

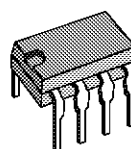
**PREAMPLIFIER FOR INFRARED  
REMOTE CONTROL SYSTEMS**

**DESCRIPTION**

The TDA2320 is a monolithic integrated circuit in Dip package specially designed to amplify the IR signal in remote controlled TV or radio sets. It directly interfaces with the digital control circuitry.

The TDA2320 incorporates a two-stage amplifier with excellent sensitivity and high noise immunity. It can work with a single 5V supply voltage and flash or carrier transmission modes as provided for example by the M709A/M710A/MOS transmitters.

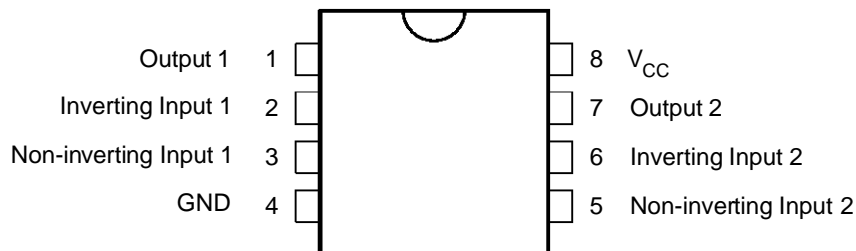
The TDA2320 is particularly intended to be used in conjunction with the M104 and M206 + M3870 remote control receivers.



