

# TA8464K

## DUAL POWER OPERATIONAL AMPLIFIER

The TA8464K is a dual power operational amplifier with the output current 1.2A (PEAK).

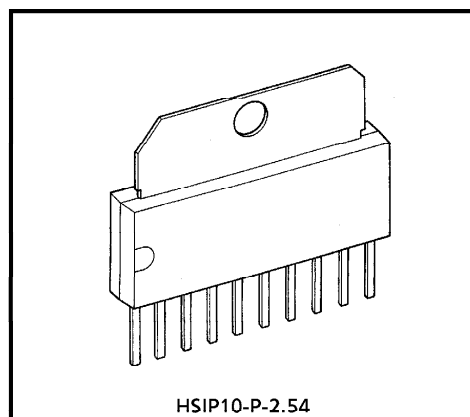
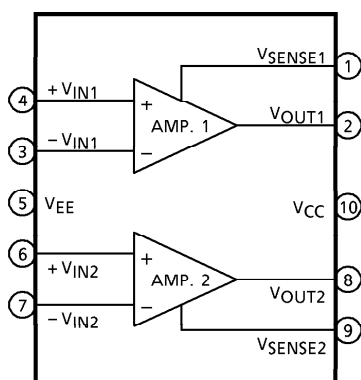
This amplifier is usable for CD player arm driver, brushed motor forward/reverse rotation control driver, and FDD/HDD voice coil motor.

Furthermore, this amplifier is best suited for LDP focus tracking actuator driver because of its high through rate.

### FEATURES

- Provided with a Current Limiter.
- High Output Current :  $I_O$  (PEAK) = 1.2A
- Internal Phase Compensation Type.
- Less Crosstalk :  $C_T$  = 55dB (Typ.)
- High Slew Rate :  $SR$  = 1.0V /  $\mu s$  (Typ.)

### BLOCK DIAGRAM



Weight : 2.47g (Typ.)

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## PIN FUNCTION

| PIN No. | SYMBOL              | FUNCTIONAL DESCRIPTION                   |
|---------|---------------------|------------------------------------------|
| 1       | V <sub>SENSE1</sub> | AMP. 1 output current detective terminal |
| 2       | V <sub>OUT1</sub>   | AMP. 1 output terminal                   |
| 3       | -V <sub>IN1</sub>   | AMP. 1 input terminal (-)                |
| 4       | +V <sub>IN1</sub>   | AMP. 1 input terminal (+)                |
| 5       | V <sub>EE</sub>     | Negative-side voltage supply terminal    |
| 6       | +V <sub>IN2</sub>   | AMP. 2 input terminal (+)                |
| 7       | -V <sub>IN2</sub>   | AMP. 2 input terminal (-)                |
| 8       | V <sub>OUT2</sub>   | AMP. 2 output terminal                   |
| 9       | V <sub>SENSE2</sub> | AMP. 2 output current detective terminal |
| 10      | V <sub>CC</sub>     | Positive-side voltage supply terminal    |

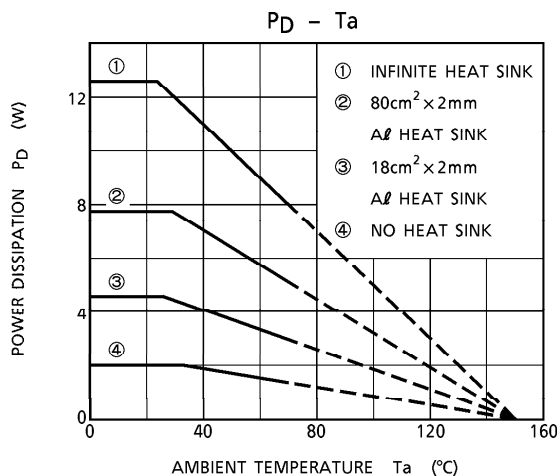
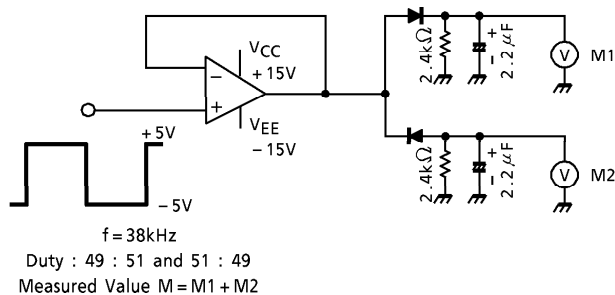
## MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC        | SYMBOL                            | RATING      | UNIT |
|-----------------------|-----------------------------------|-------------|------|
| Supply Voltage        | V <sub>CC</sub> , V <sub>EE</sub> | ± 18        | V    |
| Output Current        | I <sub>O</sub> (PEAK)             | 1.2         | A    |
| Power Dissipation     | P <sub>D</sub>                    | 12.5 (Note) | W    |
| Operating Temperature | T <sub>opr</sub>                  | - 30~75     | °C   |
| Storage Temperature   | T <sub>stg</sub>                  | - 55~150    | °C   |

