



LOW DROP DUAL POWER OPERATIONAL AMPLIFIER

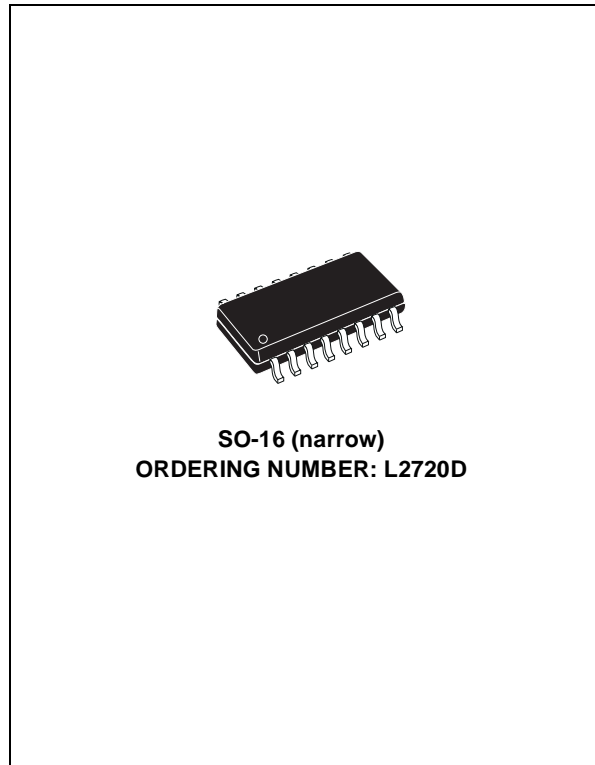
- OUTPUT CURRENT TO 1 A
- OPERATES AT LOW VOLTAGES
- SINGLE OR SPLIT SUPPLY
- LARGE COMMON-MODE AND DIFFERENTIAL MODE RANGE
- LOW INPUT OFFSET VOLTAGE
- GROUND COMPATIBLE INPUTS
- LOW SATURATION VOLTAGE
- THERMAL SHUTDOWN
- CLAMP DIODE

DESCRIPTION

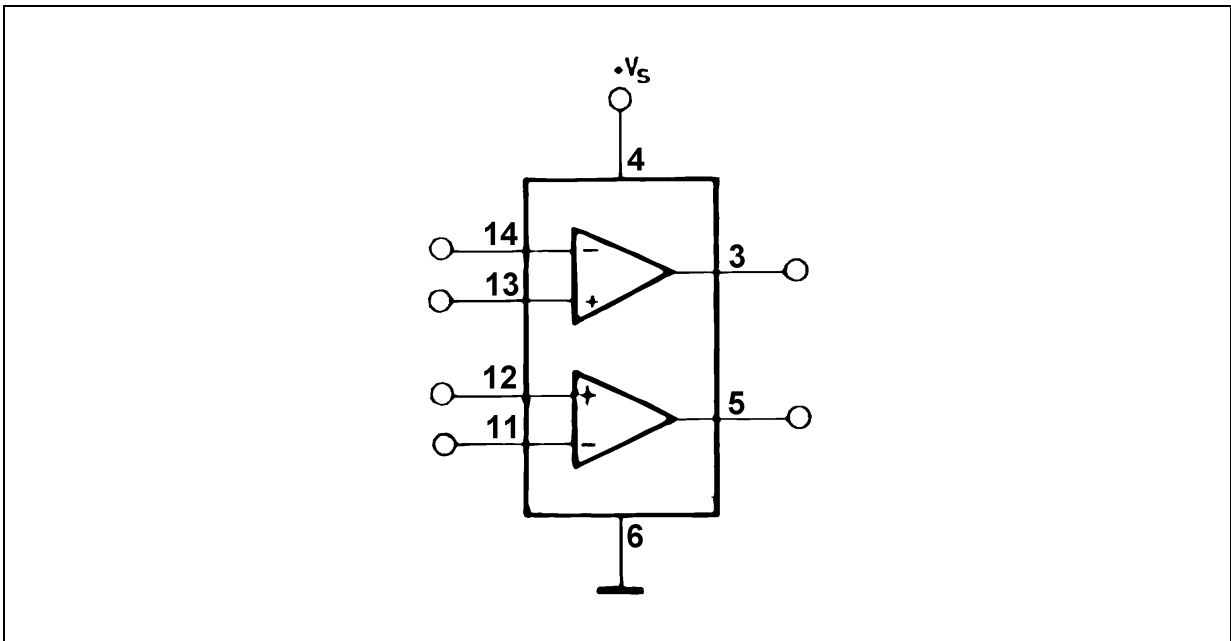
The L2720D is a monolithic integrated circuits in SO-16 package, intended for use as power operational amplifiers in a wide range of applications including servo amplifiers and power supplies.

