

RCA Transmitting Tubes

FILAMENT VOLTAGE (AC)°	2.5	volts
FILAMENT CURRENT	5.0	amperes
PEAK TUBE VOLTAGE DROP (Approx.)	10	volts

° Filament voltage must be applied at least 30 seconds before application of anode voltage.

HALF-WAVE RECTIFIER

Maximum Ratings:

PEAK INVERSE ANODE VOLTAGE	4500 max	volts
ANODE CURRENT:		
Peak	2.0 max	amperes
Average $\bigcirc$	0.5 max	ampere
Fault, for duration of 0.1 second maximum	20 max	amperes
FREQUENCY OF POWER SUPPLY	500 max	cps
AMBIENT-TEMPERATURE RANGE	-75 to +90	°C

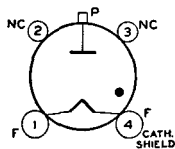
$\bigcirc$ Averaged over any period of 30 seconds maximum.

Operating Values:

Circuit (For circuit figures, refer to Rectifier Considerations Section)	Fig.	Max. Trans. Sec. Volts (RMS) E	Approx. DC Output Volts To Filter Eav	Max. DC Output Amperes Iav	Max. DC Output KW To Filter Pdc
In-Phase Operation					
Half-Wave Single-Phase	54	3100	1400	0.5	0.7
Full-Wave Single-Phase	55	1500	1400	1.0	1.4
Series Single-Phase	56	3100	2850	1.0	2.8
Half-Wave Three-Phase	57	1800	2150	1.5	3.2
Quadrature Operation					
Parallel Three-Phase	58	1800	2150	3.0	6.4
Series Three-Phase	59	1800	4300	1.5	6.4
Half-Wave Four-Phase	60	1500	2000	1.8* 2.0■	3.6* 4.0■
Half-Wave Six-Phase	61	1500	2150	1.9* 2.0■	4.1* 4.3■

* Resistive Load

■ Inductive Load



HALF-WAVE GAS RECTIFIER

Xenon-filled rectifier of the coated-filament type. May be used in equipment subject to wide range of ambient temperature (-75° to $+90^{\circ}\text{C}$). Rating I: maximum peak inverse anode volts,

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10,000; maximum average anode amperes, 0.25. Rating II: maximum peak inverse anode volts, 5000; maximum average anode amperes, 0.5. Requires Small four-contact socket and may be mounted in any position. OUTLINE 33, *Outlines* Section.

FILAMENT VOLTAGE (AC)°	2.5	volts
FILAMENT CURRENT	5.0	amperes
PEAK TUBE VOLTAGE DROP (Approx.)	10	volts

° Filament voltage must be applied at least 10 seconds before the application of anode voltage.

HALF-WAVE RECTIFIER

Maximum Ratings:

PEAK INVERSE ANODE VOLTAGE	5000 max	10000 max	volts
ANODE CURRENT:			
Peak	2 max	1 max	amperes
Average $\bigcirc$	0.5 max	0.25 max	ampere
Fault, for duration of 0.1 second maximum	20 max	20 max	amperes
FREQUENCY OF POWER SUPPLY	500 max	60 max	cps
AMBIENT-TEMPERATURE RANGE	-75 to +90	-75 to +90	°C

$\bigcirc$ Averaged over any period of 30 seconds maximum.

Operating Values:

<i>Circuit</i> (For circuit figures, refer to <i>Rectifier Considerations</i> Section)	<i>Fig.</i>	<i>Max. Trans.</i> <i>Sec. Volts</i> (<i>RMS</i>) <i>E</i>	<i>Approx. DC</i> <i>Output Volts</i> <i>To Filter</i> <i>E_{av}</i>	<i>Max. DC</i> <i>Output</i> <i>Amperes</i> <i>I_{av}</i>	<i>Max. DC</i> <i>Output KW</i> <i>To Filter</i> <i>P_{dc}</i>
In-Phase Operation					
		7000*	3200	0.25	0.8
Half-Wave Single-Phase..	54	3500*	1600	0.5	0.8
		3500*	3200	0.5	1.6
Full-Wave Single-Phase...	55	1700*	1600	1.0	1.6
		7000*	6400	0.5	3.2
Series Single-Phase.....	56	3500*	3200	1.0	3.2
		4000*	4800	0.75	3.6
Half-Wave Three-Phase...	57	2000*	2400	1.5	3.6
Quadrature Operation					
		4000*	4800	1.5	7.2
Parallel Three-Phase.....	58	2000*	2400	3.0	7.2
		4000*	9600	0.75	7.2
Series Three-Phase.....	59	2000*	4800	1.5	7.2
		3500*	4500	0.9* 1.0*	4.0* 4.5*
Half-Wave Four-Phase....	60	1700*	2250	1.8* 2.0*	4.0* 4.5*
		3500*	4800	0.95* 1.0*	4.5* 4.8*
Half-Wave Six-Phase.....	61	1700*	2400	1.9* 2.0*	4.5* 4.8*

* For maximum peak inverse anode voltage of 10000 volts.

▲ For maximum peak inverse anode voltage of 5000 volts.

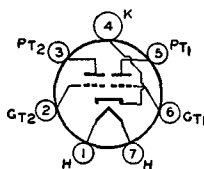
* Resistive load.

■ Inductive load.

TWIN POWER TRIODE

3C33

Heater-cathode type containing two high-perveance units used as industrial control amplifier and voltage regulator. Control Amplifier maximum CCS plate dissipation (each unit), 15



watts. Requires Septar seven-contact socket and may be mounted in vertical position with base up or down, or in horizontal position with pins 1 and 4 in vertical plane. **OUTLINE 16, Outlines Section.** Plates show no color when the tube is operated at maximum CCS ratings.

HEATER VOLTAGE (AC/DC).....	12.6 ± 10%	volts
HEATER CURRENT.....	1.125	amperes
AMPLIFICATION FACTOR (Each unit)*.....	11	
DIRECT INTERELECTRODE CAPACITANCES (Each unit):		
Grid to plate.....	5.4	μf
Grid to cathode and heater.....	7.8	μf
Plate to cathode and heater.....	4.2	μf

* Grid volts, -200; plate milliamperes, 90.

CONTROL AMPLIFIER SERVICE

Values are for each unit

Maximum CCS Ratings:

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
BULB TEMPERATURE (At hottest point).....	250 max	°C

Maximum Circuit Values:

Grid-Circuit Resistance:

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