

Full-Wave Mercury-Vapor Rectifier

For DC Power Supplies Having Large Current Requirements

GENERAL DATA

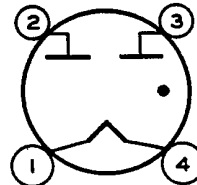
Electrical:

Filament, Coated:	
Voltage (AC or DC)	5.0 volts
Current	3.000 amp

Mechanical:

Operating Position	Vertical, base down
Maximum Overall Length	5-3/8"
Maximum Seated Length	4-3/4"
Maximum Diameter	2-1/16"
Bulb	ST-16
Base	Medium 4-Pin
Basing Designation for BOTTOM VIEW	4C

Pin 1 - Filament
Pin 2 - Plate of Unit No. 2



Pin 3 - Plate of Unit No. 1
Pin 4 - Filament

FULL-WAVE RECTIFIER

Maximum and Minimum Ratings:

PEAK INVERSE VOLTAGE	1550 max.	volts
PEAK PLATE CURRENT PER PLATE	1 max.	amp
CONDENSED MERCURY TEMPERATURE RANGE	20 - 60	°C

With Capacitor-Input Filter

AC PLATE VOLTAGE PER PLATE (RMS)	450 max.	volts
TOTAL EFFECTIVE PLATE-SUPPLY IMPEDANCE PER PLATE ^a	50 min.	ohms
DC OUTPUT CURRENT	225 max.	ma

With Choke-Input Filter

AC PLATE VOLTAGE PER PLATE (RMS)	550 max.	volts
INPUT-CHOKE INDUCTANCE	3 min.	henries
DC OUTPUT CURRENT	225 max.	ma

Characteristics:

Tube Voltage Drop (Approx.)	15	volts
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^a When a filter-input capacitor larger than 40 μ f is used, it may be necessary to use more plate-supply impedance than the minimum value shown to limit the peak plate current to the rated value.



HALF-WAVE RECTIFIER

As a half-wave rectifier, the 83 is operated with plates connected in parallel. Two 83's so connected in a full-wave circuit can supply twice the output current of a single tube. Both plates within the same tube should be connected to the same terminal of the plate transformer. To equalize the current distribution between plates, a resistor of not less than 50 ohms should be connected in series with each plate.



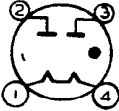
833
833-V



83

FULL-WAVE MERCURY VAPOR RECTIFIER

Filament	Coated	
Voltage	5.0	a-c volts
Current	3.0	amp.
Maximum Overall Length		5-3/8"
Maximum Seated Height		4-3/4"
Maximum Diameter		2-1/16"
Bulb		ST-16
Base		Medium 4-Pin
Pin 1 - Filament		Pin 3 - Plate #1
Pin 2 - Plate #2		Pin 4 - Filament
Mounting Position		Vertical, base down



BOTTOM VIEW (4C)

FULL-WAVE RECTIFIER

Peak Inverse Voltage	1550 max.	volts
Peak Plate Current per Plate	1.0 max.	amp.
Condensed Mercury Temperature Range	20° - 60°C	
<i>With Condenser-Input Filter:</i>		
A-C Plate Voltage per Plate (RMS)	450 max.	volts
Total Effective Plate-Supply Impedance per Plate [▲]	50 min.	ohms
D-C Output Current	225 max.	ma.
<i>With Choke-Input Filter:</i>		
A-C Plate Voltage per Plate (RMS)	550 max.	volts
Input-Choke Inductance	3 min.	henries
D-C Output Current	225 max.	ma.
Tube Voltage Drop	15 approx.	volts

HALF-WAVE RECTIFIER

As a half-wave rectifier, the 83 is operated with plates connected in parallel. Two 83's so connected in a full-wave circuit can supply twice the output current of a single tube. Both plates within the same tube should be connected to the same terminal of the plate transformer. To equalize the current distribution between plates, a resistor of not less than 50 ohms should be connected in series with each plate.

[▲] When a filter-input condenser larger than 40 μf is used, it may be necessary to use more plate-supply impedance than the minimum value shown to limit the peak plate current to the rated value.

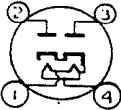
← Indicates a change.



83-V

FULL-WAVE HIGH-VACUUM RECTIFIER

Heater	Coated Unipotential Cathode*	
Voltage	5.0	a-c volts
Current	2.0	amp.
Maximum Overall Length		4-11/16"
Maximum Seated Height		4-1/16"
Maximum Diameter		1-13/16"
Bulb		ST-14
Base		Medium 4-Pin
Pin 1 - Heater		Pin 3 - Plate #1
Pin 2 - Plate #2		Pin 4 - Heater & Cathode
Mounting Position		Any



BOTTOM VIEW (4AD)

For Curves and additional data, see Type 574-G.

* The cathode of the 83-V is connected to the heater within the tube.

← Indicates a change.

Sept. 2, 1941

RCA RADIOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.

DATA