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

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

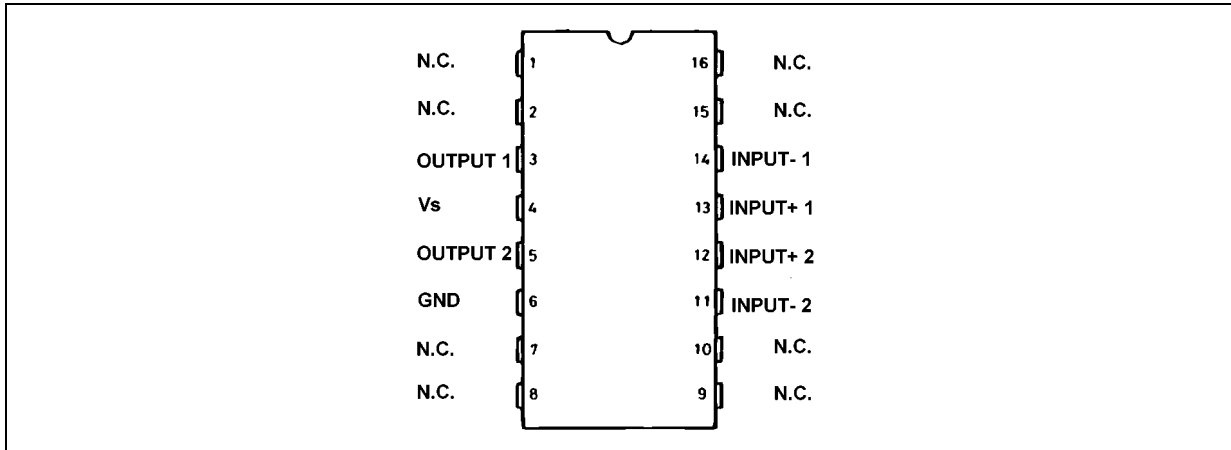


BLOCK DIAGRAM

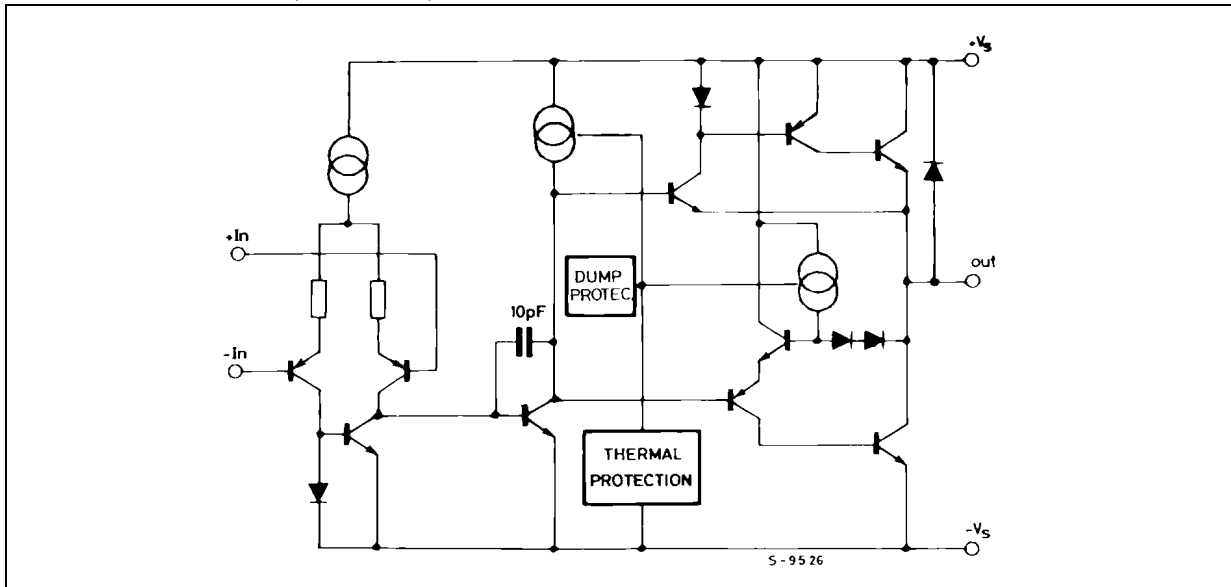


L2720D

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	70 75 80		dB
$V_{DROP(H)}$	Drop voltage high	$V_s = \pm 2.5V$ to $\pm 12V$ $I_p = 100mA$ $I_p = 500mA$		0.7 1	1.5	V
$V_{DROP(L)}$	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

