

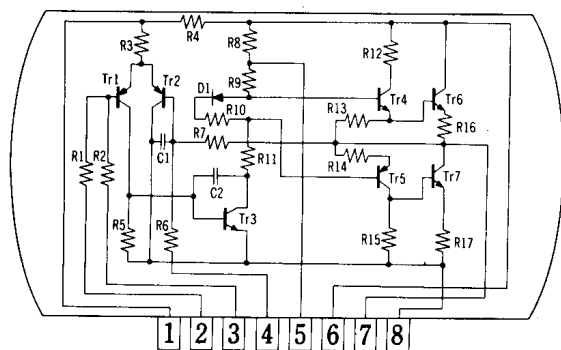
# ELECTRICAL CHARACTERISTICS

At 25°C ambient, 1kHz  $R_L = 4 \Omega (8 \Omega)$

| Characteristics                         | SI-1020GL                       | SI-1030GL                       | SI-1050GL                       |
|-----------------------------------------|---------------------------------|---------------------------------|---------------------------------|
| Maximum rms Power                       | 20W                             | 30W                             | 50W                             |
| Supply Voltage                          | $\pm 17V (\pm 23V)$             | $\pm 22V (\pm 27V)$             | $\pm 25V (\pm 33V)$             |
| Absolute Max. Supply Voltage            | $\pm 27.5V$                     | $\pm 30V$                       | $\pm 40V$                       |
| Supply Current (ave.)                   | 1.00A (0.72A)                   | 1.23A (0.86A)                   | 1.59A (1.1A)                    |
| Protective Fusing                       | 1.5A Quick Blow                 | 1.5A Quick Blow                 | 2.0A Quick Blow                 |
| Harmonic Distortion at Full Output      | 0.5% max                        | 0.5% max                        | 0.5% max                        |
| Input Voltage                           | 0.28V(0.42V)typ.                | 0.35V(0.52V)typ.                | 0.45V(0.70V)typ.                |
| Maximum Input Voltage                   | 1 V                             | 1 V                             | 1 V                             |
| Voltage Gain Full Feedback ( $P_O=1W$ ) | 30dB typ.                       | 30dB typ.                       | 30dB typ.                       |
| Input Impedance                         | 30k ohms typ.                   | 30k ohms typ.                   | 40k ohms typ.                   |
| Output Impedance ( $P_O=1W$ )           | 0.2 ohms typ.                   | 0.2 ohms typ.                   | 0.2 ohms typ.                   |
| Load Current (rms)                      | 2.22A(1.58A)typ.                | 2.73A(1.94A)typ.                | 3.53A(2.50A)typ.                |
| Output Voltage (rms)                    | 8.94V(12.7V)typ.                | 11.0V(15.5V)typ.                | 14.1V(20.0V)typ.                |
| Signal to Noise Ratio (Input Shorted)   | 90dB typ.                       | 90dB typ.                       | 90dB typ.                       |
| Idling Current                          | 20mA typ.                       | 20mA typ.                       | 20mA typ.                       |
| Frequency Range ( $P_O=1W$ )            | 10Hz to 100kHz                  | 10Hz to 100kHz                  | 10Hz to 100kHz                  |
| Power Bandwidth ( $-3dB$ )              | 10Hz to 50kHz                   | 10Hz to 50kHz                   | 10Hz to 30kHz                   |
| Operating Temperature                   | $-20^\circ C$ to $+80^\circ C$  | $-20^\circ C$ to $+80^\circ C$  | $-20^\circ C$ to $+80^\circ C$  |
| Storage Temperature                     | $-30^\circ C$ to $+100^\circ C$ | $-30^\circ C$ to $+100^\circ C$ | $-30^\circ C$ to $+100^\circ C$ |
| Built-in Protection                     | —                               | —                               | current limiting                |

## CHEMATIC

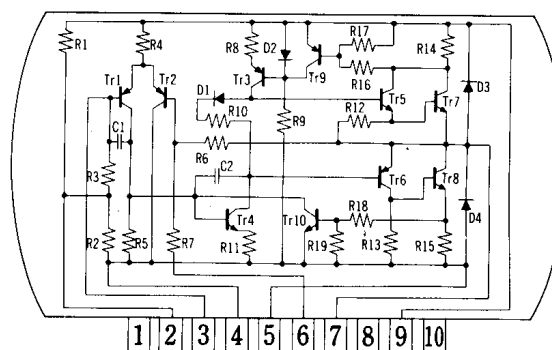
(SI-1020GL & SI-1030GL)



