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ICL7611

Printer Friendly Version

1.4MHz, Low Power CMOS Operational Amplifiers

DS Datasheet & Related Docs | Description | Key Features | PT Parametric Data | Application Diagrams | Related Devices

Ordering Information RoHS/Pb-Free/Green Device

Part No.	Status	Temp.	Package	MSL	[redacted]		
ICL7611DCBA	Active	Comm	8 Ld SOIC	1	0.43	Buy	
ICL7611DCBA-T	Active	Comm	8 Ld SOIC T+R	1	0.43	Buy	
ICL7611DCBAZ	Active	Comm	8 Ld SOIC	1	0.43	Buy	Sample
ICL7611DCBAZ-T	Active	Comm	8 Ld SOIC T+R	1	0.43	Buy	
ICL7611DCPA	Active	Comm	8 Ld PDIP	N/A	0.48	Buy	Sample
ICL7611DCPAZ	Active	Comm	8 Ld PDIP	N/A	0.48	Buy	
ICL7611BCPA	InActive	Comm	8 Ld PDIP	N/A			

The price listed is the manufacturer's suggested retail price for quantities between 100 and 999 units. However, prices in today's market are fluid and may change without notice.

MSL = Moisture Sensitivity Level - per IPC/JEDEC J-STD-020

SMD = Standard Microcircuit Drawing

Description

The ICL761X series is a family of CMOS operational amplifiers. These devices provide the designer with high performance operation at low supply voltages and selectable quiescent currents, and are an ideal design tool when ultra low input current and low power dissipation are desired.

The basic amplifier will operate at supply voltages ranging from ±1V to ±8V, and may be operated from a single Lithium cell.

A unique quiescent current programming pin allows setting of standby current to 1mA, 100µA, or 10µA, with no external components. This results in power consumption as low as 20µW. The output swing ranges to within a few millivolts of the supply voltages.

Of particular significance is the extremely low (1pA) input current, input noise current of 0.01pA/vHZ, and 10^{12}?áinput impedance. These features optimize performance in very high source impedance applications.

The inputs are internally protected. Outputs are fully protected against short circuits to ground or to either supply.

AC performance is excellent, with a slew rate of 1.6V/µs, and unity gain bandwidth of 1MHz at I_Q = 1mA.

Because of the low power dissipation, junction temperature rise and drift are quite low. Applications utilizing these features may include stable instruments, extended life designs, or high density packages.

Key Features

- Wide Operating Voltage Range ±1V to ±8V
- High Input Impedance 10^{12}Oá
- Programmable Power Consumption Low as 20µW
- Input Current Lower Than BIFETs 1pA (Typ)
- Output Voltage Swing V+ and V-
- Input Common Mode Voltage Range Greater Than Supply Rails (ICL7612)
- Pb-Free Plus Anneal Available (RoHS Compliant)

Related Documentation

Datasheet(s):

- 1.4MHz, Low Power CMOS Operational Amplifiers

Technical Homepage:

- Op Amp Solutions

Parametric Data

# of Amps	1
Slew Rate (V/µs)	1.6
V_S (min) (V)	±1
V_S (max) (V)	±8
BW @ -3dB (MHz)	1.4
Rail-to-Rail	N
Gain A_V (min) (V)	1
I_S (per amp) (mA)	.01
I_{BIAS} (µA)	.001
V_{OS} (max) (mV)	4
A_{VOL} or A_{ZOL} (dB or V/mA)	104
CMRR (dB)	96
PSRR (dB)	94

Application Block Diagrams

- Satellite Radio

Applications

- Portable Instruments
- Telephone Headsets
- Hearing Aid/Microphone Amplifiers
- Meter Amplifiers
- Medical Instruments
- High Impedance Buffers

Related Devices

Parametric Table

CA3140A	4.5MHz, BiMOS Operational Amplifier with MOSFET Input/Bipolar Output
CA3240	Dual, 4.5MHz, BiMOS Operational Amplifier with MOSFET Input/Bipolar Output
CA3240A	Dual, 4.5MHz, BiMOS Operational Amplifier with MOSFET Input/Bipolar Output
CA3260	4MHz, BiMOS Operational Amplifier with MOSFET Input/CMOS Output
CA3260A	4MHz, BiMOS Operational Amplifier with MOSFET Input/CMOS Output
CA3420	0.5MHz, Low Supply Voltage, Low Input Current BiMOS Operational Amplifiers
CA5260	Dual 3MHz, BiMOS Microprocessor Operational Amplifiers with MOSFET Input/CMOS Output