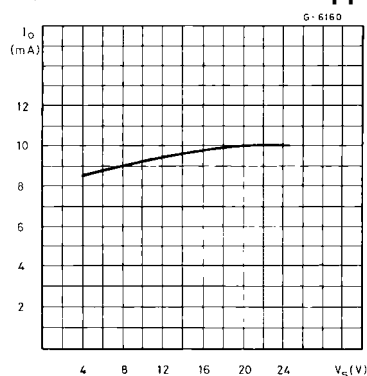


Figure 2. Open Loop Gain vs. Frequency

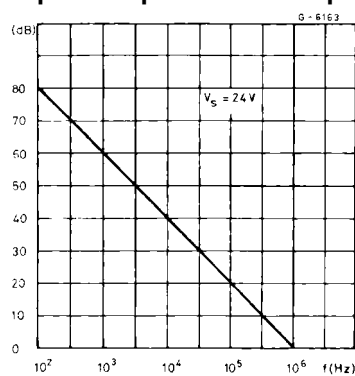


Figure 3. Common Mode Rejection vs. Frequency

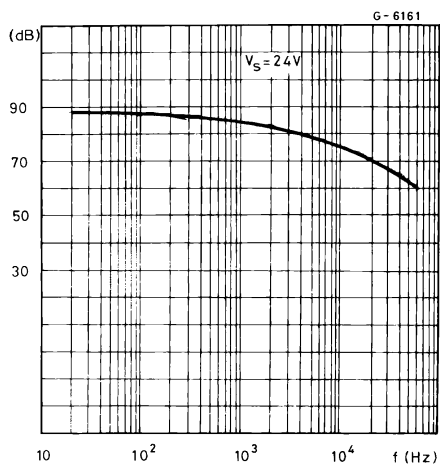


Figure 6. Supply Voltage rejection vs. Frequency

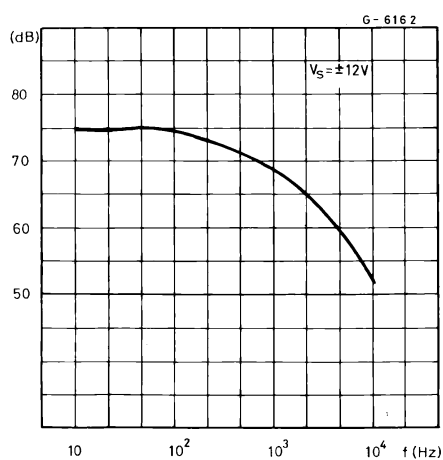


Figure 4. Output Swing vs. Load Current ($V_S = \pm 5V$).

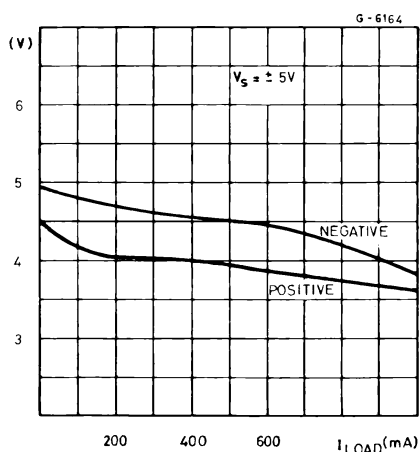


Figure 7. Channel Separation vs. Frequency

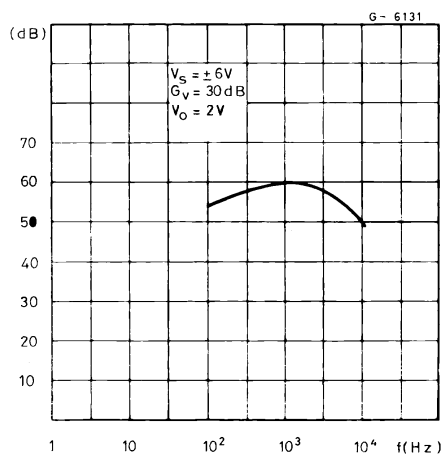
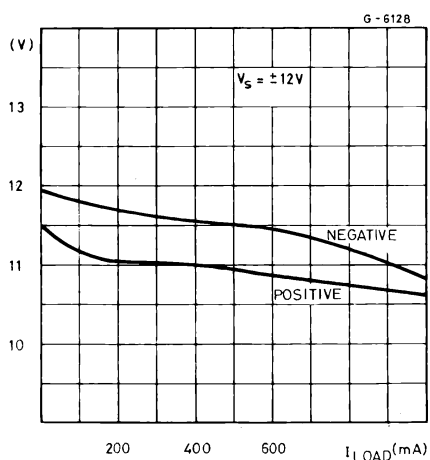
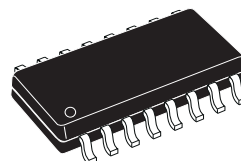


Figure 5. Output Swing vs. Load Current ($V_S = \pm 12V$).



