



• RCA - 5692 •

**MEDIUM-MU TWIN TRIODE**

RCA-5692 is a medium-mu twin triode designed and manufactured for critical industrial applications. It is particularly useful as a balanced dc amplifier, multivibrator, blocking oscillator, and resistance-coupled amplifier.

In addition to the features illustrated on page 8, this type has its heaters for the two triode units connected in series so that failure of either heater in bridge circuits makes both units inoperative.



The electrical characteristics of the 5692 are similar to those of the 6SN7-GT. The 5692 is recommended as a replacement for the 6SN7-GT only where the operating conditions are within the ratings of the 5692 and only where long life, rigid construction, extreme uniformity, and exceptional stability are needed. If the 5692 is operated at the higher maximum ratings of the 6SN7-GT, the full advantages of the 5692 will not be obtained.

**GENERAL DATA**

**Electrical:**

Heater, Pure Tungsten, for Unipotential Cathodes:

Voltage (AC or DC).....	6.3 ± 5%*	Volts
Current.....	0.6	Amp

**Direct Interelectrode Capacitances:°**

	Min.	Av.	Max.	
Triode Unit No. 1—				
Grid to Plate.....	3.0	3.5	4.0	μf
Grid to Cathode.....	1.8	2.3	2.8	μf
Plate to Cathode.....	2.0	2.5	3.0	μf
Triode Unit No. 2—				
Grid to Plate.....	2.8	3.3	3.8	μf
Grid to Cathode.....	2.1	2.6	3.1	μf
Plate to Cathode.....	2.2	2.7	3.2	μf
Plate of Triode Unit No. 1 to				
Plate of Triode Unit No. 2..	0.31	0.35	0.39	μf

**Typical Operation—Resistance-Coupled Amplifier (Each Triode Unit):**

Plate-Supply Voltage	90			180			300			Volts
	0.05	0.1	0.25	0.05	0.1	0.25	0.05	0.1	0.25	
Plate Load Resistor.....	0.05	0.1	0.25	0.05	0.1	0.25	0.05	0.1	0.25	Megohm
Grid Resistor (of following stage)	0.1	0.25	0.5	0.1	0.25	0.5	0.1	0.25	0.5	Megohm
Cathode Resistor.....	2070	3940	9760	1490	2830	7000	1270	2440	5770	Ohms
Cathode Bypass Capacitor‡.....	2.66	1.29	0.55	2.86	1.35	0.62	2.96	1.42	0.64	μf
Blocking Capacitor‡.....	0.029	0.012	0.007	0.032	0.012	0.007	0.034	0.0125	0.0075	μf
Peak Output Voltage†.....	14	17	18	30	34	36	51	56	57	Volts
Voltage Gain¶.....	12	13	13	13	14	14	14	14	14	

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

† This peak output voltage is obtained across the grid resistor of the following stage at any frequency within the flat region of the output vs frequency curve, and is for the condition where the signal level is adequate to swing the grid of the resistance-coupled amplifier tube to the point where its grid starts to draw current.

**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, with External Barriers, Non-Hygrosopic

**INDUSTRIAL SERVICE**

Includes applications such as dc amplifiers, audio amplifiers and relaxation oscillators

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 value.....	-1• min. to -100 max.	Volts
Negative peak value.....	-200 max.	Volts
DC GRID CURRENT.....	2 max.	Ma
DC CATHODE CURRENT.....	15 max.	Ma
PLATE DISSIPATION.....	1.75 max.	Watts
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
Maximum Circuit Value (for any operating condition):		
Grid-Circuit Resistance.....	2 max.	Meg

**Characteristics and Range Values:**

Heater Volts, 6.3; Plate Volts, 250; Grid Volts, -9

	Min.	Av.	Max.	Amp
Heater Current.....	0.58	0.6	0.62	Amp
Heater-Cathode Current with heater-cathode voltage of ±100 volts.....	—	—	5	μa
Plate Current.....	4.8	6.5	8.2	Ma
Plate Current for grid voltage of -24 volts.....	—	—	15	μa
Difference in Plate Current between triode units.....	—	—	1.6	Ma
Reverse Grid Current.....	—	—	0.2	μa
Amplification Factor.....	18	20	22	
Plate Resistance.....	—	9100	—	Ohms
Transconductance.....	1825	2200	2575	μmhos

