



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

DESCRIPTION

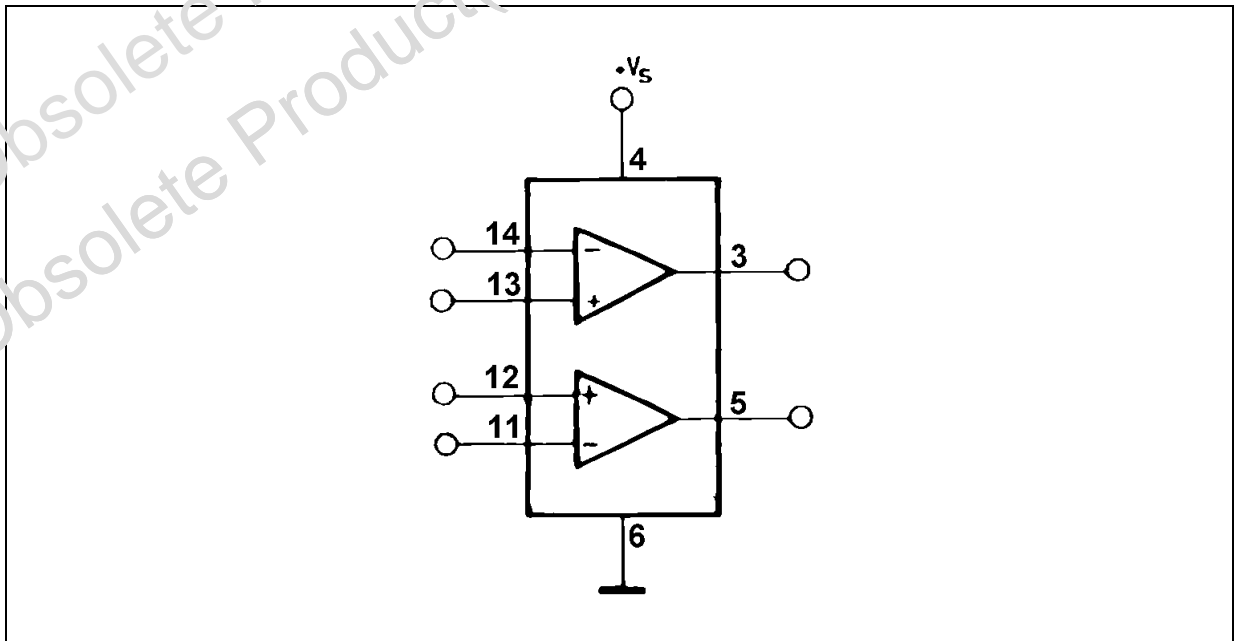
The L2720D is a monolithic integrated circuits in SO-16 package, intended for use as power operational amplifiers in a wide range of applications including servo amplifiers and power supplies.

