



Complete Data Sheet available via web, Harris' home page: <http://www.semi.harris.com> or via Harris AnswerFAX, see Section 17

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## 4 1/2 Digit LCD Display Counter

### Features

- High Frequency Counting - Guaranteed 15MHz, Typically 25MHz at 5V
- Low Power Operation - Typically Less Than 100µW Quiescent
- **STORE** and **RESET** Inputs Permit Operation as Frequency or Period Counter
- True **COUNT INHIBIT** Disables First Counter Stage
- **CARRY** Output for Cascading Four-Digit Blocks
- Schmitt-Trigger on the **COUNT** Input Allows Operation in Noisy Environments or with Slowly Changing Inputs
- Leading Zero Blanking Input and **OUT**put for Correct Leading Zero Blanking with Cascaded Devices
- Provides Complete Onboard Oscillator and Divider Chain to Generate Backplane Frequency, or Backplane Driver May be Disabled Allowing Segments to be Slaved to a Master Backplane Signal

### Description

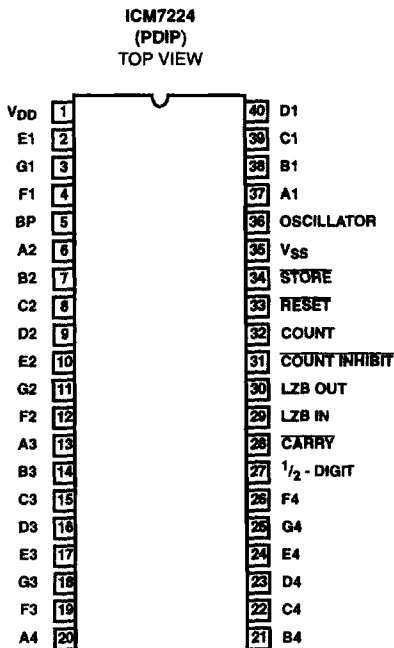
The ICM7224 device is a high-performance, CMOS 4 1/2 digit counter, including decoder, output latch, display driver, count inhibit, leading zero blanking, and reset circuitry.

The counter section provides direct static counting, guaranteed from DC to 15MHz, using a 5V ±10% supply over the operating temperature range. At normal ambient temperatures, the devices will typically count up to 25MHz. The COUNT input is provided with a Schmitt trigger to allow operation in noisy environments and correct counting with slowly changing inputs. The COUNT INHIBIT, STORE and RESET inputs allow a direct interface with the ICM7207 and ICM7207A to implement a low cost, low power frequency counter with a minimum component count.

These devices also incorporate several features intended to simplify cascading four-digit blocks. The CARRY output allows the counter to be cascaded, while the Leading Zero Blanking INput and OUTput allows correct Leading Zero Blanking between four-decade blocks. The BackPlane driver of the LCD devices may be disabled, allowing the segments to be slaved to another backplane signal, necessary when using an eight or twelve digit, single backplane display.

These devices provide maximum count of 19999. The display drivers are not of the multiplexed type and each display segment has its own individual drive pin, providing high quality display outputs.

### Pinout



### Ordering Information

PART NUMBER	TEMP. RANGE (°C)	PACKAGE	PKG. NO.
ICM7224IPL	-25 to 85	40 Ld PDIP	E40.6
ICM7224RIPL †	-25 to 85	40 Ld PDIP	E40.6

† "R" Indicates Device With Reversed Leads Configuration.