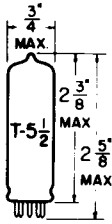


TUNG-SOL

DIODE

MINIATURE TYPE



GLASS BULB

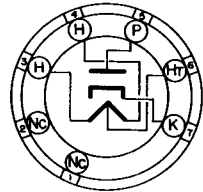
COATED UNIPOTENTIAL CATHODE

HEATER

50±10% VOLTS 0.15 AMP.

AC OR DC

ANY MOUNTING POSITION



BOTTOM VIEW
MINIATURE BUTTON
7 PIN BASE
5BQ

THE 50DC4 IS A HALF-WAVE RECTIFIER IN THE 7 PIN MINIATURE CONSTRUCTION. IT IS DESIGNED FOR USE IN LINE-OPERATED EQUIPMENT HAVING SERIES-CONNECTED HEATERS AND THE HEATER IS TAPPED TO PERMIT OPERATION OF A PANEL LAMP.

RATINGS

INTERPRETED ACCORDING TO DESIGN-MAXIMUM SYSTEM

RECTIFIER SERVICE

HEATER VOLTAGE	50±10%	VOLTS
MAXIMUM PEAK INVERSE PLATE VOLTAGE	330	VOLTS
MAXIMUM STEADY-STATE PEAK PLATE CURRENT	720	MA.
MAXIMUM DC OUTPUT CURRENT		
WITHOUT PANEL LAMP	120	MA.
WITH PANEL LAMP AND SHUNTING RESISTOR	110	MA.
WITH PANEL LAMP AND NO SHUNTING RESISTOR	70	MA.
MAXIMUM HEATER-TAP VOLTAGE WHEN PANEL LAMP FAILS, RMS	16.5	VOLTS
MAXIMUM HEATER-CATHODE VOLTAGE:		
HEATER POSITIVE WITH RESPECT TO CATHODE	330	VOLTS
HEATER NEGATIVE WITH RESPECT TO CATHODE	330	VOLTS

DESIGN-MAXIMUM RATINGS ARE LIMITING VALUES OF OPERATING AND ENVIRONMENTAL CONDITIONS APPLICABLE TO A BOGEY ELECTRON DEVICE OF A SPECIFIED TYPE AS DEFINED BY ITS PUBLISHED DATA, AND SHOULD NOT BE EXCEEDED UNDER THE WORST PROBABLE CONDITIONS. THE DEVICE MANUFACTURER CHOOSES THESE VALUES TO PROVIDE ACCEPTABLE SERVICEABILITY OF THE DEVICE, TAKING RESPONSIBILITY FOR THE EFFECTS OF CHANGES IN OPERATING CONDITIONS DUE TO VARIATIONS IN DEVICE CHARACTERISTICS. THE EQUIPMENT MANUFACTURER SHOULD DESIGN SO THAT INITIALLY AND THROUGHOUT LIFE NO DESIGN-MAXIMUM VALUE FOR THE INTENDED SERVICE IS EXCEEDED WITH A BOGEY DEVICE UNDER THE WORST PROBABLE OPERATING CONDITIONS WITH RESPECT TO SUPPLY-VOLTAGE VARIATION, EQUIPMENT COMPONENT VARIATION, EQUIPMENT CONTROL ADJUSTMENT, LOAD VARIATION, SIGNAL VARIATION, AND ENVIRONMENTAL CONDITIONS.

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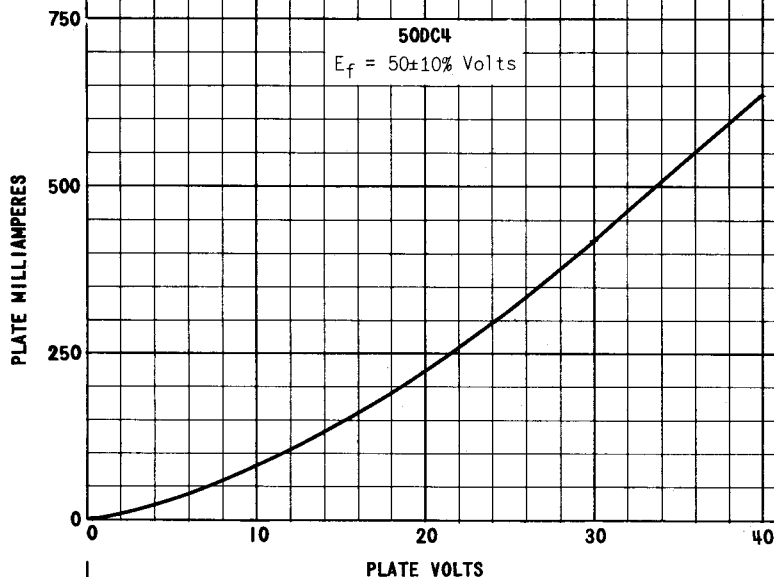
TYPICAL OPERATING CONDITIONS AND CHARACTERISTICS

HALF-WAVE RECTIFIER
WITH PANEL LAMP #40 OR #47

HEATER VOLTAGE (PIN 3 TO PIN 4)	45	45	45	45	VOLTS
HEATER-TAP VOLTAGE (PIN 4 TO PIN 6)	5.5	5.5	5.5	5.5	VOLTS
HEATER CURRENT (BETWEEN PINS 3 & 6)	150	150	150	150	MA.
AC PLATE-SUPPLY VOLTAGE, RMS	117	117	117	117	VOLTS
FILTER INPUT CAPACITOR	40	40	40	40	μ f
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.

