



## 35Z5-GT

## Description and Rating

## HALF-WAVE HIGH-VACUUM RECTIFIER

## GENERAL DESCRIPTION

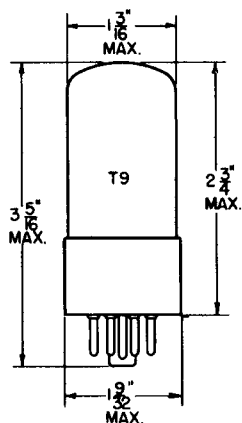
Principal Application: The 35Z5-GT is a half-wave high-vacuum rectifier designed for use in a-c/d-c receivers. The heater is tapped to permit operation of a panel lamp. It is recommended that the plate be

Cathode: . . . . . Coated Unipotential  
Heater Voltage (A-C or D-C) \* . . . . . 35.0 Volts  
Heater Tap Voltage \* . . . . . 7.5 Volts  
Heater Current \* . . . . . 0.15 Ampere

connected to the heater tap so that the plate current will pass through the panel lamp and the tapped section of the heater.

Envelope: . . . . . T-9 Glass  
Base: . . . . . B6-8, Intermediate Shell Octal 6-Pin  
Mounting Position: . . . . . Any

## PHYSICAL DIMENSIONS

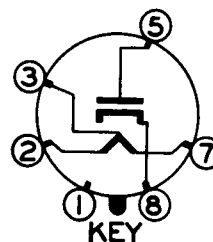


RMA 9-11

## TERMINAL CONNECTIONS

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

## BASING DIAGRAM



RMA 6AD  
BOTTOM VIEW

## MAXIMUM RATINGS

## DESIGN CENTER VALUES:

|                                                          |     |              |
|----------------------------------------------------------|-----|--------------|
| Peak Inverse Plate Voltage . . . . .                     | 700 | Volts        |
| A-C Plate Supply Voltage (RMS) . . . . .                 | 235 | Volts        |
| Steady-State Peak Plate Current . . . . .                | 600 | Milliamperes |
| Steady-State D-C Output Current:                         |     |              |
| Without Panel Lamp . . . . .                             | 100 | Milliamperes |
| With Panel Lamp and Shunting Resistor . . . . .          | 90  | Milliamperes |
| With Panel Lamp and No Shunting Resistor . . . . .       | 60  | Milliamperes |
| Panel Lamp Shunting Resistor:                            |     |              |
| For D-C Output Current of 70 Milliamperes . . . . .      | 800 | Ohms         |
| For D-C Output Current of 80 Milliamperes . . . . .      | 400 | Ohms         |
| For D-C Output Current of 90 Milliamperes . . . . .      | 250 | Ohms         |
| Heater Tap Voltage (RMS) When Panel Lamp Fails . . . . . | 15  | Volts        |
| D-C Heater Cathode Voltage . . . . .                     | 350 | Volts        |

\* Values are for operation without panel lamp. For heater voltage and current ratings with panel lamp, refer to Characteristics and Typical Operation given on page 2. The heater tap voltage is measured between pins 2 and 3 with 0.15 ampere flowing between pins 2 and 7.

## CHARACTERISTICS AND TYPICAL OPERATION

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

|                                                          |      |      |      |      |      |           |              |
|----------------------------------------------------------|------|------|------|------|------|-----------|--------------|
| Heater Voltage (Pin 2 to Pin 7): . . . . .               | 32   | 32   | 32   | 32   | 32   | . . . . . | Volts        |
| Heater Tap Voltage (Pin 2 to Pin 3). . . . .             | 5.5  | 5.5  | 5.5  | 5.5  | 5.5  | . . . . . | Volts        |
| Heater Current (Between Pins 3 and 7). . . . .           | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | . . . . . | Ampere       |
| A-C Plate Supply Voltage (RMS) . . . . .                 | 117  | 117  | 117  | 117  | 235  | . . . . . | Volts        |
| Filter Input Capacitor . . . . .                         | 40   | 40   | 40   | 40   | 40   | . . . . . | Microfarads  |
| Minimum Total Effective Plate Supply Impedance . . . . . | 15   | 15   | 15   | 15   | 100  | . . . . . | Ohms         |
| Panel Lamp Shunting Resistor # . . . . .                 | ---  | 300  | 150  | 100  | ---  | . . . . . | Ohms         |
| D-C Output Current . . . . .                             | 60   | 70   | 80   | 90   | 60   | . . . . . | Milliamperes |

