RCA

3C33

TWIN-TRIODE POWER AMPLIFIER

GENERAL DATA

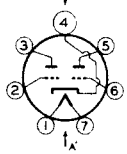
Electrical:

Heater, for Unipotential Cathode:		
Voltage	12.6 ± 10%	ac or dc volts
Current	1.125	amp
Amplification Factor, (per unit)	11	
Direct Interelectrode Capacitances (per unit):		
Grid to Plate	5	μμf
Grid to Cathode	8.5	μμf
Plate to Cathode	4	μμf

Mechanical:

Mounting Position	Vertical, base up or down; Horizontal, with plane of each plate vertical
Overall Length	3-1/2" ± 3/16"
Seated Length	3-1/16" ± 3/16"
Maximum Diameter	See Outline Drawing
Bulb	T-16
Base	Medium Molded-Flare Septar 7-Pin
Basing Designation for BOTTOM VIEW	7CG

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



PLANE OF ELECTRODES OF EACH UNIT IS PARALLEL TO PLANE THROUGH AXIS OF TUBE AND AA'

CONTROL AMPLIFIER SERVICE

Values are for each unit unless otherwise specified

Maximum Ratings, *Absolute Values*:

PEAK PLATE VOLTAGE	± 2000 max.	volts
DC GRID VOLTAGE	-200 max.	volts
PEAK CATHODE CURRENT	500 max.	ma.
AVERAGE PLATE CURRENT	120 max.	ma.
AVERAGE GRID CURRENT	7.5 max.	ma.
PLATE DISSIPATION	15 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	100 max.	volts
Heater positive with respect to cathode	100 max.	volts

Typical Operation in Accompanying Circuit:

Plate-Supply Voltage (E_{RMS})*	600	volts
DC Grid-Supply Voltage (E_{CC})	-160	volts

* See next page.

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Peak Grid Voltage (See Note 1)	160	volts
Grid-Circuit Resistance (R_g)	0.5	megohm
Load Resistance (R_L)	3000	ohms
Peak Output Current°	210	ma.

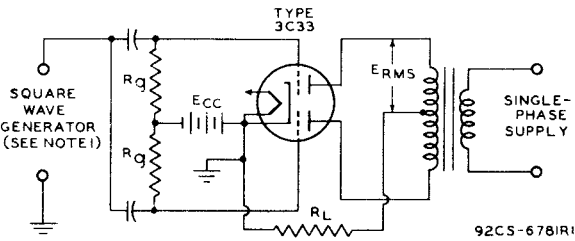
Maximum Circuit Values:

Grid-Circuit Resistance:

→ When grid potential is always negative.	0.5	megohm
When grid potential swings positive	0.03	megohm

* Plates are operated 180° out of phase.

° Output-current wave-shape is essentially that of a half-sine wave.



NOTE I: VOLTAGE DELIVERED BY SQUARE-WAVE GENERATOR TO THE PARALLELED GRIDS SHOULD BE IN PHASE WITH THE PLATE VOLTAGE ON ONE OF THE UNITS TO PERMIT CONDUCTION THROUGH THAT UNIT WITH RESULTANT CURRENT FLOW THROUGH R_L, AND SHOULD BE REVERSIBLE IN PHASE TO PERMIT CONDUCTION THROUGH THE OTHER UNIT WITH RESULTANT CURRENT FLOW THROUGH R_L.

→ Indicates a change.

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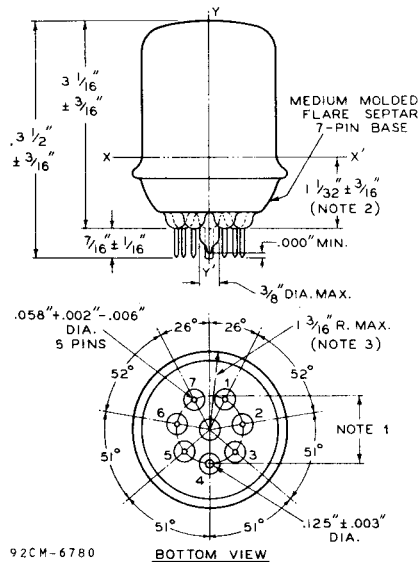

THE REFERENCE AXIS YY' IS DEFINED AS THE AXIS OF THE BASE-PIN GAUGE DESCRIBED IN NOTE 1.

NOTE 1: ANGULAR VARIATIONS BETWEEN PINS AND VARIATION IN PIN-CIRCLE DIAMETER ARE HELD TO TOLERANCES SUCH THAT PINS WILL ENTER TO A DISTANCE OF 0.375" A FLAT-PLATE BASE-PIN GAUGE HAVING SIX HOLES 0.0800" ± 0.0005" AND ONE HOLE 0.1450" ± 0.0005" ARRANGED ON A 1.0000" ± 0.0005" CIRCLE AT SPECIFIED ANGLES WITH TOLERANCE OF ±5' FOR EACH ANGLE. GAUGE IS ALSO PROVIDED WITH A HOLE 0.500" ± 0.010" CONCENTRIC WITH PIN CIRCLE WHOSE CENTER IS ON THE AXIS YY'.

NOTE 2: A FLAT-PLATE FLANGE GAUGE WITH HOLE 2.063" − 0.000" + 0.003" IS LOWERED OVER TUBE SEATED IN BASE-PIN GAUGE SO THAT THE HOLE AXIS IS COINCIDENT WITH AXIS YY' WITHIN 0.150", AND SO THAT THE BOTTOM SURFACE OF THE FLANGE GAUGE IS PARALLEL TO THE TOP SURFACE OF THE BASE-PIN GAUGE, AND UNTIL THE FLANGE GAUGE RESTS ON THE TUBE-FLANGE SEAL AT POSITION XX'. THE PERPENDICULAR DISTANCE BETWEEN THE TWO GAUGES WILL BE AS SHOWN.

NOTE 3: MINIMUM DIAMETER OF TUBE-SEAL FLANGE WILL BE SUCH THAT A RING GAUGE HAVING AN INSIDE DIAMETER OF 2.125" − 0.000" + 0.003" AND THICKNESS OF 0.125" ± 0.010" WILL NOT PASS THE FLANGE WHEN TRIED AT ANY ANGLE.

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AVERAGE PLATE CHARACTERISTICS
EACH TRIODE UNIT