CA5260A	Dual 3MHz, BiMOS Microprocessor Operational Amplifiers with MOSFET Input/CMOS Output
CA5420A	0.5MHz, Low Supply Voltage, Low Input Current BiMOS Operational Amplifiers
EL2044	Low Power/Low Voltage 120MHz Unity-Gain Stable Operational Amplifier
EL2045	Low-Power 100MHz Gain-of-2 Stable Operational Amplifier
EL2125	Ultra-Low Noise, Low Power, Wideband Amplifier
EL2126	Ultra-Low Noise, Low Power, Wideband Amplifier
EL2227	Dual Very Low Noise Amplifier
EL2228	Dual Low Noise Amplifier
EL2244	Dual/Quad Low-Power 120MHz Unity-Gain Stable Op Amp Not recommended – see alternative ISL55002
EL2444	Dual/Quad Low-Power 120MHz Unity-Gain Stable Op Amp Not recommended – see alternative ISL55004
EL2480	250MHz/3mA Current Mode Feedback Amplifiers
EL5100	200MHz Slew Enhanced VFA
EL5101	200MHz Slew Enhanced VFA
EL5102	400MHz Slew Enhanced VFA
EL5103	400MHz Slew Enhanced VFA
EL5104	700MHz Slew Enhanced VFA
EL5105	700MHz Slew Enhanced VFA
EL5106	350MHz Fixed Gain Amplifiers with Enable
EL5108	450MHz Fixed Gain Amplifiers with Enable
EL5132	670MHz Low Noise Amplifiers
EL5133	670MHz Low Noise Amplifiers
EL5134	650MHz, Gain of 5, Low Noise Amplifiers
EL5135	650MHz, Gain of 5, Low Noise Amplifiers
EL5150	200MHz Amplifiers
EL5151	200MHz Amplifiers
EL5152	300MHz Amplifiers
EL5153	300MHz Amplifiers
EL5156	<1mV Voltage Offset, 600MHz Amplifiers
EL5157	<1mV Voltage Offset, 600MHz Amplifiers
EL5160	Low-Power, 200MHz Current Feedback Amplifiers
EL5161	Low-Power, 200MHz Current Feedback Amplifiers
EL5162	500MHz Low Power Current Feedback Amplifiers with Enable
EL5163	500MHz Low Power Current Feedback Amplifiers with Enable
EL5164	600MHz Current Feedback Amplifiers with Enable
EL5165	600MHz Current Feedback Amplifiers with Enable
EL5166	1.4GHz Current Feedback Amplifiers with Enable
EL5167	1.4GHz Current Feedback Amplifiers with Enable
EL5175	550MHz Differential Line Receivers
EL5192	600MHz Current Feedback Amplifier with Enable
EL5193	Quad 600MHz Current Feedback Amplifier with Enable
EL5197	Single 200MHz Fixed Gain Amplifier with Enable
EL5202	400MHz Slew Enhanced VFA
EL5203	400MHz Slew Enhanced VFA

