



866-A/866

866-A/866

HALF-WAVE MERCURY-VAPOR RECTIFIER*This type supersedes RCA Types 866 and 866-A*

Filament *	Coated	
Voltage	2.5	a-c volts
Current	5.0	amp.
Overall Length		6-3/8" $\pm$ 3/16"
Seated Height		5-3/4" $\pm$ 3/16"
Maximum Diameter		2-7/16"
Bulb		ST-19
Cap	Medium, with Insulating Collar	
Base	Medium 4-Pin, Bayonet	
RCA Socket		Stock No.9937

*Maximum Ratings Are Absolute Values***MAXIMUM RATINGS**

	<u>Rating 1</u>	<u>Rating 2</u>	<u>Rating 3</u>		
Supply Frequency	150	150	1000	max.	$\sim$
Condensed-Mercury Temperature Range*	25 - 60	25 - 70	25 - 70		$^{\circ}\text{C}$
Peak Inverse Plate Voltage	10000	2000	5000	max.	volts
Peak Plate Current	1.0	2.0	1.0	max.	amp.
Average Plate Current	0.25	0.5	0.25	max.	amp.
Tube Voltage Drop	15	15	15	approx.	volts

* The filament of the 866-A/866 is partially shielded from the plate to permit operation from a power supply having a frequency up to 1000 cycles per second. The filament should be allowed to come up to operating temperature before plate voltage is applied. For average conditions, the delay is approximately 30 seconds.

Operation at $40^{\circ} \pm 5^{\circ}\text{C}$ is recommended.

For *shielding* and *r-f filter circuits*, refer to Type 872-A/872.

NOTES ON RATINGS 1 and 3

The table on the next page gives empirical values of choke inductance (L) and the condenser capacitance (C) for choke-input-to-filter circuits which will keep the peak plate current below the recommended maximum, provided the average d-c load current does not exceed the maximum load-current values shown. Values of (L) and (C) are based on a 60-cycle a-c voltage supply.

The capacitance (C) is small enough to prevent excessive surges when power is first applied to the circuit, and yet large enough to give adequate filtering. If the inductance (L) is increased, it is permissible to increase the capacitance in the same proportion. In a two-section filter with two inductances of unequal value, the larger inductance should be placed next to the rectifier tubes. With such an arrangement, the maximum value of each capacitance should be determined on the basis of the value of the inductance preceding it.

The circuits (see Type 872-A/872) of Figs. 1, 2, and 3 will give a ripple voltage less than 5% when used with a two-section filter having the minimum of inductance and the corresponding maximum of capacitance. The circuits of Figs. 4 and 5 will give a ripple voltage of less than 1%. For any of these circuits, better filtering may be obtained with the inductances larger than the minimum given in the table. For these larger inductances, the corresponding capacitances may be increased by the same percentage as the inductances to give still better results.

← Indicates a change.

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RCA VICTOR DIVISION

DATA

RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY



866-A/866

HALF-WAVE MERCURY-VAPOR RECTIFIER

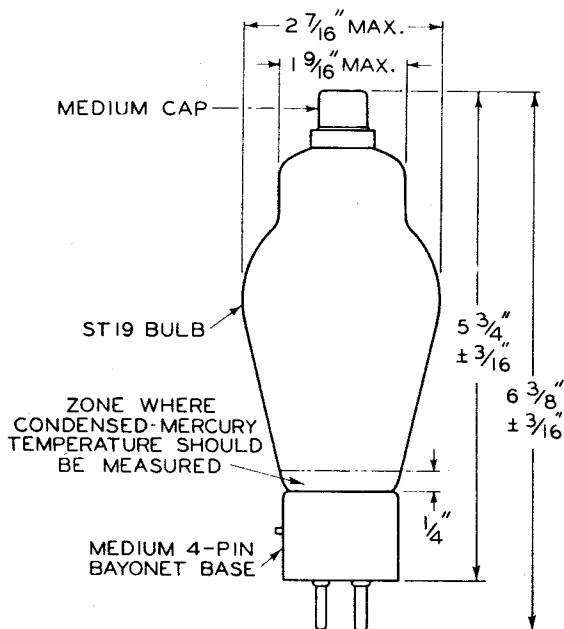
For Circuits, refer to Type 872-A/872.

(continued from preceding page)

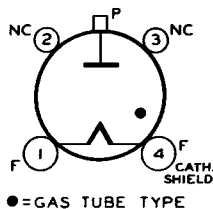
CIRCUIT	A-C INPUT VOLTS** (RMS)	MAX. D-C OUTPUT VOLTS TO FILTER	CHOKE INPUT ONE-SECTION FILTER		MAX. D-C LOAD CURRENT amperes
			MIN. CHOKE (L) henrys	MAX. CONDENSER (C) μf	
SINGLE-PHASE FULL-WAVE (2 tubes) FIG.1	3535 per tube	3180	8.0	1.25	0.5
	3000 " "	2700	6.8	1.5	0.5
	2000 " "	1800	4.5	2.1	0.5
	1500 " "	1350	3.4	2.8	0.5
SINGLE-PHASE FULL-WAVE (4 tubes) FIG.2	7070 total	6360	16.0	0.6	0.5
	6000 " "	5400	13.5	0.7	0.5
	5000 " "	4500	11.0	0.9	0.5
	4000 " "	3600	8.9	1.1	0.5
THREE-PHASE HALF-WAVE FIG.3	4080 per leg	4780	3.2	1.4	0.75
	3000 " "	3510	2.2	2.0	0.75
	2000 " "	2340	1.4	3.0	0.75
	1500 " "	1750	1.1	4.0	0.75
THREE-PHASE DOUBLE-Y PARALLEL FIG.4	4080 per leg	4780	2.0	0.5	1.5
	3000 " "	3510	1.5	0.7	1.5
	2000 " "	2340	1.0	1.1	1.5
	1500 " "	1750	0.7	1.5	1.5
THREE-PHASE FULL-WAVE FIG.5	4080 per leg	9570	1.8	0.5	0.75
	3000 " "	7020	1.4	0.7	0.75
	2000 " "	4680	0.9	1.2	0.75
	1500 " "	3510	0.7	1.5	0.75
SINGLE-PHASE FULL-WAVE (2 tubes) FIG.1 *	3535 per tube	3950	—	—	0.25
	3000 " "	3390	—	—	0.25
	2000 " "	2260	—	—	0.25
	1500 " "	1700	—	—	0.25

* With condenser input to filter.

** For use under the conditions of the 10000-volt peak inverse rating. If the 866-A/866 is to be used under frequency and/or temperature conditions such that the peak inverse voltage is limited to 5000 volts, the a-c input voltage and d-c output voltage values in the table should be multiplied by a factor of 0.5 to give new values for the 5000-volt conditions.



BOTTOM VIEW OF
SOCKET CONNECTIONS



Pin 1 - Filament
Pin 2 - No Connection
Pin 3 - No Connection
Pin 4 - Filament
Cap - Plate

TUBE MOUNTING POSITION

VERTICAL: Base down.
HORIZONTAL: No.

← Indicates a change.

92CM-6215RI

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