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

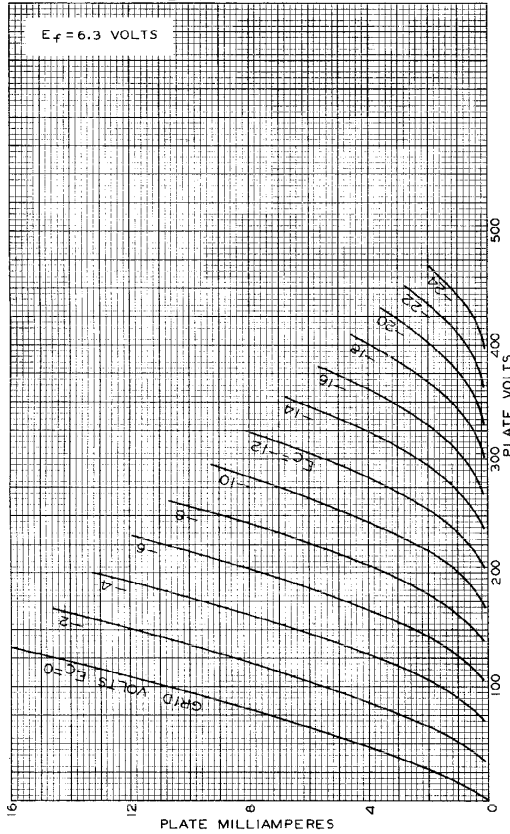
°With no external shield. †At an output voltage of 5 volts rms.

‡The cathode bypass capacitors and blocking capacitors have been chosen to give output voltages at 100 cps (f<sub>1</sub>) which are equal to 0.8 of the mid-frequency value. For any other value of (f<sub>1</sub>), multiply the values of cathode bypass and blocking capacitors by 100/f<sub>1</sub>.



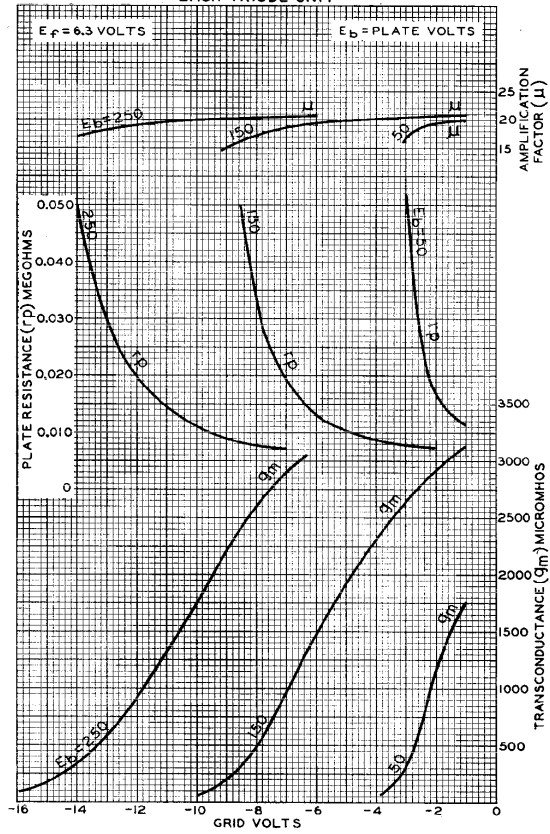
5692

AVERAGE PLATE CHARACTERISTICS  
EACH TRIODE UNIT



92CM-6257

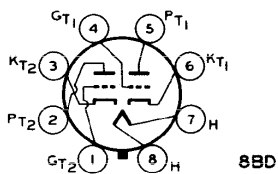
AVERAGE CHARACTERISTICS  
EACH TRIODE UNIT



92CM-6914

SOCKET CONNECTIONS

Bottom View



- Pin 1: Grid of Triode Unit No. 2
- Pin 2: Plate of Triode Unit No. 2
- Pin 3: Cathode of Triode Unit No. 2
- Pin 4: Grid of Triode Unit No. 1
- Pin 5: Plate of Triode Unit No. 1
- Pin 6: Cathode of Triode Unit No. 1
- Pin 7: Heater
- Pin 8: Heater

DIMENSIONAL OUTLINE