**N**  
DIP8  
(Plastic Package)

**ORDER CODE : TDA2320N**

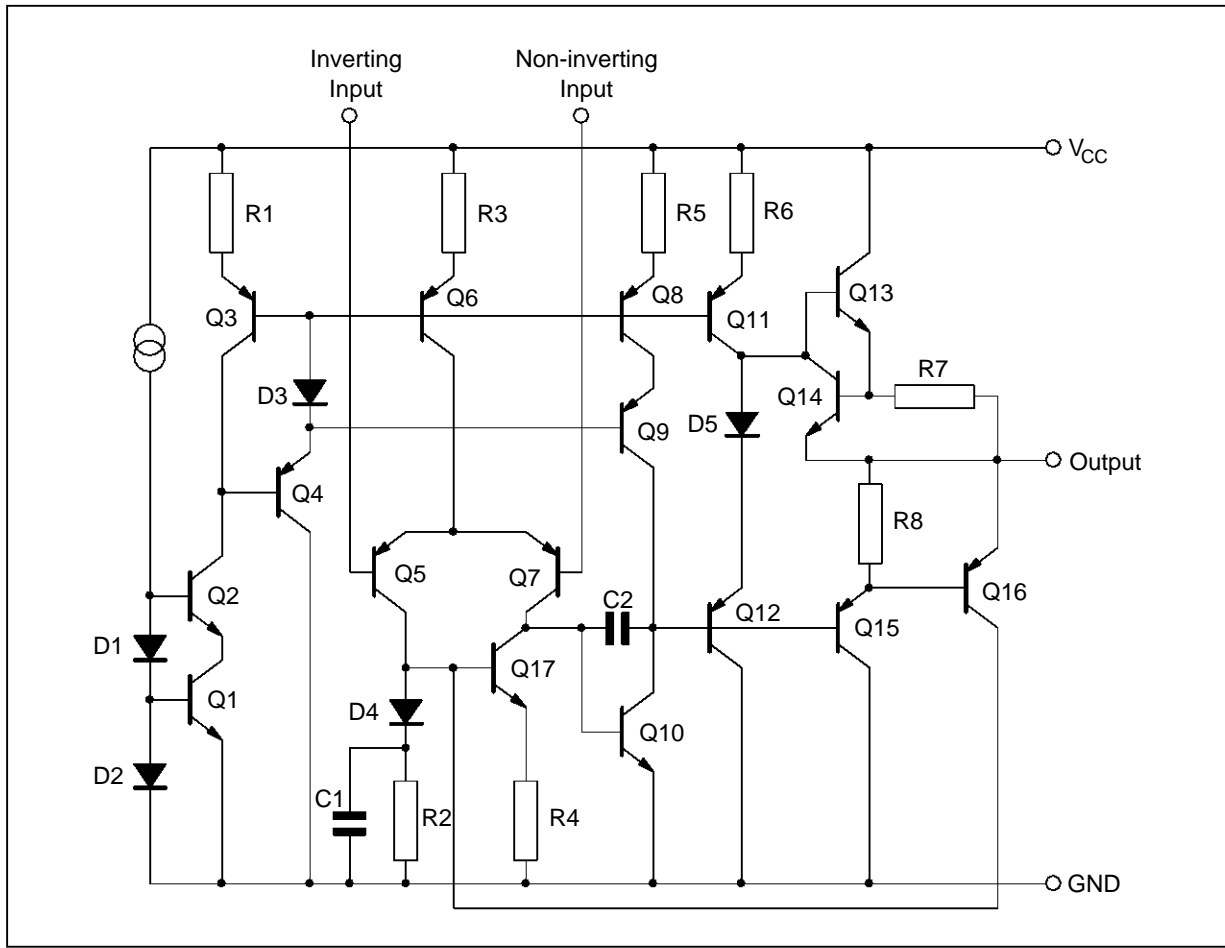
**PIN CONNECTIONS (top view)**



2320-01.EPS

# TDA2320

## SCHEMATIC DIAGRAM (1/2 TDA2320)



## ABSOLUTE MAXIMUM RATINGS

| Symbol         | Parameter  | Value      | Unit        |
|----------------|--|------------|-------------|
| $V_{CC}$       | Supply Voltage                                     | 20         | V           |
| $P_{tot}$      | Total Power Dissipation at $T_{amb} = 70^{\circ}C$ | 400        | mW          |
| $T_{stg}, T_j$ | Storage and Junction Temperature                   | -40 to 150 | $^{\circ}C$ |

**ELECTRICAL CHARACTERISTICS**

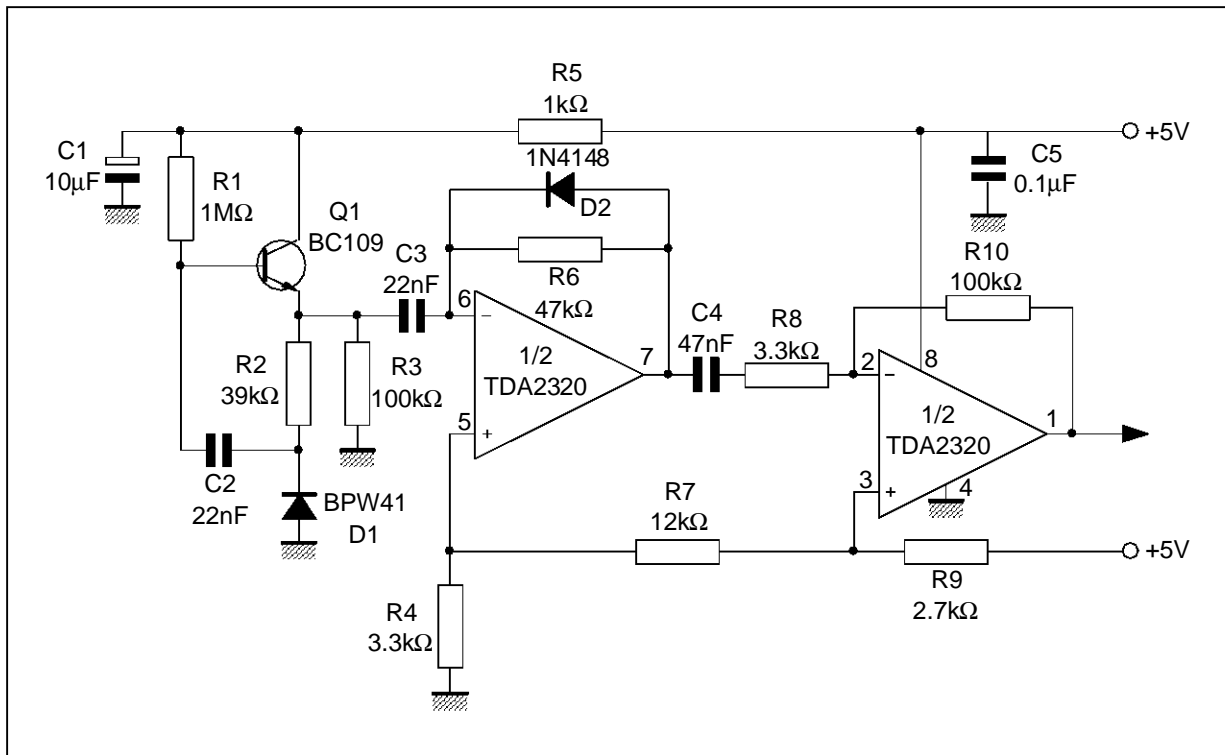
$V_{CC} = 5V$ ,  $T_{amb} = 25^{\circ}C$  (unless otherwise specified) (refer to the test circuits)

