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HALF-WAVE VACUUM RECTIFIER

GENERAL DATA

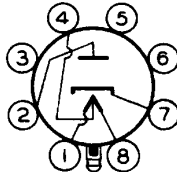
Electrical:	Without Panel Lamp		With No.40 or No.47 Panel Lamp [▲]	
Heater, for Unipotential Cathode:				
Voltage (AC or DC):				
Entire Heater (pins 1 & 8) . . .	35	32	. .	volts
Panel-Lamp Section (pins 1 & 4) . . .	7.5	5.5	. .	volts
Current {	between pins 1 & 8 . . .	0.15	-	. . amp
	between pins 4 & 8 . . .	-	0.15	. . amp

▲ Under typical operating conditions shown below.

Mechanical:

Mounting Position	Any
Maximum Overall Length	3-5/32"
Maximum Seated Length	2-5/8"
Maximum Diameter	1-3/16"
Bulb	T-9
Base	Lock-in 8-Pin
Basing Designation for BOTTOM VIEW	5AL

- Pin 1 - Heater
- Pin 2 - Plate
- Pin 3 - No Connection
- Pin 4 - Heater Tap
- Pin 5 - No Connection
- Pin 6 - No Connection



- Pin 7 - Cathode
- Pin 8 - Heater
- Plug - Base Shell
- Panel-Lamp Heater Section is between pins 1 & 4

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Maximum Ratings, Design-Center Values:

PEAK INVERSE PLATE VOLTAGE	700 max.	volts
PEAK PLATE CURRENT	600 max.	ma
DC OUTPUT CURRENT:		
With Panel Lamp & {		
No Shunting Resistor	60 max.	ma
Shunting Resistor	90 max.	ma
Without Panel Lamp	100 max.	ma
PANEL-LAMP-SECTION VOLTAGE (RMS):		
When panel lamp fails	15 max.	volts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	300 max.	volts
Heater positive with respect to cathode	300 max.	volts

Typical Operation With No.40 or No.47 Panel Lamp in Circuit Below with Capacitor-Input Filter:

AC Plate-Supply Volt. (RMS)	117	117	117	117	235	volts
Filter-Input Capacitor	40	40	40	40	40	μf
Min. Total Effective Plate-Supply Impedance	15	15	15	15	100	ohms
Panel-Lamp Shunting Res.	-	300	150	100	-	ohms
DC Output Current	60	70	80	90	60	ma

DEC. 30, 1947

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

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Typical Operation Without Panel Lamp in Conventional Half-Wave Circuit with Capacitor-Input Filter:

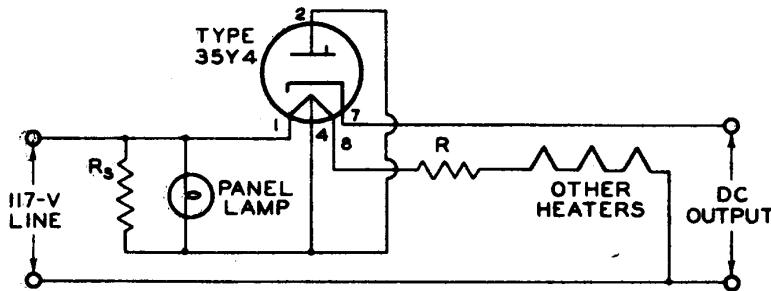
AC Plate-Supply Voltage (RMS)	117	235	volts
Filter-Input Capacitor	40	40	μ f
Min. Total Effective Plate-Supply Imped. . .	15	100	ohms
DC Output Current	100	100	ma
DC Output Voltage at Input to Filter (Approx.):			
At half-load current (50 ma.)	140	280	volts
At full-load current (100 ma.)	120	235	volts
Voltage Regulation (Approx.):			
Half-load to full-load current	20	45	volts

Maximum Circuit Values:

Panel-Lamp Shunting Resistor:*

For dc output current of	{	70 ma.	800 max.	ohms
		80 ma.	400 max.	ohms
		90 ma.	250 max.	ohms

* Required when dc output current is greater than 60 ma.



DROP ACROSS R AND ALL HEATERS (WITH PANEL LAMP) SHOULD EQUAL 117 VOLTS AT 0.15 AMPERE. R_s = SHUNTING RESISTOR REQUIRED WHEN DC OUTPUT CURRENT EXCEEDS 60 MILLIAMPERES

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