



50DC4

HALF-WAVE VACUUM RECTIFIER

7-PIN MINIATURE TYPE

50DC4

GENERAL DATA

Electrical:

	<i>Without</i>	<i>With No.40</i>	
	<i>Panel</i>	<i>or No.47</i>	
	<i>Lamp</i>	<i>Panel Lamp</i>	

Heater, for Unipotential

Cathode:

Voltage:

Entire heater (Pins

3 and 4) 50 $\pm$ 10% 45 $\pm$ 10% ac or dc volts

Panel-lamp section

(Pins 4 and 6) . . . 7.5 5.5 ac or dc volts

Current:

Between pins 3 and 4. . 0.15 - amp

Between pins 3 and 6. . - 0.15 amp

Mechanical:

Operating Position. Any

Maximum Overall Length. 2-5/8"

Maximum Seated Length. 2-3/8"

Length, Base Seat to Bulb Top (Excluding tip) . . . 2" $\pm$ 3/32"

Diameter. 0.650" to 0.750"

Dimensional Outline See General Section

Bulb. T5-1/2

Base. Small-Button Miniature 7-Pin (JEDEC No.E7-1)

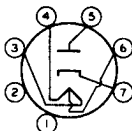
Basing Designation for BOTTOM VIEW. 5BQ

Pin 1-No Connec-
tionPin 2-No Connec-
tion

Pin 3-Heater

Pin 4-Heater

Pin 5-Plate

Pin 6-Heater Tap
Pin 7-CathodePanel-lamp heater
section is between
pins 4 and 6.

HALF-WAVE RECTIFIER

Maximum Ratings, Design-Maximum Values:

PEAK INVERSE PLATE VOLTAGE. 330 max. volts

PEAK PLATE CURRENT. 720 max. ma

DC OUTPUT CURRENT:

With panel lamp and no shunt-

ing resistor. 70 max. ma

With panel lamp and shunt-

ing resistor† 110 max. ma

Without panel lamp. 120 max. ma

PANEL-LAMP-SECTION VOLTAGE (RMS):

When panel lamp fails 16.5 max. volts

† Required when the dc output current is greater than 70 milliamperes.



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PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode.	330 max.	volts
Heater positive with respect to cathode.	330 max.	volts

Typical Operation:

With panel lamp in accompanying half-wave circuit with capacitor input to filter

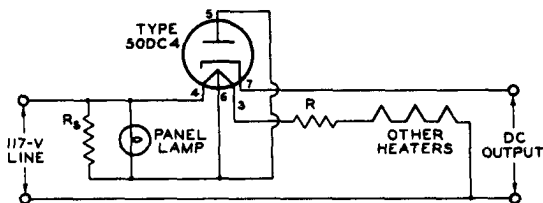
AC Plate-Supply Voltage (RMS) . . .	117	117	117	117	volts
Filter-Input Capacitor	40	40	40	40	μ f
Minimum Total Effective Plate-Supply Impedance	15	15	15	15	ohms
Panel-Lamp Shunting Resistor . . .	450	200	100	75	ohms
DC Output Current.	70	80	90	100	ma

Without panel lamp in half-wave circuit with capacitor input to filter

AC Plate-Supply Voltage (RMS)	117	volts
Filter-Input Capacitor	40	μ f
Minimum Total Effective Plate-Supply Impedance	15	ohms
DC Output Current.	110	ma
DC Output Voltage at Input to Filter (Approx.):		
At half-load current of 55 ma.	130	volts
At full-load current of 110 ma.	110	volts
Voltage Regulation (Approx.):		
Half-load to full-load current	20	volts

HALF-WAVE CIRCUIT

With panel lamp No.40 or No.47



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 70 MILLIAMPERES

92CS-9923

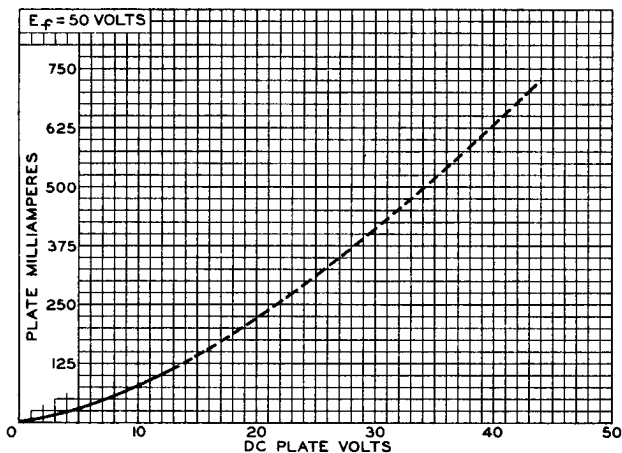
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AVERAGE PLATE CHARACTERISTIC



92CS-9893