### TERMINAL ASSIGNMENTS

- With split (dual) power supply
1. Ripple filter capacitor (+)
  2. Input
  3. GND
  4. Bypass capacitor (+)
  5. Boot strap capacitor (+)
  6. Power supply (+)
  7. Output
  8. Power supply (-)

(SI-1050GL)

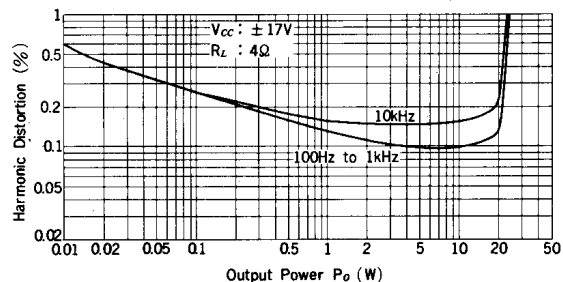


### TERMINAL ASSIGNMENTS

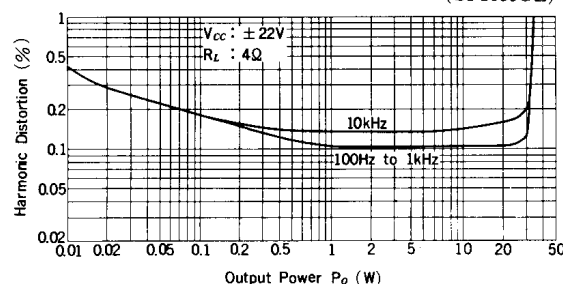
- With split (dual) power supply
1. NC
  2. Input (-) & ground terminal
  3. Input (+)
  4. Not used
  5. Power supply (-Vcc)
  6. Feedback
  7. Output
  8. NC
  9. Power supply (+Vcc)
  10. NC

# TYPICAL CHARACTERISTIC CURVES

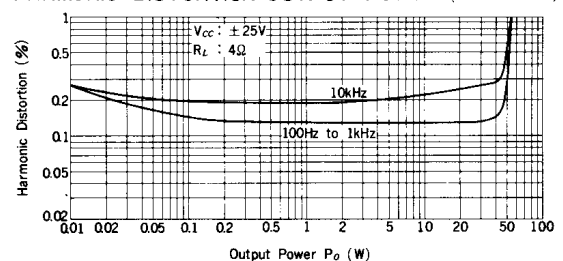
HARMONIC DISTORTION-OUTPUT POWER (SI-1020GL)



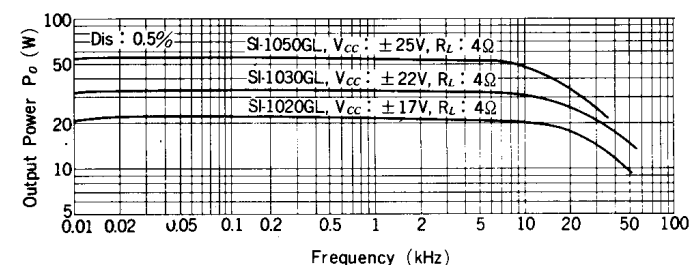
HARMONIC DISTORTION-OUTPUT POWER (SI-1030GL)



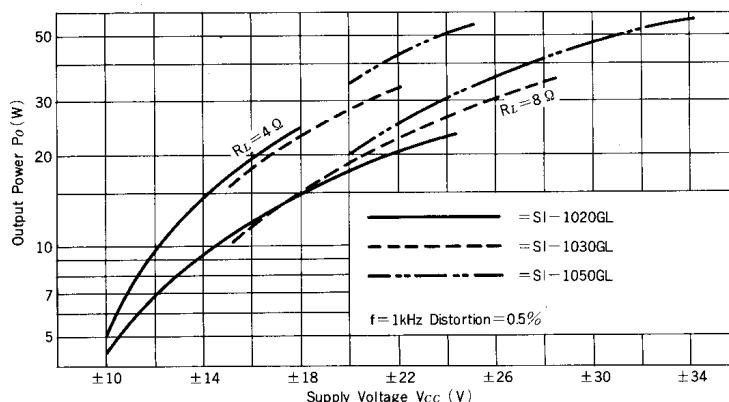
HARMONIC DISTORTION-OUTPUT POWER (SI-1050GL)