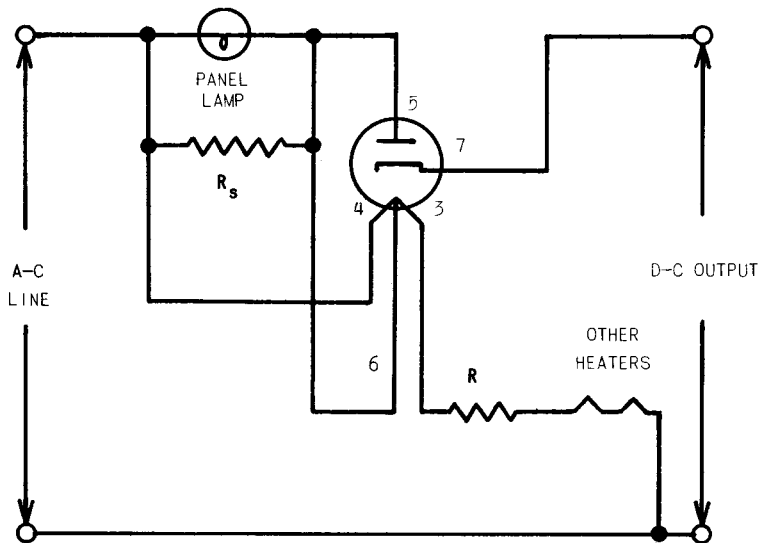
HALF-WAVE RECTIFIER
WITHOUT PANEL LAMP

HEATER VOLTAGE	50 \pm 10%	VOLTS
HEATER CURRENT	0.15	AMP.
HEATER VOLTAGE (PIN 3 TO PIN 4)	50	VOLTS
HEATER-TAP VOLTAGE (PIN 4 TO PIN 6)	7.5	VOLTS
HEATER CURRENT (BETWEEN PINS 3 & 4)	150	MA.
AC PLATE-SUPPLY VOLTAGE, RMS	117	VOLTS
FILTER INPUT CAPACITOR	40	μ f
TOTAL EFFECTIVE PLATE-SUPPLY IMPEDANCE	15	OHMS
DC OUTPUT CURRENT	110	MA.
DC OUTPUT VOLTAGE AT FILTER INPUT (APPROX.)		
FOR DC OUTPUT CURRENT OF 55 MA.	130	VOLTS
FOR DC OUTPUT CURRENT OF 110 MA.	110	VOLTS
TUBE VOLTAGE DROP $I_b = 240$ MA. DC	21	VOLTS

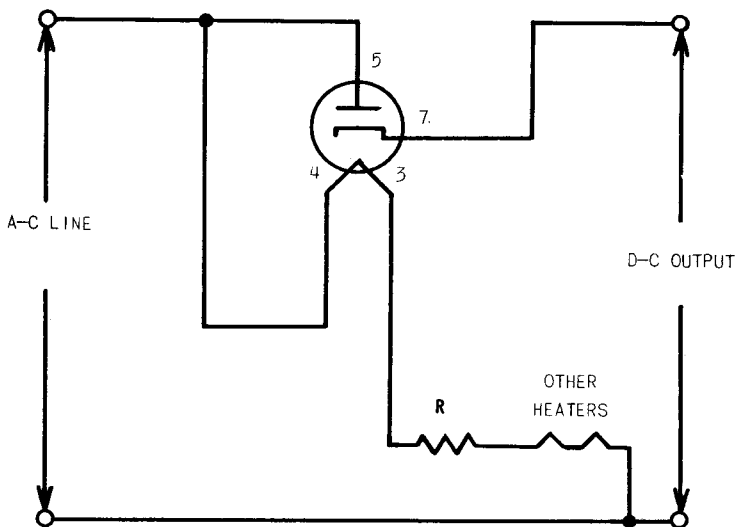


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TYPICAL CIRCUIT FOR OPERATION
WITH PANEL LAMP



R_s = PANEL-LAMP SHUNTING RESISTOR
DROPS ACROSS R AT 0.15 AMPERE SHOULD EQUAL
DIFFERENCE BETWEEN LINE VOLTAGE AND TOTAL
OF ALL RATED HEATER VOLTAGES



TYPICAL CIRCUIT FOR OPERATION
WITHOUT PANEL LAMP

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