The 5AR4/GZ34 is a high vacuum, full-wave rectifier capable of output currents up to 250 milliamperes. The indirectly heated cathode is connected directly to the heater. Its small size and generous ratings make it particularly suitable for application in new, compact Hi-Fi component designs.

GENERAL CHARACTERISTICS

ELECTRICAL

Heater
Heater Voltage (A.C.)
Heater Current

Indirectly heated cathode, coated unipotential
5.0 volts
1.9 amps

MECHANICAL

Base
Maximum Overall Length
Maximum Diameter

Octal, 5 pin
3 25/64 inches
1 1/2 inches

MAXIMUM RATINGS (DESIGN CENTER VALUES)

Maximum Peak Inverse Voltage
Maximum Peak Current (per plate)
A.C. Supply (plate-to-plate) Voltage (rms)
Maximum D.C. Output Current
Maximum Capacity (condenser input filter)

1500 volts
750 Ma
1100 volts
250 Ma
60 μf

Typical Operating Conditions
Condenser Input Filter

A.C. Supply Voltage
(plate to plate) (rms) Limiting Resistor
(minimum)
D.C. Output Current
D.C. Output Voltage

2x300 2x350 2x400 2x450 2x500 2x550 volts
75 100 125 150 175 200 ohms
250 250 250 250 200 160 Ma
330 380 430 480 560 640 volts

Choke Input Filter

A.C. Supply Voltage
(plate to plate) (rms)
Inductance
Limiting Resistor
D.C. Output Current
D.C. Output Voltage

2x300 2x350 2x400 2x450 2x500 2x550 volts
10 10 10 10 10 10 henries
0 0 0 0 0 0 ohms
250 250 250 250 250 225 mA
250 290 330 375 420 465 volts

2 Per Plate
3 At maximum values

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OPERATION CHARACTERISTICS
FULL-WAVE CIRCUIT, CHOKE INPUT TO FILTER

\[ R_t = R_s + n^2 R_p + R_L \]
\[ C = 4 - 60 \mu F \]

\[ L = 10 H \]
\[ L = 40 H \]

\[ V_{tr(rms)} = 2 \times 550 V \]
\[ V_{tr(rms)} = 2 \times 500 V \]
\[ V_{tr(rms)} = 2 \times 450 V \]
\[ V_{tr(rms)} = 2 \times 400 V \]
\[ V_{tr(rms)} = 2 \times 350 V \]
\[ V_{tr(rms)} = 2 \times 300 V \]

R_t = C Ω
2 x 50 Ω
2 x 100 Ω
R_t = 0 Ω
2 x 50 Ω
2 x 100 Ω
R_t = 0 Ω
2 x 50 Ω
2 x 100 Ω
R_t = 0 Ω
2 x 50 Ω
2 x 100 Ω
R_t = 0 Ω
2 x 50 Ω
2 x 100 Ω
R_t = 0 Ω
2 x 50 Ω
2 x 100 Ω

D.C. OUTPUT VOLTS (E_o)
D.C. OUTPUT CURRENT—MILLIAMPERES (I_o)
5AR4/GZ34

OPERATION CHARACTERISTICS
FULL-WAVE CIRCUIT, CAPACITOR INPUT TO FILTER

\[ R_t = R_s + n^2 R_p \]
\[ C = 60 \mu F \]

**Diagram:**
- Full-wave circuit with capacitor input to filter.
- Graph showing dependency between D.C. output current (I_o) and output volts (V_o) for different values of \( V_{tr\,(rms)} \).

**Equations:**
- \( V_{tr\,(rms)} = 2 \times 550 \quad R_t = 2 \times 200 \, \Omega \)
- \( V_{tr\,(rms)} = 2 \times 500 \quad R_t = 2 \times 175 \, \Omega \)
- \( V_{tr\,(rms)} = 2 \times 450 \quad R_t = 2 \times 150 \, \Omega \)
- \( V_{tr\,(rms)} = 2 \times 400 \quad R_t = 2 \times 125 \, \Omega \)
- \( V_{tr\,(rms)} = 2 \times 350 \quad R_t = 2 \times 100 \, \Omega \)
- \( V_{tr\,(rms)} = 2 \times 300 \quad R_t = 2 \times 75 \, \Omega \)

D.C. OUTPUT CURRENT — (MA) (I_o)

D.C. OUTPUT VOLTS (E_o)
RATING CHART

D.C. OUTPUT MILLIAMPERES

A.C. PLATE SUPPLY VOLTS (RMS) PER PLATE

CAPACITOR and CHOKE