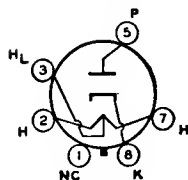


35Z5GT**HALF-WAVE
VACUUM RECTIFIER**

Glass octal type used in power supply of ac/dc receivers. The heater is provided with a tap for operation of a panel lamp. Outlines section, 13D; requires octal socket. This type may be supplied with pin No.1 omitted. For installation and application considerations, refer to miniature type 35W4.

**6AD**

Heater Voltage (ac/dc):	*	**	
Entire Heater (pins 2 and 7)	35	32	volts
Panel Lamp Section (pins 2 and 3)	7.5	5.5	volts
Heater Current:			
Between Pins 2 and 7	0.15	—	ampere
Between Pins 3 and 7	—	0.15	ampere
Peak Heater-Cathode Voltage		±350 max	volts

* Without panel lamp.

** With No.40 or No.47 panel lamp.

Half-Wave Rectifier**MAXIMUM RATINGS (Design-Center Values)**

Peak Inverse Plate Voltage	700	volts
Peak Plate Current	600	mA
Average Output Current:		
With Panel Lamp and { No Shunting Resistor	60	mA
Without Panel Lamp { Shunting Resistor	90	mA
Panel-Lamp-Section Voltage (rms):	100	mA
When Panel Lamp Fails	15	volts

TYPICAL OPERATION WITH PANEL LAMP†

AC Plate-Supply Voltage (rms)	117	117	117	117	235	volts
Filter-Input Capacitor	40	40	40	40	40	μF
Minimum Total Effective Plate-Supply Impedance	15	15	15	15	100	ohms
Panel-Lamp Shunting Resistor	—	300	150	100	—	ohms
Average Output Current	60	70	80	90	60	mA

† No.40 or No.47 panel lamp used in circuit with capacitor-input filter given under type 35W4.

TYPICAL OPERATION WITHOUT PANEL LAMP†

AC Plate-Supply Voltage (rms)	117	235	volts
Filter-Input Capacitor	40	40	μF
Minimum Total Effective Plate-Supply Impedance ..	15	100	ohms
Average 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 ouptut current of	70 mA	800	ohms
	80 mA	400	ohms
	90 mA	250	ohms

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

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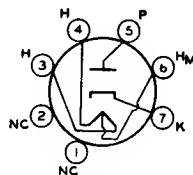
Refer to chart at end of section.

36AM3**36AM3A**

Refer to chart at end of section.

36AM3B**HALF-WAVE
VACUUM RECTIFIER**

Miniature type used in power supply of ac/dc receivers. This type has a tapped heater so that the heater section between pins 4 and 6 can be used as a limiting resistance in the rectifier plate circuit. This heater section is not to be used as a panel-lamp shunt. Outlines section, 5D; requires miniature 7-contact socket.

**5BQ**

Heater Voltage (ac/dc):

Entire Heater (Pins 3 and 4)	36	volts
Tap Section (Pins 3 and 6)	32	volts
Heater Current (Pins 3 and 6)	0.1	ampere
Heater Warm-up Time (Average)	20	seconds
Heater-Cathode Voltage:		
Peak value	+200	volts
Average value	+100	volts

Half-Wave Rectifier

MAXIMUM RATINGS (Design-Maximum Values)

Peak Inverse Plate Voltage	365	volts
Peak Plate Current	580	mA
Average Output Current	82	mA

TYPICAL OPERATION WITH CAPACITOR INPUT TO FILTER

AC Plate-Supply Voltage (rms)	120	117	volts
Filter-Input Capacitor	40	40	μ F
Total Effective Plate Supply Resistance			See text above
Average Output Current	75	75	mA
DC Output Voltage	118	105	volts

CHARACTERISTICS

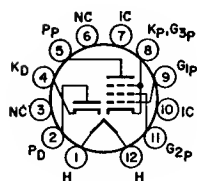
Tube Voltage Drop for plate current of 150 mA	16	20	volts
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Refer to chart at end of section.

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Refer to chart at end of section.

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12FS

DIODE—BEAM POWER TUBE

38HE7

Duodecar type used in television receiver applications. The diode unit is used for damper service and the beam power unit for horizontal-deflection amplifier service. Outlines section, 15D; requires duodecar 12-contact socket. Heater: volts (ac/dc), 37.8; amperes, 0.45; warm-up time, 11 seconds; maximum heater-cathode volts, ± 200 peak, 100 average.

Beam Power Unit As Class A₁ Amplifier

CHARACTERISTICS

	Pentode Connection			Triode** Connection	
Plate Voltage	5000	50	130	130	volts
Grid-No.2 (Screen-Grid) Voltage	130	130	130	130	volts
Grid-No.1 (Control-Grid) Voltage	—	0	—22	—22	volts
Plate Resistance (Approx.)	—	—	6200	—	ohms
Transconductance	—	—	8800	—	μ mhos
Plate Current	—	450	60	—	mA
Grid-No.2 Current	—	40	2.8	—	mA
Grid-No.1 Voltage (Approx.) for plate current of 1 mA	—80	—	—39	—	volts
Amplification Factor	—	—	—	4.2	

** Grid No.2 tied to plate.

Beam Power Unit as Horizontal-Deflection Amplifier

For operation in a 525-line, 30-frame system

MAXIMUM RATINGS (Design-Maximum Ratings)

Plate Voltage	500	volts
Peak Positive-Pulse Plate Voltage#	5000	volts
Peak Negative-Pulse Plate Voltage	0	volts
Grid-No.2 Voltage	150	volts
DC Grid-No.1 Voltage, Negative-bias value	55	volts
Peak Negative-Pulse Grid-No.1 Voltage	330	volts
Average Cathode Current	230	mA
Peak Cathode Current	800	mA
Plate Dissipation†	10	watts
Grid-No.2 Input	3.5	watts

MAXIMUM CIRCUIT VALUE

Grid-No.1-Circuit Resistance	1	megohm
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† A bias resistor or other means is required to protect the tube in absence of excitation.