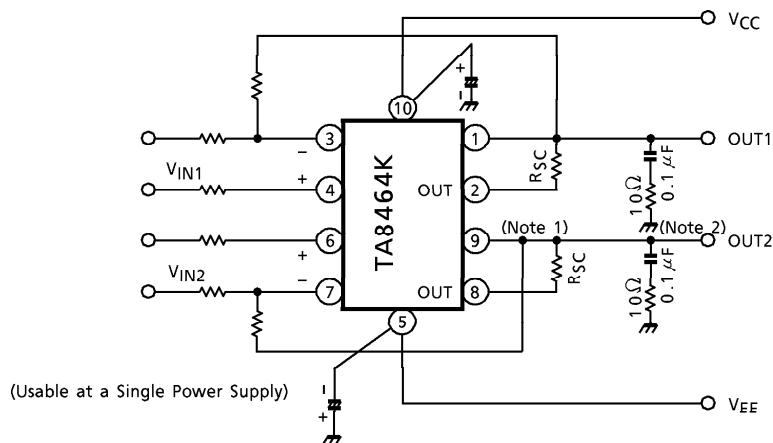
(Note) T<sub>c</sub> = 25°CELECTRICAL CHARACTERISTICS (Unless otherwise specified, V<sub>CC</sub> = 15V, V<sub>EE</sub> = -15V, Ta = 25°C)

| CHARACTERISTIC                  |       | SYM-BOL         | TEST CIR-CUIT | TEST CONDITION                                     | MIN.   | TYP.   | MAX. | UNIT   |
|---------------------------------|-------|-----------------|---------------|----------------------------------------------------|--------|--------|------|--------|
| Supply Current                  |       | I <sub>CC</sub> | —             | —                                                  | —      | 17     | 25   | mA     |
| Input Offset Current            |       | I <sub>IO</sub> | —             | —                                                  | —      | 3      | 100  | nA     |
| Input Bias Current              |       | I <sub>I</sub>  | —             | —                                                  | —      | 98     | 300  | nA     |
| Input Offset Voltage            |       | V <sub>IO</sub> | —             | —                                                  | —      | 0      | 7    | mV     |
| Maximum Output Voltage          | Upper | V <sub>OH</sub> | —             | V <sub>CC</sub> = ± 15V, I <sub>O</sub> = 300mA    | 12.2   | 13.3   | —    | V      |
|                                 | Lower | V <sub>OL</sub> | —             |                                                    | - 12.2 | - 13.3 | —    |        |
|                                 | Upper | V <sub>OH</sub> | —             | V <sub>CC</sub> = ± 6V, I <sub>O</sub> = 1A        | 2.0    | 3.9    | —    | V      |
|                                 | Lower | V <sub>OL</sub> | —             |                                                    | - 2.0  | - 4.0  | —    |        |
| Open Loop Gain                  |       | G <sub>VO</sub> | —             | —                                                  | —      | 80     | —    | dB     |
| Input Common Mode Voltage Range |       | CMR             | —             | —                                                  | ± 13   | ± 14   | —    | V      |
| Common Mode Rejection Ratio     |       | CMRR            | —             | V <sub>IN</sub> = - 10~10V                         | 90     | 113    | —    | dB     |
| Supply Voltage Rejection Ratio  |       | SVRR            | —             | V <sub>CC</sub> = - V <sub>EE</sub> = 6~15V ± 1V   | —      | 65     | 100  | μV/V   |
| Slew Rate                       |       | SR              | —             | —                                                  | —      | 1.0    | —    | V / μs |
| Output Limiting Current         |       | I <sub>SC</sub> | —             | R <sub>SC</sub> = 0.68Ω                            | 0.8    | 1.0    | —    | A      |
| Crosstalk                       |       | C <sub>T</sub>  | —             | V <sub>IN</sub> = - 14~14V                         | —      | 55     | —    | dB     |
| Slew Rate Symmetry              |       | SR'             | 1             | INPUT : Duty<br>(49 : 51 / 51 : 49)<br>Square wave | —      | 0.02   | 1.0  | V      |

