

## REMOTE CONTROL PREAMPLIFIER

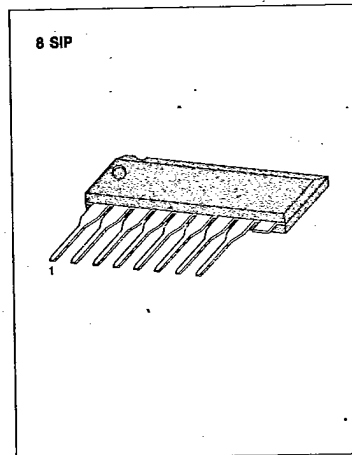
The KA2182/KA2183 are silicon monolithic integrated circuit designed for a remote control preamplifier of infrared signals. These devices have features of low power, high sensitivity and wide supply voltage.

## FUNCTIONS

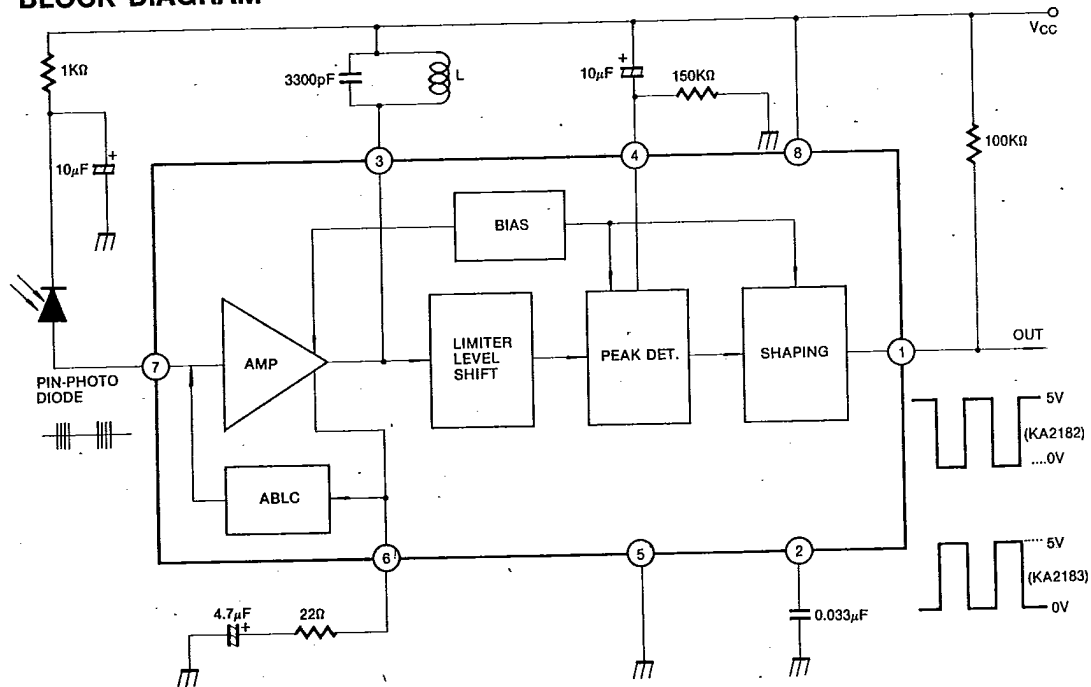
- AMP
- ABLC
- Limitter & Level Shift
- Shaping
- Peak Det

## FEATURES

- Wide Operation Voltage:  $V_{CC} = 4$  to  $8V$
- Low Power Consumption:  $I_{CC} = 2.2mA$  Typ. (KA2182)
- High Input Sensitivity:  $50\mu V_{pp}$   $2.3mA$  Typ. (KA2183)
- Peak Detector
- Small Size Package: 8 SIP
- Minimum Number of External Parts Required
- Output: Active Low (KA2182)  
Active High (KA2183)



## BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

| Characteristics       | Symbol    | Value           | Unit             |
|-----------------------|-----------|-----------------|------------------|
| Supply Voltage        | $V_{CC}$  | 8               | V                |
| Operating Temperature | $T_{opr}$ | $-20 \sim +75$  | $^\circ\text{C}$ |
| Storage Temperature   | $T_{stg}$ | $-40 \sim +125$ | $^\circ\text{C}$ |

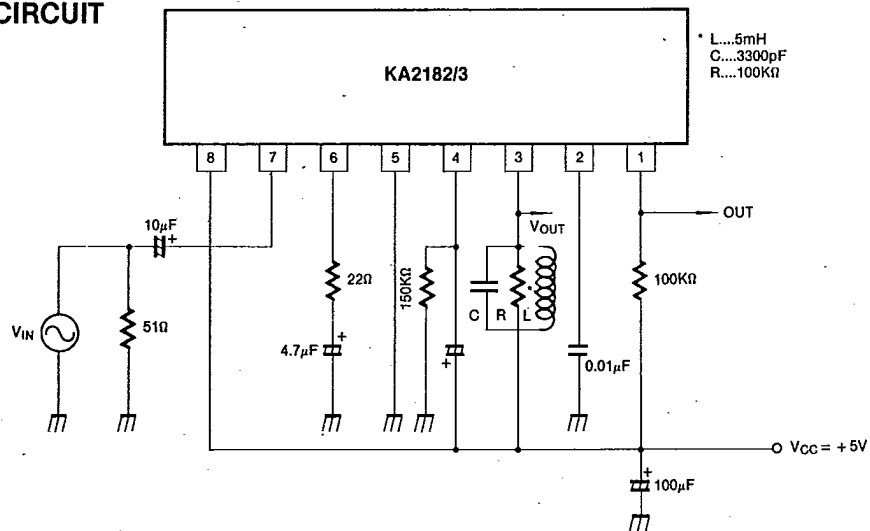
## RECOMMENDED OPERATING CONDITIONS

| Characteristics | Symbol   | Min | Typ | Max | Unit |
|-----------------|----------|-----|-----|-----|------|
| Power Supply    | $V_{CC}$ | 4.0 | 5.0 | 8.0 | V    |
| Input Frequency | $F_{IN}$ | 30  |     | 50  | KHz  |

ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ ,  $V_{CC} = 5\text{V}$ ,  $f_{IN} = 40\text{KHz}$ )

| Characteristics         | Symbol    | Test Condition                                       | Min                                | Typ | Max | Unit          |
|-------------------------|-----------|--|------------------------------------|-----|-----|---------------|
| Supply Current          | $I_{CC}$  | KA2182   | 1.2                                | 2.2 | 3.2 | mA            |
|                         |           | KA2183   | 1.3                                | 2.3 | 3.3 | mA            |
| Input Terminal Voltage  | $V_{IN1}$ |  | 1.0                                | 1.2 | 1.5 | V             |
| Input Terminal Voltage  | $V_{IN2}$ | $I_{IN} = 70\mu\text{A}$                             | 1.7                                | 2.3 | 3.0 | V             |
| 1st Stage Voltage Gain  | $A_{VL}$  | $V_{OUT} = 500\text{mV}_{PP}$                        |                                    | 60  |     | dB            |
| Detection Input Voltage | $V_{IN}$  |  |                                    | 50  | 100 | $\mu\text{V}$ |
| Output Voltage          | KA2182    | $I_{OL} = 0.1\text{mA}$ , $V_{IN} = 1\text{mV}_{PP}$ |                                    |     | 0.5 | V             |
|                         | KA2183    |  | $I_{OL} = 0.1\text{mA}$ , No Input |     |     |               |
| Output Leak Current     | $I_{OH}$  | $V_{OH} = 14.4\text{V}$                              |                                    |     | 2   | $\mu\text{A}$ |

## TEST CIRCUIT



APPLICATION CIRCUIT

