

## ICL7106, ICL7107, ICL7107S

3 1/2 Digit, LCD/LED Display, A/D Converters

FN3082  
Rev 9.00  
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The Intersil ICL7106 and ICL7107 are high performance, low power,  $3^{1/2}$  digit A/D converters. Included are seven segment decoders, display drivers, a reference, and a clock. The ICL7106 is designed to interface with a liquid crystal display (LCD) and includes a multiplexed backplane drive; the ICL7107 will directly drive an instrument size light emitting diode (LED) display.

The ICL7106 and ICL7107 bring together a combination of high accuracy, versatility, and true economy. It features auto zero to less than 10 $\mu$ V, zero drift of less than 1 $\mu$ V/ $^{\circ}$ C, input bias current of 10pA (max) and rollover error of less than one count. True differential inputs and reference are useful in all systems, but give the designer an uncommon advantage when measuring load cells, strain gauges and other bridge type transducers. Finally, the true economy of single power supply operation (ICL7106), enables a high performance panel meter to be built with the addition of only 10 passive components and a display.

## Features

- Guaranteed zero reading for 0V input on all scales
- True polarity at zero for precise null detection
- 1pA typical input current
- True differential input and reference, direct display drive
  - LCD ICL7106, LED ICL7107
- Low noise - less than 15 $\mu$ V<sub>p-p</sub>
- On-chip clock and reference
- Low power dissipation - typically less than 10mW
- No additional active circuits required
- Enhanced display stability
- Pb-free (RoHS compliant)

## Ordering Information

PART NUMBER ( <a href="#">Note 2</a> )	PART MARKING	TEMP. RANGE ( $^{\circ}$ C)	PACKAGE (Pb-Free)	PKG. DWG. #
ICL7106CPLZ	ICL7106CPLZ	0 to 70	40 Ld PDIP ( <a href="#">Note 3</a> )	E40.6
ICL7106CM44Z ( <a href="#">Note 4</a> )	ICL7106 CM44Z	0 to 70	44 Ld MQFP	Q44.10x10
ICL7106CM44ZT ( <a href="#">Notes 4, 5</a> )	ICL7106 CM44Z	0 to 70	44 Ld MQFP Tape and Reel	Q44.10x10
ICL7107CPLZ	ICL7107CPLZ	0 to 70	40 Ld PDIP ( <a href="#">Note 3</a> )	E40.6
ICL7107SCPLZ	ICL7107SCPLZ	0 to 70	40 Ld PDIP ( <a href="#">Notes 1, 3</a> )	E40.6
ICL7107CM44Z ( <a href="#">Note 4</a> )	ICL7107 CM44Z	0 to 70	44 Ld MQFP	Q44.10x10
ICL7107CM44ZT ( <a href="#">Notes 4, 5</a> )	ICL7107 CM44Z	0 to 70	44 Ld MQFP Tape and Reel	Q44.10x10

### NOTES:

1. "S" indicates enhanced stability.
2. These Intersil Pb-free plastic packaged products employ special Pb-free material sets, molding compounds/die attach materials, and 100% matte tin plate plus anneal (e3 termination finish, which is RoHS compliant and compatible with both SnPb and Pb-free soldering operations). Intersil Pb-free products are MSL classified at Pb-free peak reflow temperatures that meet or exceed the Pb-free requirements of IPC/JEDEC J STD-020.
3. Pb-free PDIPs can be used for through hole wave solder processing only. They are not intended for use in Reflow solder processing applications.
4. For Moisture Sensitivity Level (MSL), please see product information page for [ICL7106](#), [ICL7107](#), [ICL7107S](#). For more information on MSL, please see tech brief [TB363](#).
5. Please refer to [TB347](#) for details on reel specifications.

# Pin Configurations

