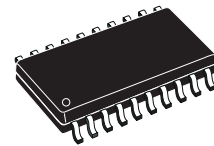


## LOW DROP DUAL POWER OPERATIONAL AMPLIFIER

- OUTPUT CURRENT TO 1 A
- OPERATES AT LOW VOLTAGES
- SINGLE OR SPLIT SUPPLY
- LARGE COMMON-MODE AND DIFFERENTIAL MODE RANGE
- LOW INPUT OFFSET VOLTAGE
- GROUND COMPATIBLE INPUTS
- LOW SATURATION VOLTAGE
- THERMAL SHUTDOWN
- CLAMP DIODE



**SO20**  
(12 + 4 + 4)

**ORDERING NUMBER : L2726**

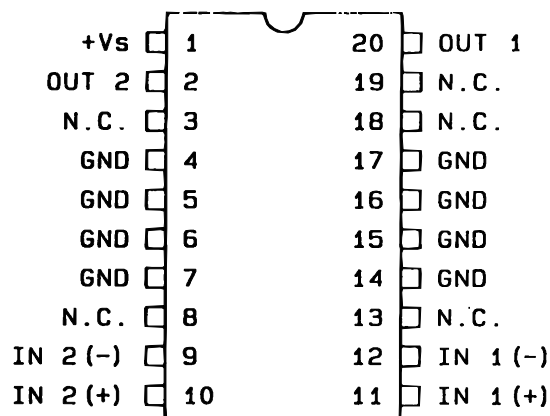
### DESCRIPTION

The L2726 is a monolithic integrated circuit in SO-20 package intended for use as power operational amplifiers in a wide range of applications including servo amplifiers and power supplies.

It is particularly indicated for driving inductive loads, as motor and finds applications in compact-disc VCR automotive, etc.

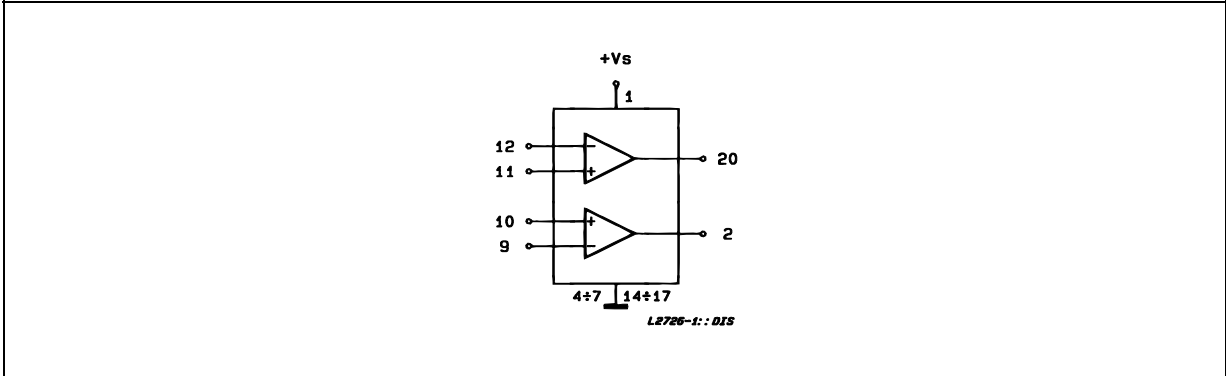
The high gain and high output power capability provide superior performance whatever an operational amplifier/power booster combination is required.

