

Device Information

ICL7135


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4 1/2 Digit, BCD Output, A/D Converter

DS Datasheet & Related Docs	Description	Key Features	PT Parametric Data	Related Devices
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Ordering Information

 **RoHS/Pb-Free/Green Device**

Part No.	Status	Temp.	Package	MSL	
ICL7135CPI	Active	Comm	28 Ld PDIP	N/A	Buy
ICL7135CPIZ 	Active	Comm	28 Ld PDIP	N/A	Buy Sample

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 Intersil ICL7135 precision A/D converter, with its multiplexed BCD output and digit drivers, combines dual-slope conversion reliability with ± 1 in 20,000 count accuracy and is ideally suited for the visual display DVM/DPM market. The 2.0000V full scale capability, auto-zero, and auto-polarity are combined with true ratiometric operation, almost ideal differential linearity and true differential input. All necessary active devices are contained on a single CMOS IC, with the exception of display drivers, reference, and a clock.

The ICL7135 brings together an unprecedented combination of high accuracy, versatility, and true economy. It features auto-zero to less than $10\mu\text{V}$, zero drift of less than $1\mu\text{V}/\text{oC}$, input bias current of 10pA (Max), and rollover error of less than one count. The versatility of multiplexed BCD outputs is increased by the addition of several pins which allow it to operate in more sophisticated systems. These include STROBE, OVERRANGE, UNDERRANGE, RUN/HOLD and BUSY lines, making it possible to interface the circuit to a microprocessor or UART.

Key Features

- Accuracy Guaranteed to ± 1 Count Over Entire ± 20000 Counts (2.0000V Full Scale)
- Guaranteed Zero Reading for 0V Input
- 1pA Typical Input Leakage Current
- True Differential Input
- True Polarity at Zero Count for Precise Null Detection
- Single Reference Voltage Required
- Overrange and Underrange Signals Available for Auto-Range Capability
- All Outputs TTL Compatible
- Blinking Outputs Gives Visual Indication of Overrange
- Six Auxiliary Inputs/Outputs are Available for Interfacing to UARTs, Microprocessors, or Other Circuitry
- Multiplexed BCD Outputs
- Pb-Free Available (RoHS Compliant)

Related Documentation

AN Application Note(s):

- [Basic Analog for Digital Designers](#)
- [Display Driver Family Combines Convenience of Use with Microprocessor Interfaceability](#)
- [Low Cost Digital Panel Meter Designs and Complete Instructions for LCD and LED Kits](#)
- [Overcoming Common Mode Range Issues When Using Intersil Integrating Converters](#)
- [The Integrating A/D Converter \(ICL7135\)](#)

DS Datasheet(s):

- [4 1/2 Digit, BCD Output, A/D Converter](#)

TH Technical Homepage:

- [Data Converters](#)

PT Parametric Data

Res. (Bits)	4.5-Digits
Conv. Rate (MSPS)	2Hz (typ)
Conv. Type	Integrating
Input BW (MHz)	
Input V_{IN} (Range) (V)	± 0.2
Tech.	CMOS
Max Power Supply V_S	5
INL (max) (\pm LSB)	
DNL (max) (\pm LSB)	
V_{REF}	Int/Ext

RD Related Devices

PT [Parametric Table](#)

- [HI-7159A](#) Microprocessor-Compatible, 5-1/2 Digit A/D Converter
- [ICL7106](#) 3 1/2 Digit, LCD/LED Display, A/D Converters
- [ICL7107](#) 3 1/2 Digit, LCD/LED Display, A/D Converters
- [ICL7126](#) 3 1/2 Digit, Low Power, Single-Chip A/D Converter
- [ICL7136](#) 3 1/2 Digit LCD/LED, Low Power Display, A/D Converters with Overrange Recovery