



RCA-6SC7

TWIN TRIODE AMPLIFIER
Single-Ended Metal Type

The 6SC7 is a new, single-ended, metal, twin triode amplifier intended primarily for phase-inverter service. Each triode unit is designed with a high mu-factor to give high gain. Interlead shielding between grid and heater within the base reduces hum voltage picked up by the grid lead from the heater leads and permits operation with a satisfactory hum level.

TENTATIVE CHARACTERISTICS and RATINGS

HEATER VOLTAGE (A.C. or D.C.)	6.3	Volts
HEATER CURRENT	0.3	Ampere
MAXIMUM OVERALL LENGTH	2-5/8"	
MAXIMUM DIAMETER	1-5/16"	
BASE	Small Wafer Octal 8-Pin	

Characteristics - Each Triode Unit

HEATER VOLTAGE *	6.3	Volts
PLATE VOLTAGE	250 max.	Volts
GRID VOLTAGE	-2	Volts
AMPLIFICATION FACTOR	70	
PLATE RESISTANCE	53000	approx. Ohms
TRANSCONDUCTANCE	1325	approx. Micromhos
PLATE CURRENT	2	Milliamperes
TYPICAL OPERATION AS PHASE INVERTER:		
Plate-Voltage Supply ¹	90	300 Volts
Plate Load (R _L)	250000	250000 Ohms
Grid Resistor (R _g) for following stage	0.5	0.5 Megohm
Cathode Resistor (R _c) **	3750	1675 Ohms
Blocking Condenser	0.006	0.006 μf
Voltage Output ²	9	55 Peak Volts
Voltage Gain ³	30	42

¹ Voltage at plate equals Plate-Supply Voltage minus voltage drop in R_L and R_c. For other supply voltages differing by as much as 50% from those listed, the values of resistors, condensers, and gain are approximately correct. The value of output voltage, however, for any of these other supply voltages equals the listed voltage output multiplied by the new plate-supply voltage divided by the plate-supply voltage corresponding to the listed voltage output.

² Voltage across R_g at grid-current point.

³ Voltage gain at 5 volts (RMS) output.

** The value of R_c is specified on the basis that both units are operating simultaneously at the same values of plate load and plate voltage. For phase-inverter service, the cathode resistor should not be by-passed by a condenser. Omission of the condenser in this service assists in balancing the output voltages.

* In circuits where the cathode is not directly connected to the heater, the potential difference between heater and cathode should be kept as low as possible.

Pin Connections

Pin 1 - Shell	Pin 5 - Plate (Triode T ₁)
Pin 2 - Plate (Triode T ₂)	Pin 6 - Cathode
Pin 3 - Grid (Triode T ₂)	Pin 7 - Heater
Pin 4 - Grid (Triode T ₁)	Pin 8 - Heater

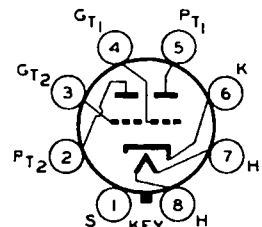
Mounting Position

Vertical or Horizontal - No restrictions

OUTLINE DRAWING FOR 6SC7

Same as for 6SA7

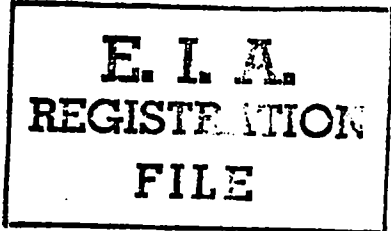
BOTTOM VIEW OF SOCKET CONNECTIONS FOR 6SC7



JETEC DATA
 JOINT ELECTRON TUBE ENGINEERING COUNCIL
 COMMITTEE ON RECEIVING TUBES

150A
 J5-6SC7
 January 29, 1952

JETEC TYPE 6SC7
DOUBLE TRIODE



MECHANICAL DATA

Coated unipotential cathode	
Outline drawing	8-1 Bulb. MT-8
Base	B8-21 small wafer octal 8-pin
Maximum diameter1-5/16"
Maximum overall length	2-5/8"
Maximum seated height	2-1/16"
Pin connections	Basing 8S
Pin 1 - Shell	Pin 5 - #1 Plate
Pin 2 - #2 Plate	Pin 6 - Cathode
Pin 3 - #2 Grid	Pin 7 - Heater
Pin 4 - #1 Grid	Pin 8 - Heater
Mounting position	any

ELECTRICAL DATA

Direct Interelectrode Capacitances* (approx.)

Grid to plate: (g1 to p)	2.0	μf
Input: g1 to (h+k+g2+g3+S)	2.0	μf
Output: p to (h+k+g2+g3+S)	3.0	μf

*Pin 1 connected to pin 6

Ratings

Heater voltage (ac or dc)	6.3	volts
Maximum heater-cathode voltage	90	volts
Maximum plate voltage	250	volts

Typical Operating Conditions and Characteristics, Class A1 Amplifier (each unit)

Heater voltage	6.3	volts
Heater current	300	ma
Plate voltage	250	volts
Grid voltage	-2	volts
Amplification factor	70	
Plate resistance	53,000	ohms
Transconductance	1325	μmhos
Plate current	2	ma

Refer to "Interpretation of Receiving Tube Ratings"

JOINT ELECTRON DEVICE ENGINEERING COUNCIL



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Announcement
of
Electron Device Type Reregistration
Release No. 150B (Tentative)*

March 14, 1960

The Joint Electron Device Engineering Council announced the registration of the following electron device designation

6SC7

on November 2, 1938, Release No. 150, under the sponsorship of Radio Corporation of America, Harrison, New Jersey

The sponsor now proposes reregistration based on the following data:

<u>ITEM</u>	<u>AS REGISTERED</u>	<u>AS PROPOSED</u>
Under <u>ELECTRICAL DATA</u>		
<u>Direct Interelectrode Capacitances* (Approx.)</u>	See Release 150A (1/29/52)	<u>Direct Interelectrode Capacitances* (Each Unit, Approx.)</u>
Input:	g_1 to $(h+k+g_2+g_3+S)$	g_1 to $(h+k+S)$
Output:	p to $(h+k+g_2+g_3+S)$	p to $(h+k+S)$

*Pin 1 connected to pin 6.

*Unless valid objection to this reregistration is lodged with the EIA Standards Laboratory prior to April 14, 1960, this reregistration will be made and this information will be considered "FINAL" WITHOUT FURTHER NOTICE!