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

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

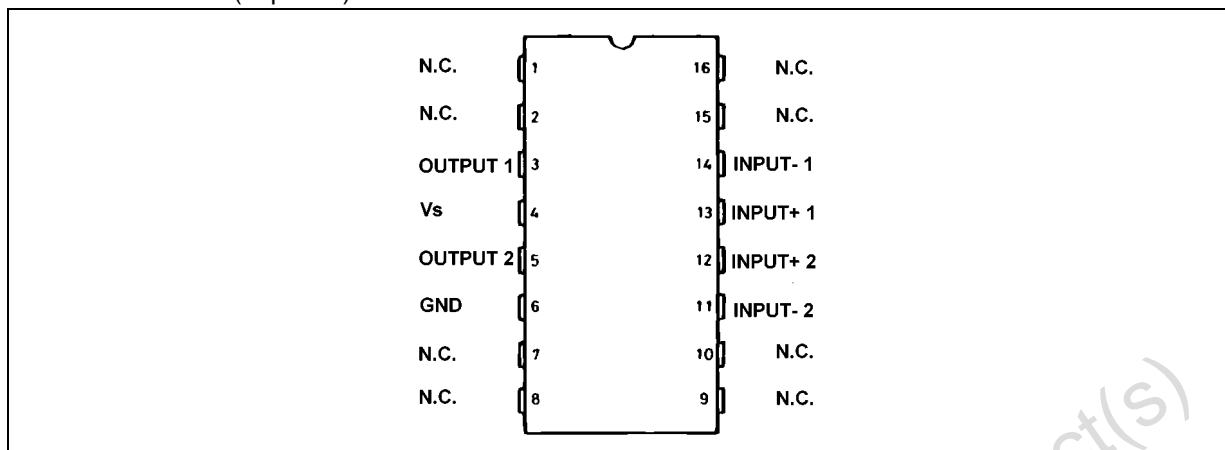


BLOCK DIAGRAM

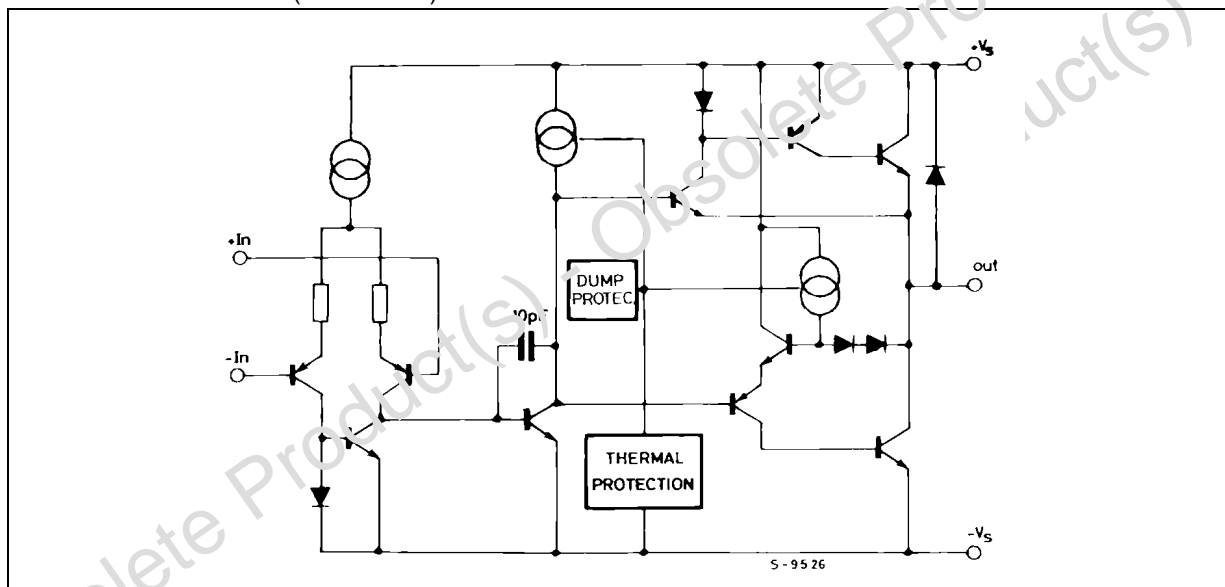


L2720D

PIN CONNECTION (Top view)



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 $T_{amb} = 50^\circ\text{C}$ | 800 | mW |
| T_{op} | Operating Temperature | - 40 to 85 | $^\circ\text{C}$ |
| T_{stg}, T_j | Storage and Junction Temperature | - 40 to 150 | $^\circ\text{C}$ |

THERMAL DATA

| Symbol | Parameter | Value | Unit |
|-----------------|--|---------|------|
| $R_{th\ j-amb}$ | Thermal Resistance Junction to ambient | Typ. 95 | °C/W |

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 | | ± 2 | | ± 14 | V |
| I_s | Quiescent Drain Current | $V_o = \frac{V}{2}$ $V_s = 24V$ $V_s = 8V$ | | 10 9 | 15 15 | mA mA |
| I_b | Input Bias Current | | | 0.2 | 1 | μA |
| V_{os} | Input Offset Voltage | | | | 10 | mV |
| I_{os} | Input Offset Current | | | | 100 | nA |
| SR | Slew Rate | | | 2 | | V/ μs |
| B | Gain-bandwidth Product | | | 1.2 | | MHz |
| R_i | Input Resistance | | 500 | | | k Ω |
| G_v | O.L. Voltage Gain | $f = 100Hz$ $f = 1kHz$ | 70 | 80 60 | | dB |
| e_N | Input Noise Voltage | $B = 22Hz$ to $22kHz$ | | 10 | | μV |
| I_N | Input Noise Current | | | 200 | | pA |
| CMR | Common Mode Rejection | $f = 1kHz$ | 66 | 84 | | dB |
| SVR | Supply Voltage Rejection | $f = 100Hz$; $V_s = 24V$ $R_G = 10k\Omega$; $V_s = \pm 12V$ $V_R = 0.5V$; $V_s = \pm 6V$ | 60 | 75 80 | | dB |
| V_{DROPH} | Drop voltage high | $V_s = \pm 2.5V$ to $\pm 12V$ $I_p = 100mA$ $I_p = 500mA$ | | 0.7 1 | 1.5 | V |
| V_{DROPL} | Drop voltage low | $V_s = \pm 2.5V$ to $\pm 12V$ $I_p = 100mA$ $I_p = 500mA$ | | 0.3 0.5 | 1 | V |
| C_s | Channel Separation | $f = 1kHz$; $V_s = 24V$ $R_L = 10\Omega$; $V_s = 6V$ $G_v = 30dB$ | | 60 60 | | dB |
| T_{sd} | Thermal Shutdown Junction Temperature | | | 145 | | °C |