## HALF-WAVE RECTIFIER - WITHOUT PANEL LAMP

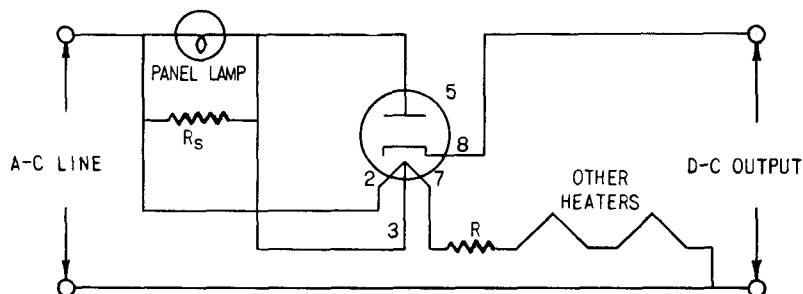
|                                                          |      |           |      |           |           |              |
|----------------------------------------------------------|------|-----------|------|-----------|-----------|--------------|
| Heater Voltage (Pin 2 to Pin 7). . . . .                 | 35   | . . . . . | 35   | . . . . . | . . . . . | Volts        |
| Heater Tap Voltage (Pin 2 to Pin 3) . . . . .            | 7.5  | . . . . . | 7.5  | . . . . . | . . . . . | Volts        |
| Heater Current (Between Pins 3 and 7) . . . . .          | 0.15 | . . . . . | 0.15 | . . . . . | . . . . . | Ampere       |
| A-C Plate Supply Voltage (RMS) . . . . .                 | 117  | . . . . . | 235  | . . . . . | . . . . . | Volts        |
| Filter Input Capacitor . . . . .                         | 40   | . . . . . | 40   | . . . . . | . . . . . | Microfarads  |
| Minimum Total Effective Plate Supply Impedance . . . . . | 15   | . . . . . | 100  | . . . . . | . . . . . | Ohms         |
| D-C Output Current . . . . .                             | 100  | . . . . . | 100  | . . . . . | . . . . . | Milliamperes |
| D-C Output Voltage at Input to Filter: (Approx)          |      |           |      |           |           |              |
| At 50 Milliamperes Load Current . . . . .                | 140  | . . . . . | 280  | . . . . . | . . . . . | Volts        |
| At 100 Milliamperes Load Current . . . . .               | 120  | . . . . . | 235  | . . . . . | . . . . . | Volts        |

## Tube Voltage Drop:

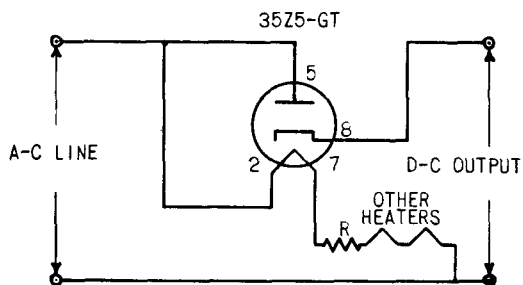
Measured with Applied D-C at 200 Milliamperes . . . . . 18 . . . . . Volts