POWER BANDWIDTH

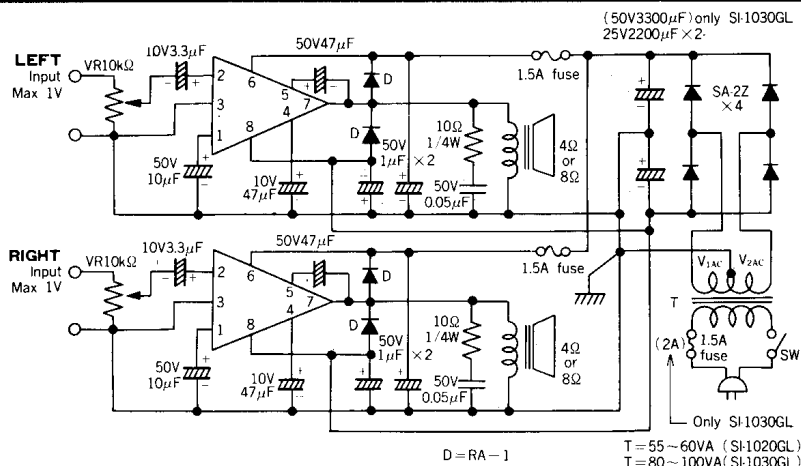


SUPPLY VOLTAGE-MAXIMUM OUTPUT POWER



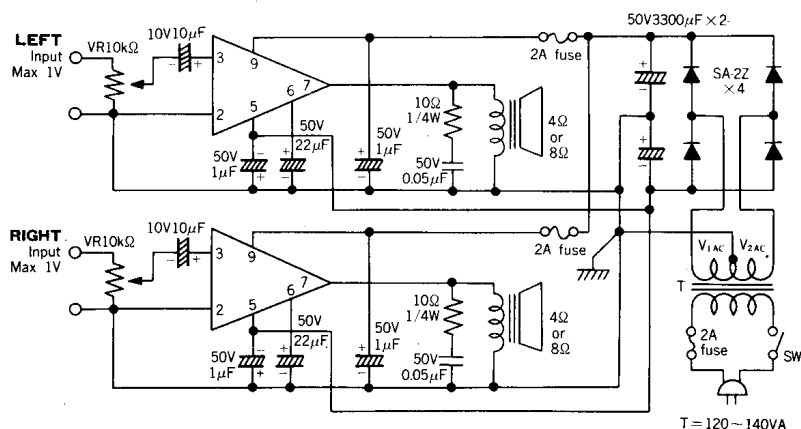
## RECOMMENDED CONNECTIONS (A:SI-1020GL & SI-1030GL B:SI-1050GL)

A.



|           | Load | $V_{1AC}$ | $V_{2AC}$ | $I_{AC}$ |
|-----------|------|-----------|-----------|----------|
| SI-1020GL | 4 Ω  | 13~14V    |           | 2.0A     |
|           | 8 Ω  | 18~19V    |           | 1.5A     |
| SI-1030GL | 4 Ω  | 17~18V    |           | 2.5A     |
|           | 8 Ω  | 20~21V    |           | 1.8A     |

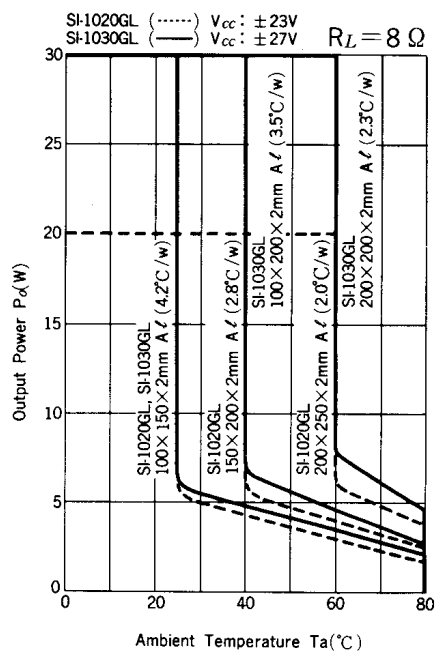
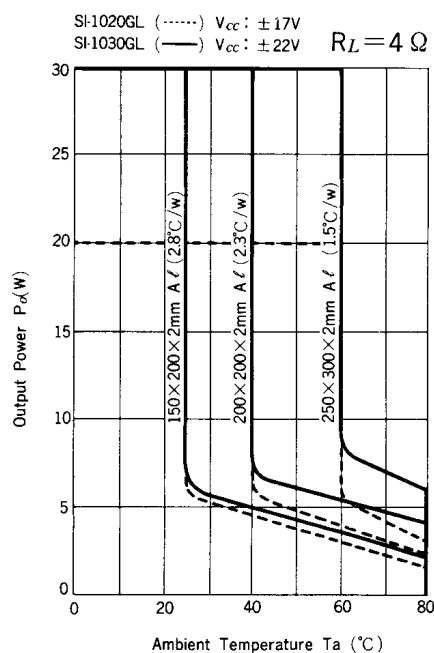
B.