### PIN CONNECTION (top view)

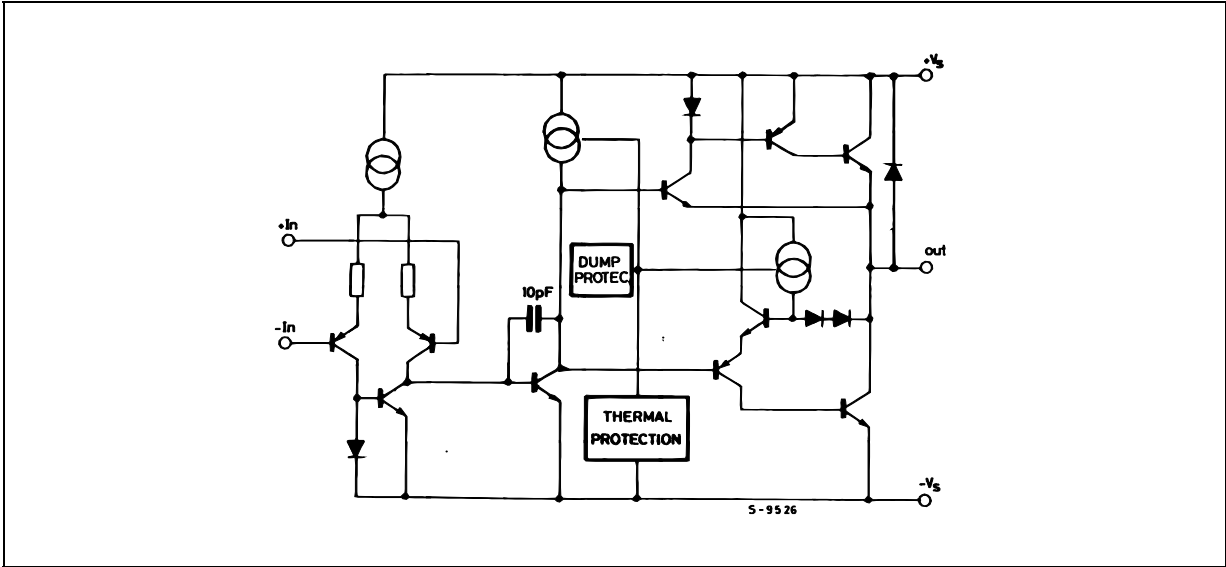


**L2726-2 : DIS**

BLOCK DIAGRAM



SCHEMATIC DIAGRAM (one section)



ABSOLUTE MAXIMUM RATINGS

| Symbol         | Parameter                                                                   | Value       | Unit        |
|----------------|-----------------------------------------------------------------------------|-------------|-------------|
| $V_s$          | Supply Voltage                                                              | 28          | V           |
| $V_s$          | Peak Supply Voltage (50ms)                                                  | 50          | V           |
| $V_i$          | Input Voltage                                                               | $V_s$       |             |
| $V_i$          | Differential Input Voltage                                                  | $\pm V_s$   |             |
| $I_o$          | DC Output Current                                                           | 1           | A           |
| $I_p$          | Peak Output Current (non repetitive)                                        | 1.5         | A           |
| $P_{tot}$      | Power Dissipation at<br>$T_{amb} = 85^{\circ}C$<br>$T_{case} = 75^{\circ}C$ | 1<br>5      | W           |
| $T_{op}$       | Operating Temperature                                                       | - 40 to 85  | $^{\circ}C$ |
| $T_{stg}, T_j$ | Storage and Junction Temperature                                            | - 40 to 150 | $^{\circ}C$ |

THERMAL DATA

|                  |                                         |      |      |               |
|------------------|-----------------------------------------|------|------|---------------|
| $R_{th\ j-case}$ | Thermal Resistance Junction-case        | Max. | 15.0 | $^{\circ}C/W$ |
| $R_{th\ j-amb}$  | Thermal Resistance Junction-ambient (*) | Max. | 65   | $^{\circ}C/W$ |

(\*) With 4 sq. cm copper area heatsink.

