

A/D Converters with Display Drivers

Integrating A/D Converters are characterized by high inherent accuracy, excellent noise rejection, non-critical associated components and low cost. They are relatively slow, with conversion rates up to 30 conversions per second. All Harris integrating converters provide fully precise Auto-Zero,

Auto-Polarity (including \pm null indication), single reference operation, very high input impedance, true input integration over a constant period (for maximum EMI rejection), fully ratiometric operation, overrange indication and a medium-quality built-in reference.

| Type | Special Features | Conversions/Sec | V _{SUPPLY} /I _{SUPPLY} | Package Number of Pins* |
|---|---|-----------------|--|-------------------------|
| 3½-Digit Types for direct Drive of LCD 7-Segment Displays | | | | |
| ICL7106 | <ul style="list-style-type: none"> Auto zero to $<10\mu\text{V}$ Zero input drift: $<1\mu\text{V}/^\circ\text{C}$ Rollover and linearity errors: <1 count Input voltage range: 0 to 2V Hold reading input retains display reading in ICL7116 | 0.1 to 15 | +9V (typ.) | JL, M44, PL |
| | | | 1.8mA (max.) | |
| ICL7116 | | 0.1 to 15 | +9V (typ.) | PL, M44 |
| | | | 1.8mA (max.) | |
| ICL7126 | <ul style="list-style-type: none"> ICL7126 plug-in replacement for ICL7106 with change in passive components ICL7136 low-power version of ICL7106 but with max. supply current of only $100\mu\text{A}$ ideally suited for 9-volt battery operation | 0.1 to 4 | +9V (typ.) | PL, M44 |
| | | | | $100\mu\text{A}$ (max.) |
| ICL7136 | | 0.1 to 4 | +9V (typ.) | PL, M44 |
| | | | $100\mu\text{A}$ (max.) | |
| 3½-Digit Types for Direct Drive of LED 7-Segment Displays | | | | |
| ICL7137 | <ul style="list-style-type: none"> Features same as above ICL7137 improved version of ICL7107 ICL7107 similar to ICL7137, but requires 1.8mA max. supply current ICL7117 has all the features of the ICL7107 with the addition of a HOLD Reading Input | 0.1 to 4 | $\pm 5\text{V}$ (typ.) | PL |
| | | | $200\mu\text{A}$ (max.) | |
| ICL7107 | | 0.1 to 15 | $\pm 5\text{V}$ (typ.) | IL, PL |
| | | | 1.8mA (max.) | |
| ICL7117 | | 0.1 to 15 | $\pm 5\text{V}$ (typ.) | PL |
| | | | 1.8mA (max.) | |
| 3¾-Digit Auto Ranging DMM's with On-Chip Duplex LCD Display Drive | | | | |
| ICL7139 | <ul style="list-style-type: none"> Input voltage range to 400 volts DC current to 4A; resistance to $4\text{M}\Omega$ Power dissipation $<20\text{mW}$ ICL7139 has 13 ranges (one for AC voltage) ICL7149 has 18 ranges (two for AC voltage with optional AC circuit) | 2.4 | +9V (typ.) | PL, M44 |
| | | | 2.4mA (max.) | |
| ICL7149 | | 2.4 | +9V | PL, M44 |
| | | | 2.4mA (max.) | |
| 4½-Digit Single-Chip Type for Direct Drive of Multiplexed LCD Displays | | | | |
| ICL7129 | <ul style="list-style-type: none"> For high-quality battery-operated equipment Accuracy full-scale/better than 0.005%, and resolution down to $10\mu\text{V}/\text{count}$ | 2 | +9V (typ.) | PL |
| | | | 1.5mA (max.) | |
| 101-Segment LCD Bargraph for Direct Drive of Multiplexed LCD Displays | | | | |
| ICL7182 | <ul style="list-style-type: none"> Differential input voltage range: 200mV to 1.1V Precision on-chip reference: 50 ppm/$^\circ\text{C}$, can extend operating supply voltage range from 3 to 40V | 25 | +5V (typ.) | PL, M44 |
| | | | 1.8mA (max.) | |

Operating Temperature Range: 0 to $+70^\circ\text{C}$ (ICL7182 also -25 to $+85^\circ\text{C}$)

* See interpretation guide and packaging section