EL5204	700MHz Slew Enhanced VFA
EL5205	700MHz Slew Enhanced VFA
EL5234	650MHz, Gain of 5, Low Noise Amplifiers
EL5235	650MHz, Gain of 5, Low Noise Amplifiers
EL5250	200MHz Amplifiers
EL5251	200MHz Amplifiers
EL5252	300MHz Amplifiers
EL5256	<1mV Voltage Offset, 600MHz Amplifiers
EL5260	Low-Power, 200MHz Current Feedback Amplifiers
EL5261	Low-Power, 200MHz Current Feedback Amplifiers
EL5262	500MHz Low Power Current Feedback Amplifiers with Enable
EL5263	500MHz Low Power Current Feedback Amplifiers with Enable
EL5292	Dual 600MHz Current Feedback Amplifier with Enable
EL5293	Dual 300MHz Current Feedback Amplifier with Enable
EL5300	200MHz Slew Enhanced VFA
EL5302	400MHz Slew Enhanced VFA
EL5304	700MHz Slew Enhanced VFA
EL5306	350MHz Fixed Gain Amplifiers with Enable
EL5308	450MHz Fixed Gain Amplifiers with Enable
EL5360	Low-Power, 200MHz Current Feedback Amplifiers
EL5362	500MHz Low Power Current Feedback Amplifiers with Enable
EL5364	600MHz Current Feedback Amplifiers with Enable
EL5392A	Triple 600MHz Current Feedback Amplifier with Enable
EL5393A	Triple 300MHz Current Feedback Amplifier with Enable
EL5397A	Triple 200MHz Fixed Gain Amplifier with Enable
EL5451	200MHz Amplifiers
EL5455	300MHz Amplifiers
EL8100	200MHz Rail-to-Rail Amplifiers
EL8101	200MHz Rail-to-Rail Amplifiers
EL8102	500MHz Rail-to-Rail Amplifiers
EL8103	500MHz Rail-to-Rail Amplifiers
EL8176A	Micropower Single Supply Rail-to-Rail Input-Output Precision Op Amp
EL8176B	Micropower Single Supply Rail-to-Rail Input-Output Precision Op Amp
EL8178A	Micropower Single Supply Rail-to-Rail Input-Output Precision Op Amp
EL8178B	Micropower Single Supply Rail-to-Rail Input-Output Precision Op Amp
EL8186	Micropower, Single Supply Op Amp
EL8188	Micropower, Single Supply Op Amp
EL8200	200MHz Rail-to-Rail Amplifiers
EL8201	200MHz Rail-to-Rail Amplifiers
EL8202	500MHz Rail-to-Rail Amplifiers
EL8203	500MHz Rail-to-Rail Amplifiers
EL8300	200MHz Rail-to-Rail Amplifier
EL8302	500MHz Rail-to-Rail Amplifier
EL8401	200MHz Rail-to-Rail Amplifiers

EL8403	500MHz Rail-to-Rail Amplifiers
HA-2404	40MHz, PRAM Four Channel Programmable Amplifiers
HA-2520	20MHz, High Slew Rate, Uncompensated, High Input Impedance, Operational Amplifiers
HA-2522	20MHz, High Slew Rate, Uncompensated, High Input Impedance, Operational Amplifiers
HA-2525	20MHz, High Slew Rate, Uncompensated, High Input Impedance, Operational Amplifiers
HA-2539	600MHz, Very High Slew Rate Operational Amplifier
HA-2540	400MHz, Fast Settling Operational Amplifier
HA-2625	100MHz, High Input Impedance, Very Wideband, Uncompensated Operational Amplifiers
HA-2640	4MHz, High Supply Voltage Operational Amplifiers
HA-2645	4MHz, High Supply Voltage Operational Amplifiers
HA-4741	Quad, 3.5MHz, Operational Amplifier
HA-5020	100MHz Current Feedback Video Amplifier With Disable
HA-5102	Dual and Quad, 8MHz and 60MHz, Low Noise Operational Amplifiers
HA-5104	Dual and Quad, 8MHz and 60MHz, Low Noise Operational Amplifiers
HA-5127	8.5MHz, Ultra-Low Noise Precision Operational Amplifier
HA-5127A	8.5MHz, Ultra-Low Noise Precision Operational Amplifier
HA-5160	100MHz, JFET Input, High Slew Rate, Uncompensated, Operational Amplifiers
HA5023	Dual 125MHz Video Current Feedback Amplifier
HA5024	Quad 125MHz Video Current Feedback Amplifier with Disable
HFA1100	850MHz, Low Distortion Current Feedback Operational Amplifiers
HFA1105	330MHz, Low Power, Current Feedback Video Operational Amplifier
HFA1109	450MHz, Low Power, Current Feedback Video Operational Amplifier
HFA1130	850MHz, Output Limiting, Low Distortion Current Feedback Operational Amplifier
HFA1135	360MHz, Low Power, Video Operational Amplifier with Output Limiting
HFA1145	330MHz, Low Power, Current Feedback Video Operational Amplifier with Output Disable
HFA1155	380MHz, SOT-23, Low Power Current Feedback Operational Amplifier
HFA1412	Quad, 350MHz, Low Power, Programmable Gain Buffer Amplifier
ICL7612	1.4MHz, Low Power CMOS Operational Amplifiers
ICL7621	Dual/Quad, Low Power CMOS Operational Amplifiers
ICL7650S	2MHz, Super Chopper-Stabilized Operational Amplifier
ISL55002	High Supply Voltage 220MHz Unity-Gain Stable Operational Amplifiers
ISL55004	High Supply Voltage 220MHz Unity-Gain Stable Operational Amplifiers
ISL59110	8MHz Rail-to-Rail Composite Video Driver