TEST CIRCUIT 1 Slew rate, symmetry SR'



APPLICATION CIRCUIT 1

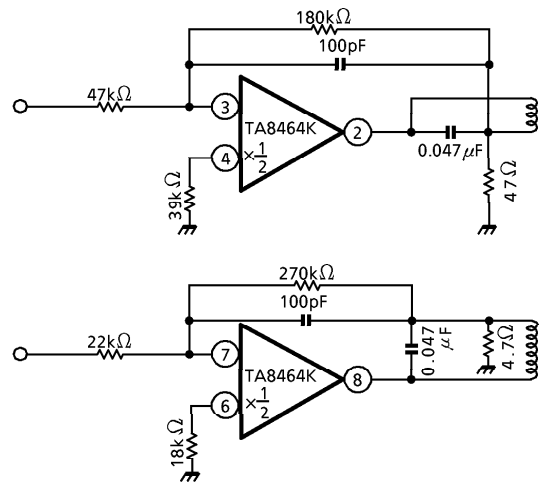


(Note 1)  $I_{SC} \doteq \frac{0.7 \text{ (V)}}{R_{SC} \text{ (}\Omega\text{)}} \text{ (A)}$

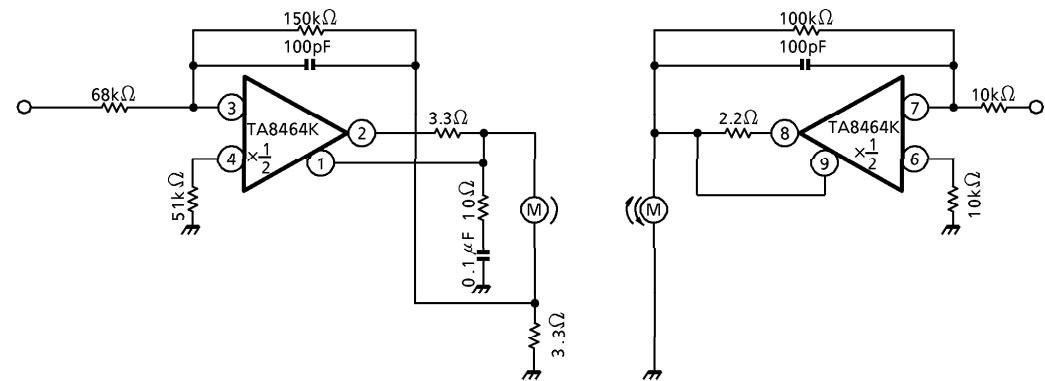
(Note 2) If crosstalk is recognizable remarkably in applications above 80kHz, change a capacitor to one having a value of about  $0.33\mu\text{F}$  as a compensating circuit. Further, no resistor is needed in this case.

(Note 3) Utmost care is necessary in the design of the output line,  $V_{CC}$  and GND line since IC may be destroyed due to short-circuit between outputs, air contamination fault, or fault by improper grounding.

APPLICATION CIRCUIT 2



APPLICATION CIRCUIT 3



## HSIP10-P-2.54

Technical drawing of a 15-pin D-sub connector. The drawing includes a top view, a side view, and a detail view of the pin.

**Top View Dimensions:**

- Overall width:  $22.0 \pm 0.2$
- Pin pitch:  $2.54$
- Pin diameter:  $\varnothing 3.2 \pm 0.2$
- Pin spacing (center-to-center):  $1.2 \pm 0.1$
- Pin length (from body):  $5.5 \pm 0.3$
- Pin diameter (from body):  $0.5 \pm 0.2$
- Pin diameter (from body):  $8.5 \pm 0.3$
- Pin diameter (from body):  $12.5 \pm 0.3$
- Pin diameter (from body):  $15.0 \pm 0.3$

**Side View Dimensions:**

- Overall height:  $4.0 \pm 0.2$
- Pin diameter (from body):  $0.4^{+0.1}_{-0.05}$

**Detail View Dimensions:**

- Pin diameter:  $\varnothing 0.25$

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