Figure 1. Quiescent Current vs. Supply Voltage

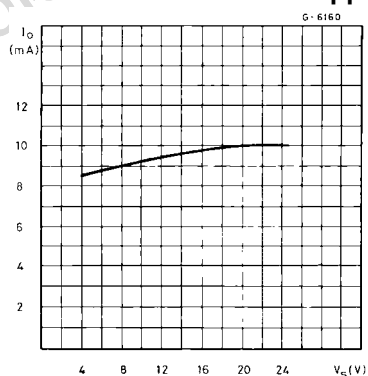


Figure 2. Open Loop Gain vs. Frequency

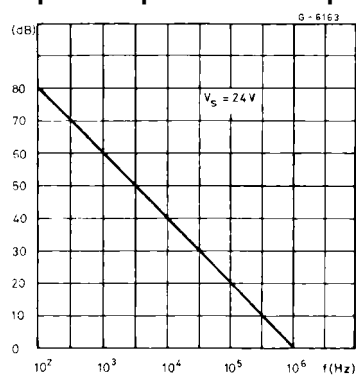


Figure 3. Common Mode Rejection vs. Frequency

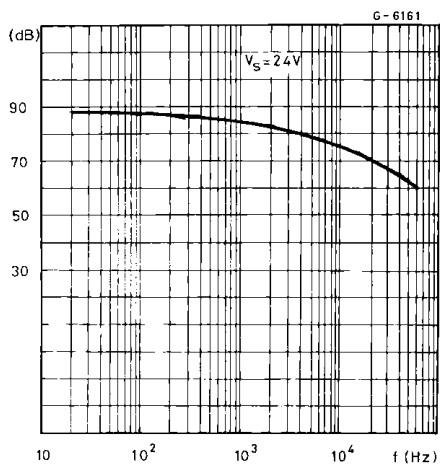


Figure 6. Supply Voltage rejection vs. Frequency

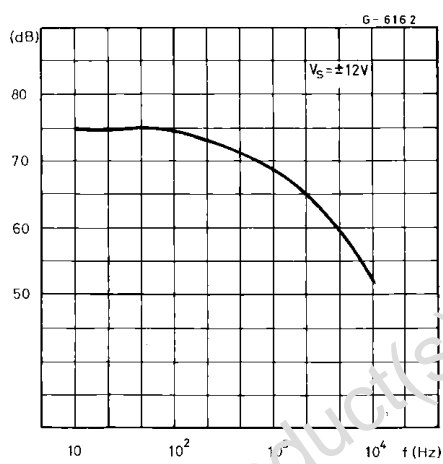


Figure 4. Output Swing vs. Load Current ($V_S = \pm 5V$).

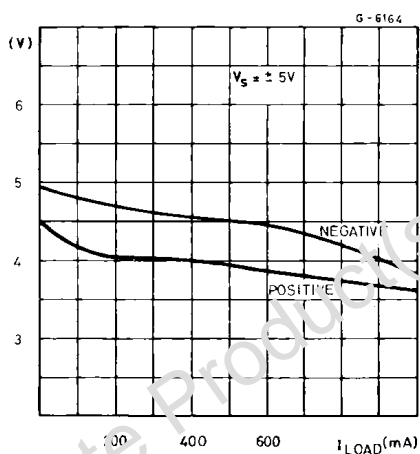


Figure 7. Channel Separation vs. Frequency

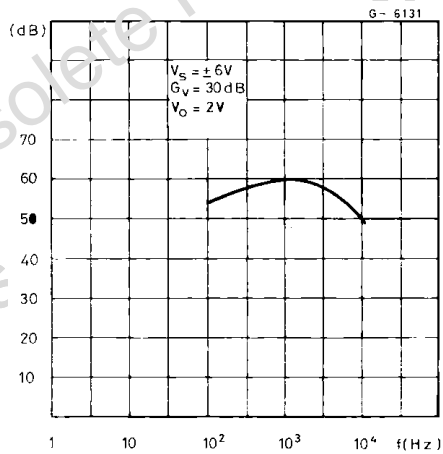
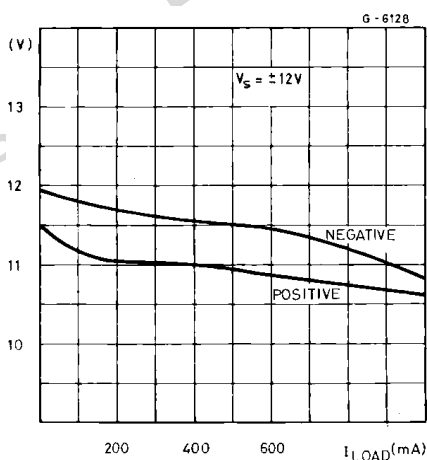
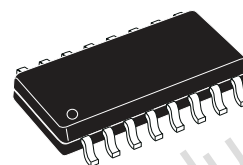


Figure 5. Output Swing vs. Load Current ($V_S = \pm 12V$).