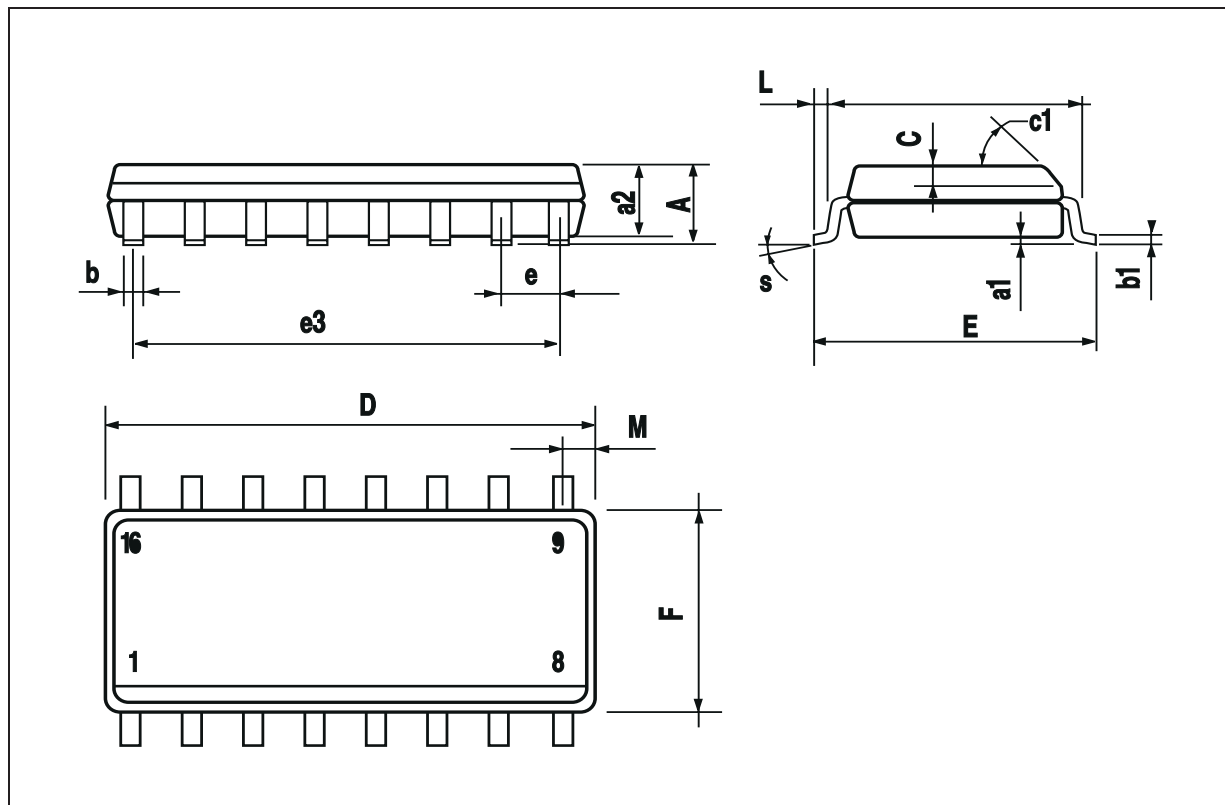
DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A			1.75			0.069
a1	0.1		0.25	0.004		0.009
a2			1.6			0.063
b	0.35		0.46	0.014		0.018
b1	0.19		0.25	0.007		0.010
C		0.5			0.020	
c1	45° (typ.)					
D (1)	9.8		10	0.386		0.394
E	5.8		6.2	0.228		0.244
e		1.27			0.050	
e3		8.89			0.350	
F (1)	3.8		4	0.150		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).



Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a registered trademark of STMicroelectronics
© 2002 STMicroelectronics - All Rights Reserved

STMicroelectronics GROUP OF COMPANIES
Australia - Brazil - Canada - China - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan -Malaysia - Malta - Morocco -
Singapore - Spain - Sweden - Switzerland - United Kingdom - United States.
<http://www.st.com>