



STK4050V

AF Power Amplifier (Split Power Supply) (200 W min, THD = 0.08%)

Features

- Compact packaging supports slimmer set designs
- Series designed from 20 up to 100 W (200 W) and pin-compatibility (120 to 200 W have 18 pins)
- Simpler heat sink design facilitates thermal design of slim stereo sets
- Current mirror circuit application reduce distortion to 0.08 %
- Supports addition of electronic circuits for thermal shutdown and load-short protection circuit as well as pop noise muting which occurs when the power supply switch is turned on and off.

Specifications

Maximum Ratings at $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Condition | Rating | Unit |
|---------------------------------|----------------------|-----------|-------------|---------------------------|
| Maximum supply voltage | $V_{CC \text{ max}}$ | | ± 95 | V |
| Thermal resistance | θ_{j-c} | | 0.95 | $^\circ\text{C}/\text{W}$ |
| Junction temperature | T_j | | 150 | $^\circ\text{C}$ |
| Operating substrate temperature | T_c | | 125 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | | -30 to +125 | $^\circ\text{C}$ |

Recommended Operational Conditions at $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Condition | Rating | Unit |
|----------------------------|----------|-----------|----------|----------|
| Recommended supply voltage | V_{CC} | | ± 66 | V |
| Load resistance | R_L | | 8 | Ω |

Operating Characteristics

at $T_a = 25^\circ\text{C}$, $V_{CC} = \pm 66 \text{ V}$, $R_L = 8 \Omega$, $V_G = 40 \text{ dB}$, $R_g = 600 \Omega$, 100 k LPF ON, R_L (non-inductive)

| Parameter | Symbol | Condition | Rating | | | Unit |
|---------------------------|------------|--|--------|-----------|------|------------|
| | | | min | typ | max | |
| Quiescent current | I_{CCO} | $V_{CC} = \pm 80 \text{ V}$ | 15 | | 120 | mA |
| Output power | P_O | THD = 0.08 %, $f = 20 \text{ Hz to } 20 \text{ kHz}$ | 200 | | | W |
| Total harmonic distortion | THD | $P_O = 1.0 \text{ W}$, $f = 1 \text{ kHz}$ | | | 0.08 | % |
| Frequency response | f_L, f_H | $P_O = 1.0 \text{ W}$, $+0$ -3 dB | | 20 to 50k | | Hz |
| Input resistance | r_i | $P_O = 1.0 \text{ W}$, $f = 1 \text{ kHz}$ | | 55 | | k Ω |
| Output noise voltage | V_{NO} | $V_{CC} = \pm 80 \text{ V}$, $R_g = 10 \text{ k}\Omega$ | | | 1.2 | mVrms |
| Neutral voltage | V_N | $V_{CC} = \pm 80 \text{ V}$ | -70 | 0 | +70 | mV |

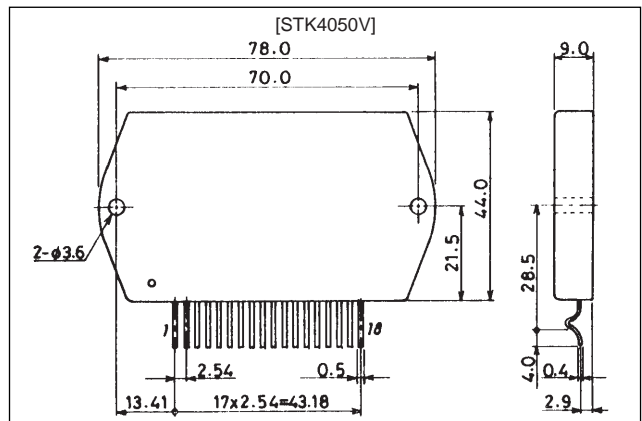
Note: Use rated power supply for test unless otherwise specified.

Output noise voltage represents the peak value on the rms scale (VTVM). The noise voltage waveform does not include the pulse noise.

Package Dimensions

unit: mm

4051A



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