



50Y7-GT

VACUUM RECTIFIER-DOUBLER

50Y7-GT

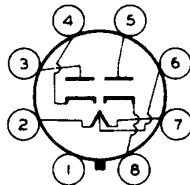
GENERAL DATA

Electrical:	Without		With No. 40	
	Panel	Lamp	Panel	Lamp
Heater, for Unipotential Cathode:				
Voltage (AC or DC):				
Entire Heater (pins 2 & 7)	50		46	volts
Panel-Lamp Section (pins 6 & 7)	7.5		5.5	volts
Current	between pins 2 & 7	0.15	-	amp
	between pins 2 & 6	-	0.15	amp

Mechanical:

Mounting Position	Any
Maximum Overall Length	3-5/16"
Maximum Seated Length	2-3/4"
Maximum Diameter	1-9/32"
Bulb	T-9
Base	Intermediate-Shell Octal 8-Pin
Basing Designation for BOTTOM VIEW	G-8AN

Pin 1 - No Connection	Pin 5 - Plate No.1
Pin 2 - Heater	Pin 6 - Heater Tap
Pin 3 - Plate No.2	Pin 7 - Heater
Pin 4 - Cathode No.2	Pin 8 - Cathode No.1



RECTIFIER OR DOUBLER

Maximum Ratings, Design-Center Values:

PEAK INVERSE PLATE VOLTAGE	700 max.	volts
PEAK PLATE CURRENT PER PLATE	450 max.	ma
DC OUTPUT CURRENT PER PLATE		
With Panel Lamp & { No Shunting Resistor.	60 max.	ma
{ Shunting Resistor*	65 max.	ma
Without Panel Lamp	75 max.	ma
PANEL-LAMP-SECTION VOLTAGE (RMS):		
When panel lamp fails.	15 max.	volts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	350 max.	volts
Heater positive with respect to cathode.	350 max.	volts

Typical Operation with No.40 or No.47 Panel Lamp in Half-Wave Rectifier Circuit with Capacitor-Input Filter:

AC Plate-Supply Volt. per Plate (RMS)	117	150	235	volts
Filter-Input Capacitor	16	16	16	μf
Min. Total Effect. Plate-Supply Imped. per Plate	15	40	100	ohms
Panel Lamp Shunting Resistor	250	250	250	ohms
DC Output Current per Plate	65	65	65	ma

* Max. value of this resistor is 250 ohms for dc output current of 65 ma.

FEB. 1, 1950

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

DATA

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VACUUM RECTIFIER-DOUBLER

Typical Operation with No.40 or No.47 Panel Lamp in Voltage-Doubler Circuit:

	Half-Wave	Full-Wave	
AC Plate Supply Voltage per Plate (RMS)	117	117	volts
Filter-Input Capacitor	16	16	μf
Min. Total Effect. Plate-Supply Imped. per Plate	30	15	ohms
Panel Lamp Shunting Resistor	250	250	ohms
DC Output Current per Plate	65	65	ma

Typical Operation Without Panel Lamp in Half-Wave Rectifier Circuit with Capacitor-Input Filter:^o

Values are for both units connected in parallel

AC Plate Supply Voltage (RMS)	117	150	235	volts
Filter-Input Capacitor	16	16	16	μf
Min. Total Effect. Plate-Supply Imped. per Plate	15	40	100	ohms
Total DC Output Current	150	150	150	ma
DC Output Voltage at Input to Filter (Approx.):				
At half-load current (75 ma.)	115	-	255	volts
At full-load current (150 ma.)	80	-	200	volts
Voltage Regulation (Approx.):				
Half-load to full-load current	35	-	55	volts

Typical Operation Without Panel Lamp in Full-Wave Voltage-Doubler Circuit:^o

AC Plate Supply Voltage per Plate (RMS)	117	volts
Filter-Input Capacitor	16	μf
Min. Total Effective Plate-Supply Impedance per Plate	15	ohms
DC Output Current	75	ma
DC Output Voltage at Input to Filter (Approx.):		
At half-load current (37.5 ma.)	250	volts
At full-load current (75 ma.)	205	volts
Voltage Regulation (Approx.):		
Half-load to full-load	45	volts

^o Plate current must not flow through heater section between pins 6 and 7.