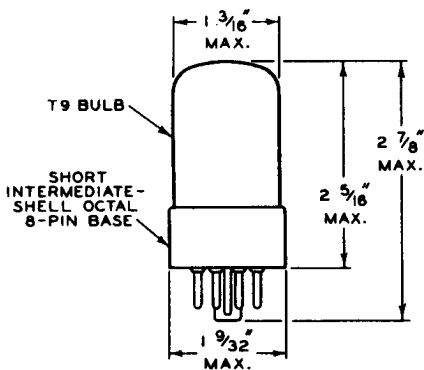
See RESISTANCE-COUPLED AMPLIFIER CHART No. 7 at front of Receiving Tube Section.



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# HIGH-MU TWIN TRIODE

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### AVERAGE PLATE CHARACTERISTICS EACH TRIODE UNIT

$E_f = 6.3$  VOLTS

PLATE MILLIAMPERES - DASHED LINE CURVES

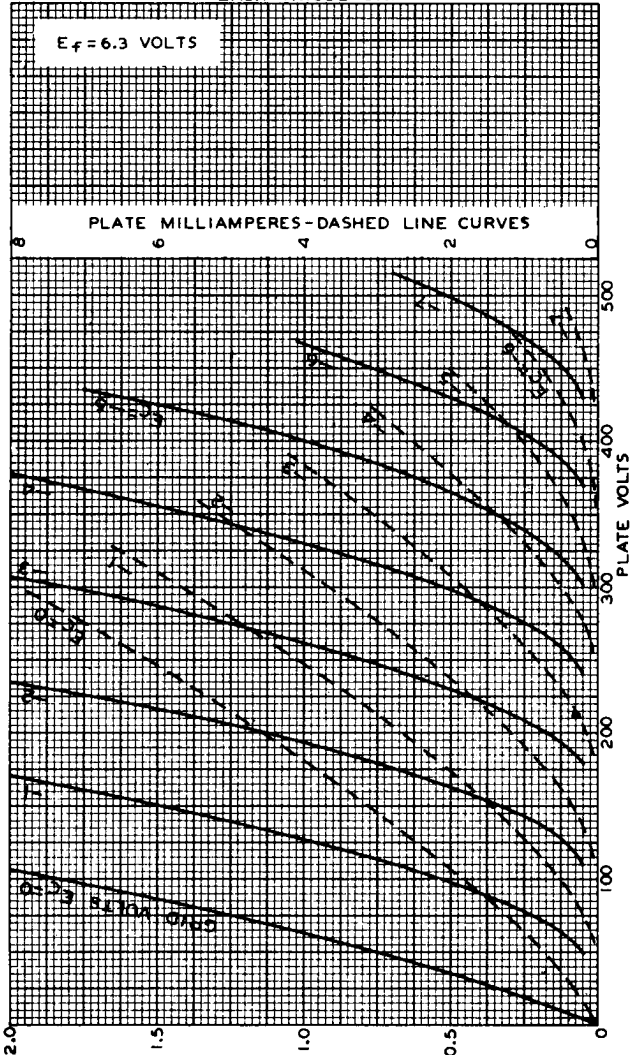


PLATE MILLIAMPERES - SOLID LINE CURVES

JUNE 16, 1941

TUBE DEPARTMENT

92C-6298

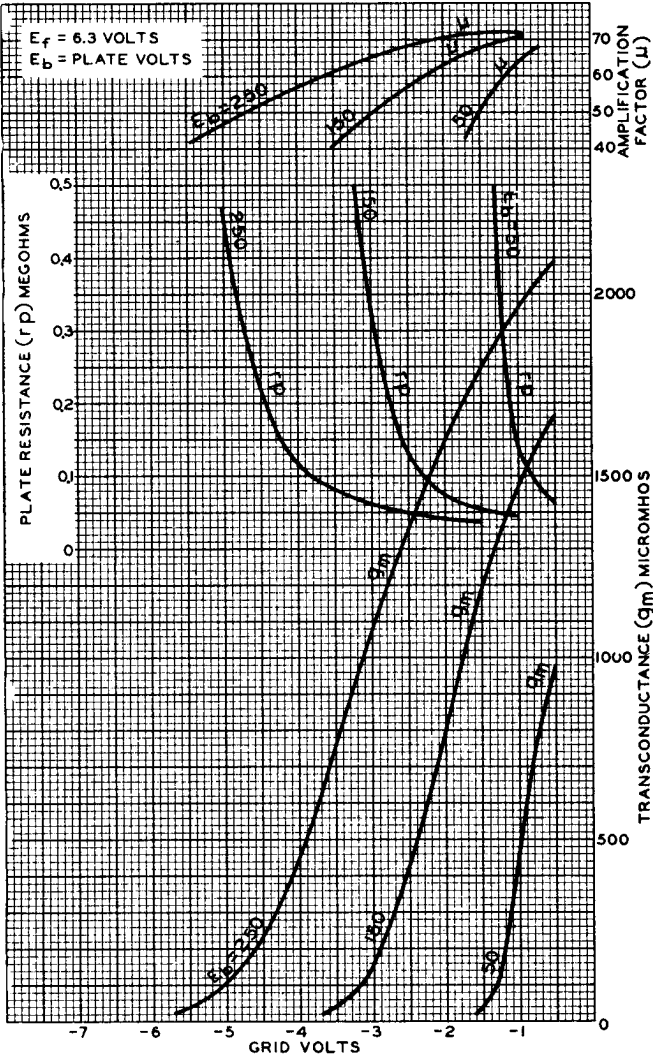
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY



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### AVERAGE CHARACTERISTICS EACH TRIODE UNIT

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NOV. 21, 1947

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