**ELECTRICAL CHARACTERISTICS**

$V_s = 24V$ ,  $T_{amb} = 25^{\circ}C$  unless otherwise specified

| Symbol           | Parameter                             | Test Conditions                                                                                      | Min.    | Typ.           | Max.     | Unit           |
|------------------|---------------------------------------|------------------------------------------------------------------------------------------------------|---------|----------------|----------|----------------|
| $V_s$            | Single Supply Voltage                 |                                                                                                      | 4       |                | 28       | V              |
| $V_s$            | Split Supply Voltage                  |                                                                                                      | $\pm 2$ |                | $\pm 14$ | V              |
| $I_s$            | Quiescent Drain Current               | $V_o = \frac{V_s}{2}$<br>$V_s = 24V$<br>$V_s = 24V$                                                  |         | 10<br>9        | 15<br>15 | mA             |
| $I_b$            | Input Bias Current                    |                                                                                                      |         | 0.2            | 1        | $\mu A$        |
| $V_{os}$         | Input Offset Voltage                  |                                                                                                      |         |                | 10       | mV             |
| $I_{os}$         | Input Offset Current                  |                                                                                                      |         |                | 100      | nA             |
| SR               | Slew Rate                             |                                                                                                      |         | 2              |          | V/ $\mu s$     |
| B                | Gain-bandwidth Product                |                                                                                                      |         | 1.2            |          | MHz            |
| $R_i$            | Input Resistance                      |                                                                                                      | 500     |                |          | k $\Omega$     |
| $G_v$            | O. L. Voltage Gain                    | $f = 100Hz$<br>$f = 1kHz$                                                                            | 70      | 80<br>60       |          | dB             |
| $e_N$            | Input Noise Voltage                   | $B = 22Hz \text{ to } 22kHz$                                                                         |         | 10             |          | $\mu V$        |
| $I_N$            | Input Noise Voltage                   |                                                                                                      |         | 200            |          | pA             |
| CMR              | Common Mode Rejection                 | $f = 1kHz$                                                                                           | 66      | 84             |          | dB             |
| SVR              | Supply Voltage Rejection              | $f = 100Hz$<br>$R_G = 10k\Omega$<br>$V_R = 0.5V$<br>$V_s = 24V$<br>$V_s = \pm 12V$<br>$V_s = \pm 6V$ | 60      | 70<br>75<br>80 |          | dB<br>dB<br>dB |
| $V_{DROP(HIGH)}$ |                                       | $V_s = \pm 2.5V \text{ to } \pm 12V$<br>$I_p = 100mA$<br>$I_p = 500mA$                               |         | 0.7<br>1       | 1.5      | V              |
| $V_{DROP(LOW)}$  |                                       | $V_s = \pm 2.5V \text{ to } \pm 12V$<br>$I_p = 100mA$<br>$I_p = 500mA$                               |         | 0.3<br>0.5     | 1        | V              |
| $C_s$            | Channel Separation                    | $f = 1KHz$<br>$R_L = 10\Omega$<br>$G_v = 30dB$<br>$V_s = 24V$<br>$V_s = 6V$                          |         | 60<br>60       |          | dB             |
| $T_{sd}$         | Thermal Shutdown Junction Temperature |                                                                                                      | 150     |                |          | $^{\circ}C$    |

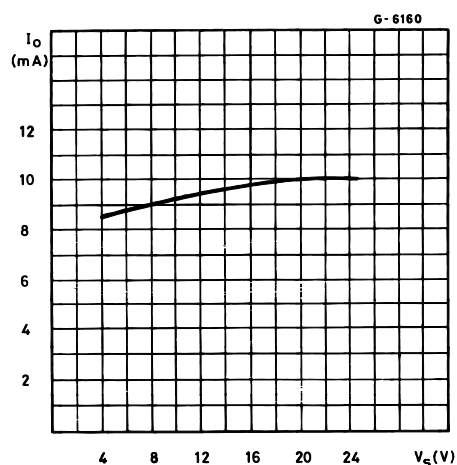
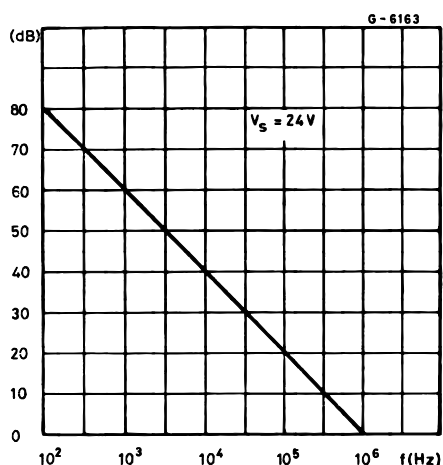
**Figure 1 : Quiescent Current vs. Supply Voltage****Figure 2 : Open Loop Gain vs. Frequency**