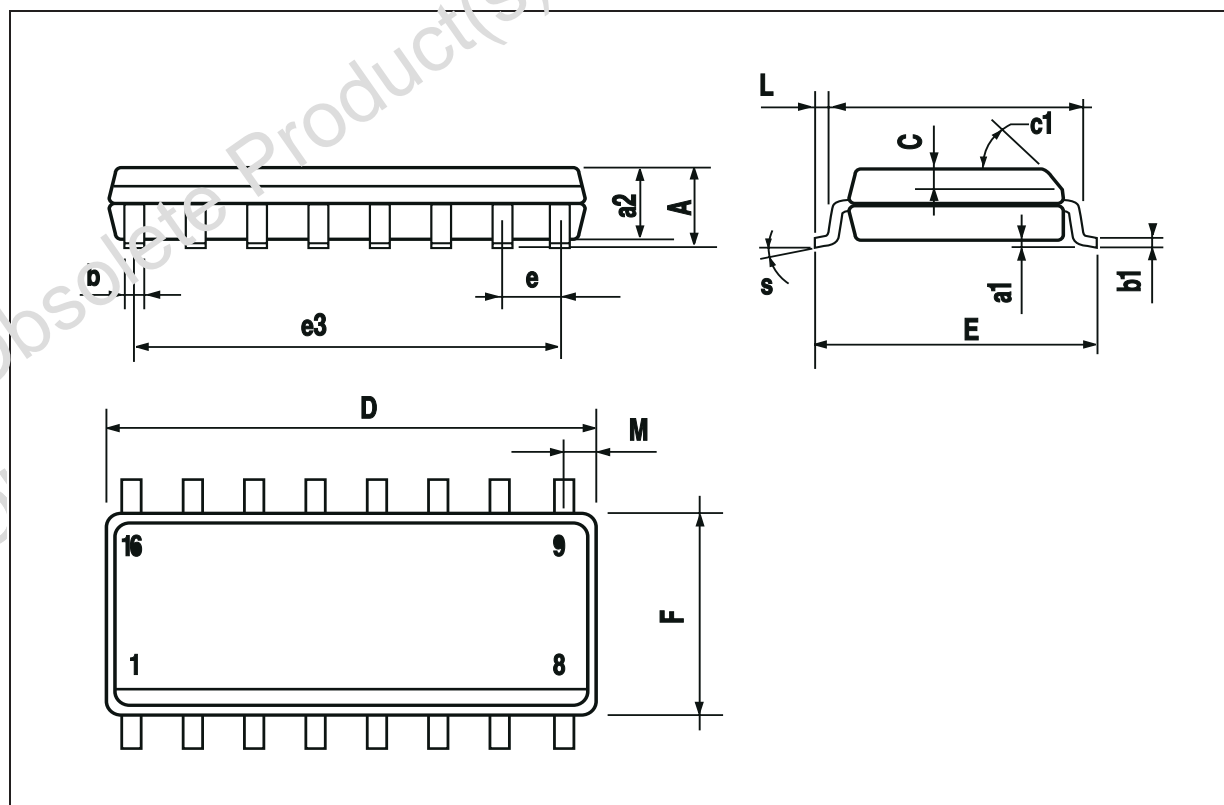
| DIM. | mm | | | inch | | |
|-------|------------|------|------|-------|-------|-------|
| | MIN. | TYP. | MAX. | MIN. | TYP. | MAX. |
| A | | | 1.75 | | | 0.069 |
| a1 | 0.1 | | 0.25 | 0.004 | | 0.009 |
| a2 | | | 1.6 | | | 0.063 |
| b | 0.35 | | 0.46 | 0.014 | | 0.018 |
| b1 | 0.19 | | 0.25 | 0.007 | | 0.010 |
| C | | 0.5 | | | 0.020 | |
| c1 | 45° (typ.) | | | | | |
| D (1) | 9.8 | | 10 | 0.386 | | 0.394 |
| E | 5.8 | | 6.2 | 0.228 | | 0.244 |
| e | | 1.27 | | | 0.050 | |
| e3 | | 8.89 | | | 0.350 | |
| F (1) | 3.8 | | 4 | 0.150 | | 0.157 |
| G | 4.6 | | 5.3 | 0.181 | | 0.209 |
| L | 0.4 | | 1.27 | 0.016 | | 0.050 |
| M | | | 0.62 | | | 0.024 |
| S | 8° (max.) | | | | | |

OUTLINE AND MECHANICAL DATA



SO16 Narrow

(1) D and F do not include mold flash or protrusions. Mold flash or protrusions shall not exceed 0.15mm (.006inch).



Obsolete Product(s) - Obsolete Product(s)
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