| Symbol    | Parameter  | Min. | Typ.     | Max. | Unit                   |
|-----------|--|------|----------|------|------------------------|
| $V_{CC}$  | Supply Voltage   | 4    |          | 20   | V                      |
| $I_{CC}$  | Supply Current<br>$V_{CC} = 20V$                                   |      | 0.8      | 2    | mA                     |
| $I_{ib}$  | Input Bias Current   |      | 100      | 500  | nA                     |
| $V_{io}$  | Input Offset Voltage<br>$R_s < 10k\Omega$                          |      | 0.5      |      | mV                     |
| $I_{io}$  | Input Offset Current   |      | 15       |      | nA                     |
| $A_{vd}$  | Large Signal Voltage Gain<br>$f = 1kHz$<br>$f = 100kHz$            | 64   | 70<br>30 |      | dB                     |
| $V_{OPP}$ | DC Output Voltage Swing  |      | 2.5      |      | V                      |
| GBP       | Gain-bandwidth Product<br>$f = 100kHz$                             | 1.5  | 3        |      | MHz                    |
| SR        | Slew Rate<br>$R_L = 2k\Omega$                                      |      | 1.5      |      | V/ $\mu s$             |
| $e_n$     | Equivalent Input Noise Voltage<br>$f = 40kHz$<br>$R_s = 10k\Omega$ |      | 20       |      | $\frac{nV}{\sqrt{Hz}}$ |
| SVR       | Supply Voltage Rejection Ratio<br>$f = 100Hz$                      |      | 80       |      | dB                     |

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**APPLICATION CIRCUIT**

**FLASH MODE PREAMPLIFIER**

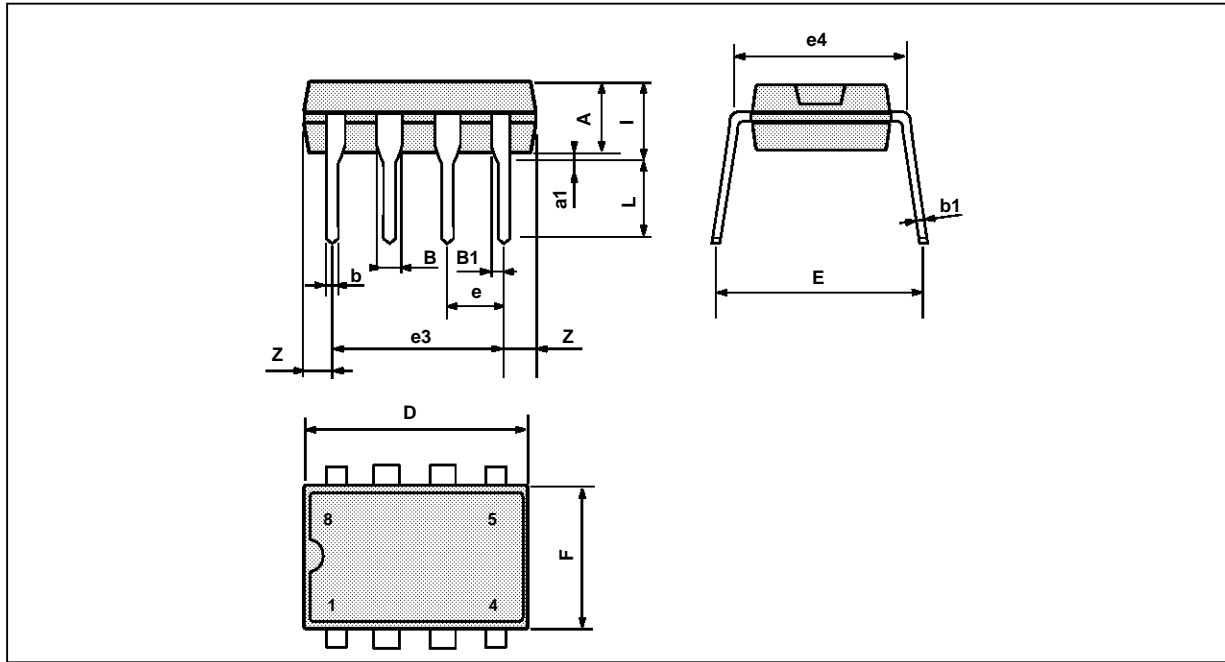


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## PACKAGE MECHANICAL DATA

8 PINS -PLASTIC DIP



PM-DIP8.EPS

| Dimensions | Millimeters |      |       | Inches |       |       |
|------------|-------------|------|-------|--------|-------|-------|
|            | Min.        | Typ. | Max.  | Min.   | Typ.  | Max.  |
| A          |             | 3.32 |       |        | 0.131 |       |
| a1         | 0.51        |      |       | 0.020  |       |       |
| B          | 1.15        |      | 1.65  | 0.045  |       | 0.065 |
| b          | 0.356       |      | 0.55  | 0.014  |       | 0.022 |
| b1         | 0.204       |      | 0.304 | 0.008  |       | 0.012 |
| D          |             |      | 10.92 |        |       | 0.430 |
| E          | 7.95        |      | 9.75  | 0.313  |       | 0.384 |
| e          |             | 2.54 |       |        | 0.100 |       |
| e3         |             | 7.62 |       |        | 0.300 |       |
| e4         |             | 7.62 |       |        | 0.300 |       |
| F          |             |      | 6.6   |        |       | 0.260 |
| i          |             |      | 5.08  |        |       | 0.200 |
| L          | 3.18        |      | 3.81  | 0.125  |       | 0.150 |
| Z          |             |      | 1.52  |        |       | 0.060 |

DIP8.TBL

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