|           | Load | $V_{1AC}$ | $V_{2AC}$ | $I_{AC}$ |
|-----------|------|-----------|-----------|----------|
| SI-1050GL | 4 Ω  | 20V       |           | 3.2A     |
|           | 8 Ω  | 26V       |           | 2.2A     |

## POWER DERATING

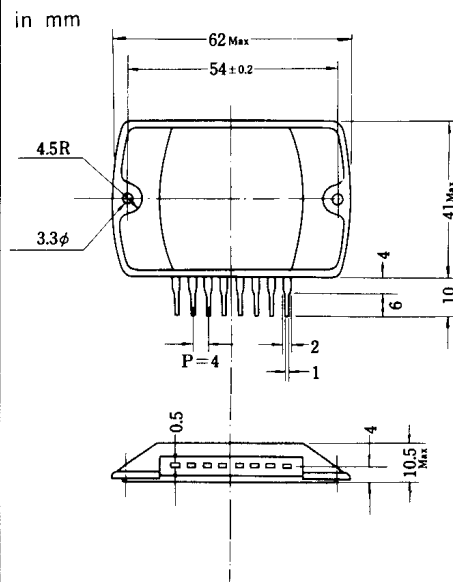
(SI-1020GL & SI-1030GL)



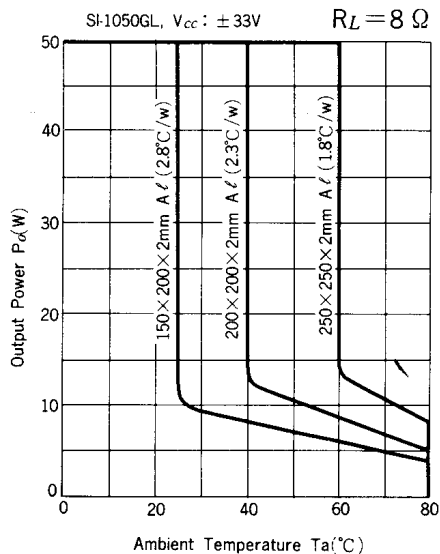
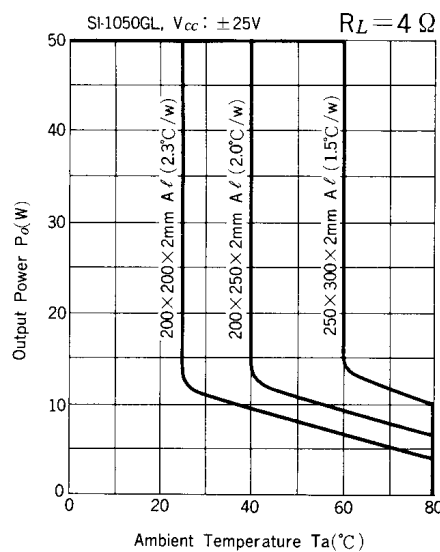
Note: Design heat sink to keep case temperature below 80°C.

## OUTLINE DRAWINGS

(SI-1020GL & SI-1030GL)

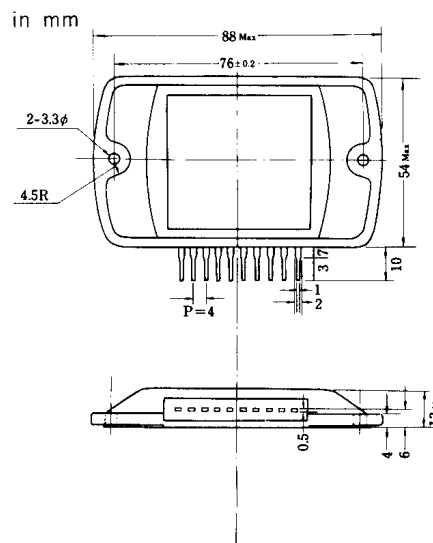


(SI-1050GL)



Note: Design heat sink to keep case temperature below 80°C.

(SI-1050GL)



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