Figure 3 : Common Mode Rejection Frequency

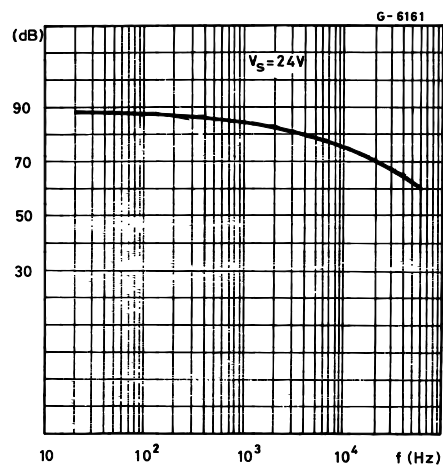


Figure 4 : Output Swing vs. Load Current ( $V_S = \pm 5V$ )

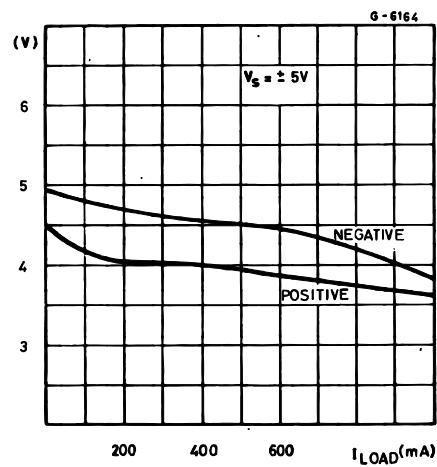


Figure 5 : Output Swing vs. Load Current ( $V_S = \pm 12V$ )

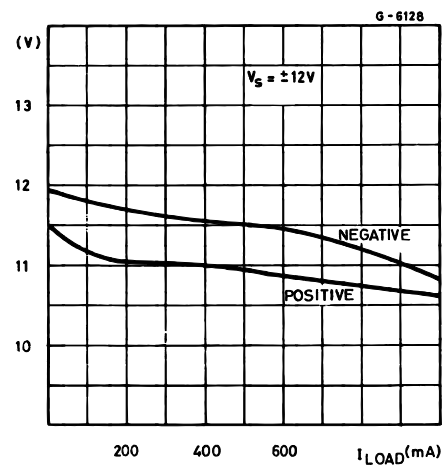


Figure 6 : Supply Voltage Rejection vs. Frequency

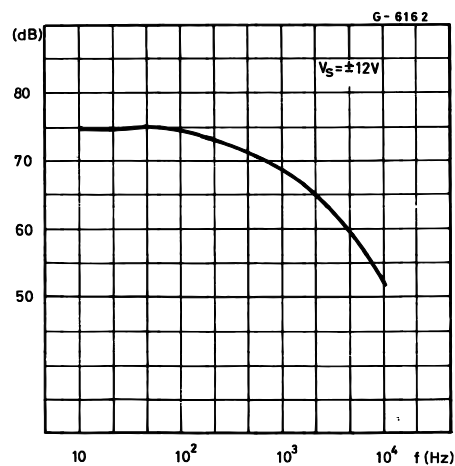
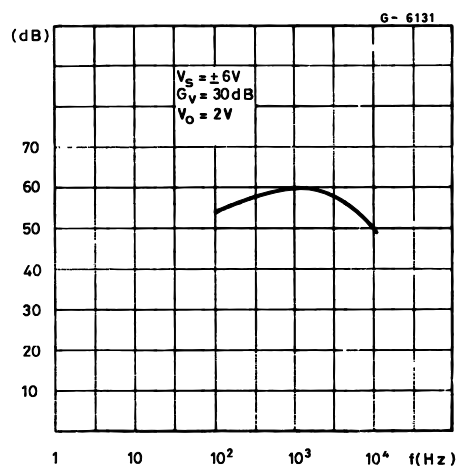
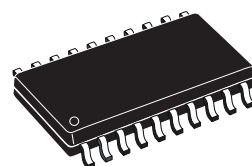


Figure 7 : Channel Separation vs. Frequency.