# Shunting resistor required if d-c output current is greater than 60 milliamperes.

TYPICAL CIRCUIT FOR OPERATION WITH PANEL LAMP



TYPICAL CIRCUIT FOR OPERATION WITHOUT PANEL LAMP

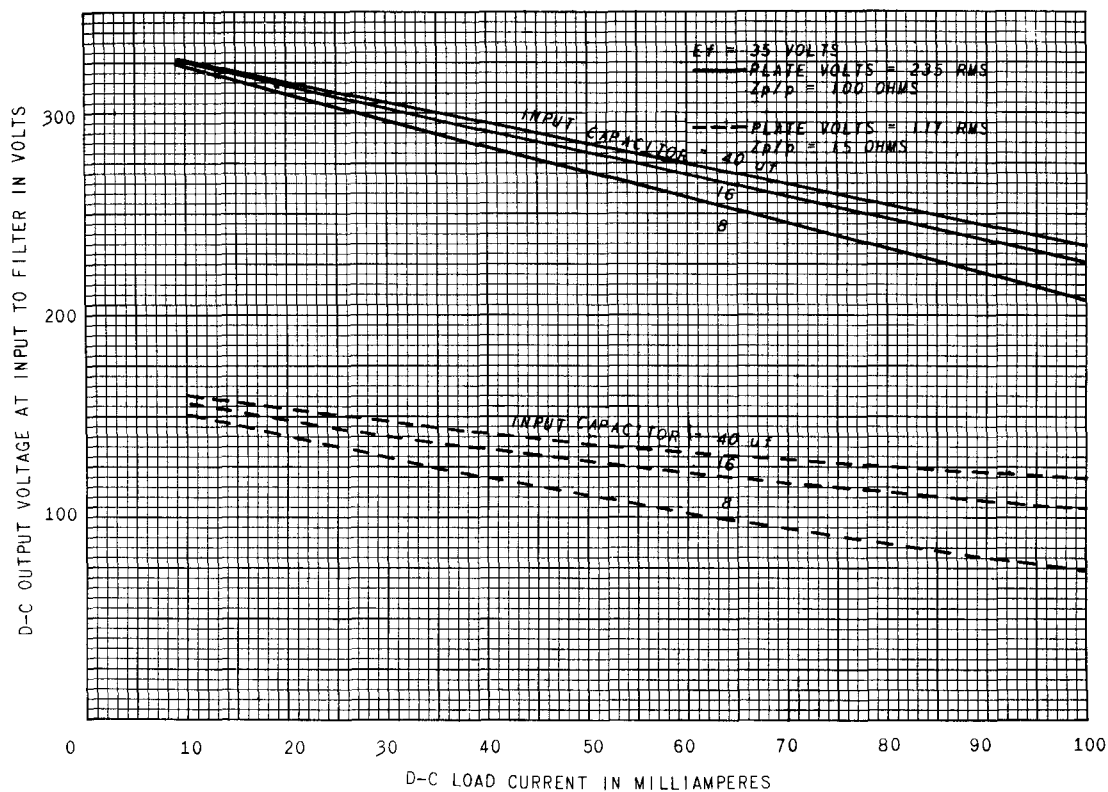


$R_s$  = Panel-lamp shunting resistor

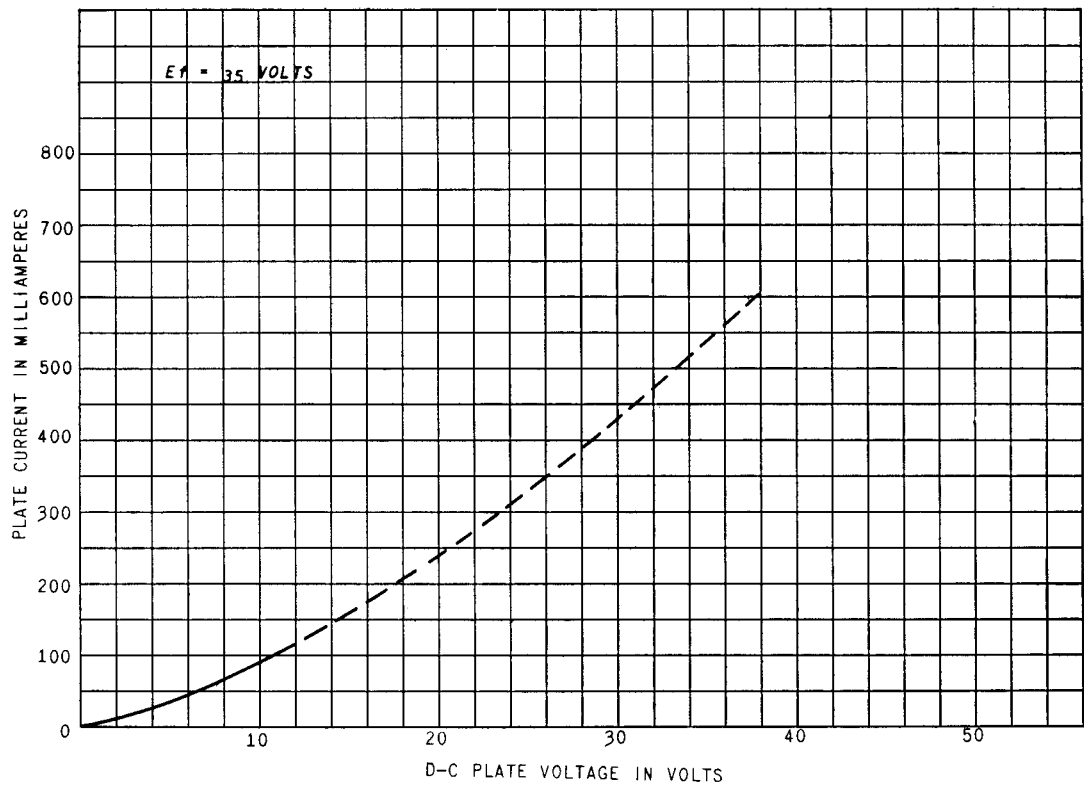
Drop across  $R$  at 0.15 ampere should equal difference between line voltage and total of all rated heater voltages.

## OPERATION CHARACTERISTICS

HALF-WAVE RECTIFIER CAPACITOR INPUT TO FILTER



AVERAGE PLATE CHARACTERISTICS



Tube Divisions, Electronics Department



Schenectady, N. Y.