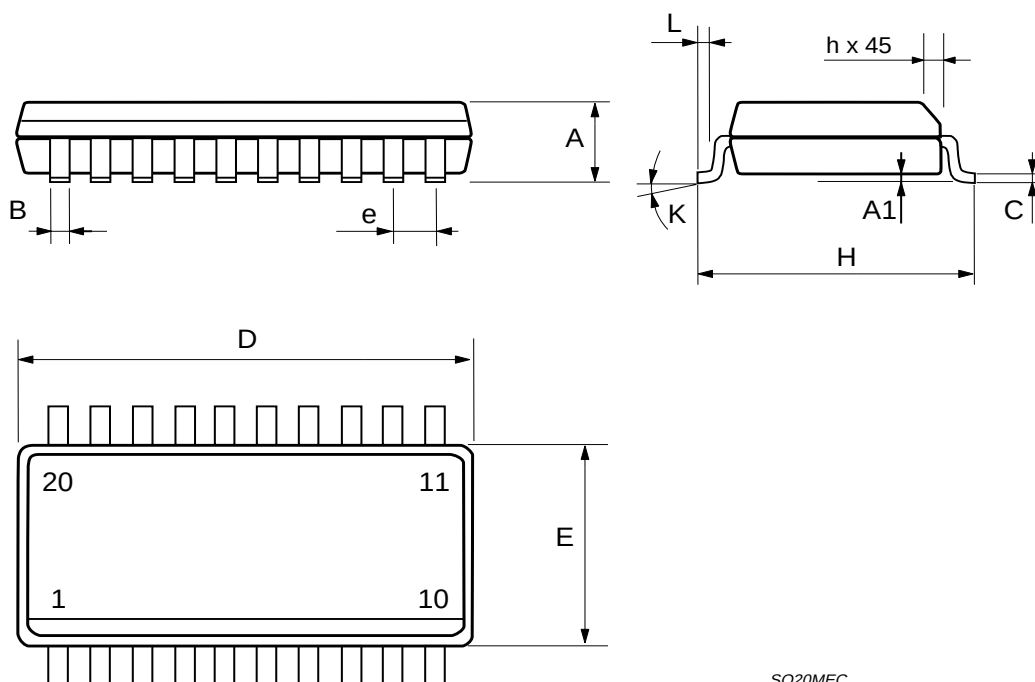


| DIM. | mm                  |      |       | inch  |       |       |
|------|---------------------|------|-------|-------|-------|-------|
|      | MIN.                | TYP. | MAX.  | MIN.  | TYP.  | MAX.  |
| A    | 2.35                |      | 2.65  | 0.093 |       | 0.104 |
| A1   | 0.1                 |      | 0.3   | 0.004 |       | 0.012 |
| B    | 0.33                |      | 0.51  | 0.013 |       | 0.020 |
| C    | 0.23                |      | 0.32  | 0.009 |       | 0.013 |
| D    | 12.6                |      | 13    | 0.496 |       | 0.512 |
| E    | 7.4                 |      | 7.6   | 0.291 |       | 0.299 |
| e    |                     | 1.27 |       |       | 0.050 |       |
| H    | 10                  |      | 10.65 | 0.394 |       | 0.419 |
| h    | 0.25                |      | 0.75  | 0.010 |       | 0.030 |
| L    | 0.4                 |      | 1.27  | 0.016 |       | 0.050 |
| K    | 0° (min.) 8° (max.) |      |       |       |       |       |

## OUTLINE AND MECHANICAL DATA



**SO20**



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