National Semiconductor

# DM2502/DM2502C, DM2503/DM2503C, DM2504/DM2504C Successive Approximation Registers

## General Description

The DM2502, DM2503 and DM2504 are 8-bit and 12-bit TTL registers designed for use in successive approximation A/D converters. These devices contain all the logic and control circuits necessary (in combination with a D/A converter) to perform successive approximation analog-to-digital conversions.

The DM2502 has 8 bits with serial capability and is not expandable.

The DM2503 has 8 bits and is expandable without serial capability.

The DM2504 has 12 bits with serial capability and expandability.

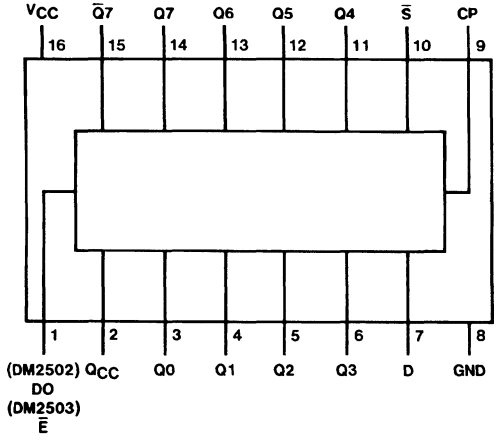
All three devices are available in ceramic DIP and molded Epoxy-B DIPs. The DM2502, DM2503 and DM2504 operate over −55°C to +125°C; the DM2502C, DM2503C and DM2504C operate over 0°C to +70°C.

## Features

- Complete logic for successive approximation A/D converters
- 8-bit and 12-bit registers
- Capable of short cycle or expanded operation
- Continuous or start-stop operation
- Compatible with D/A converters using any logic code
- Active low or active high logic outputs
- Use as general purpose serial-to-parallel converter or ring counter

## Connection Diagrams

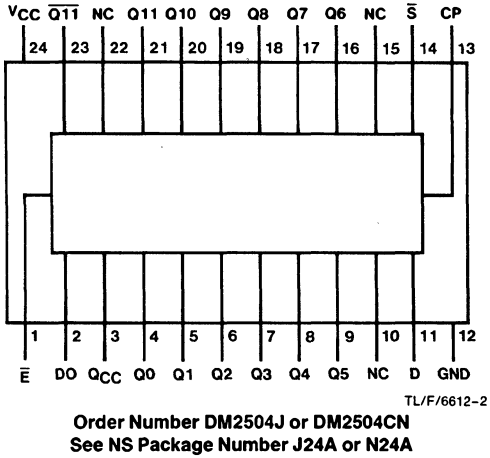
**Dual-In-Line Package**




TL/F/6612–1

**Order Number DM2502J, DM2503J, DM2502CN or DM2503CN**
**See NS Package Number J16A or N16A**

**Dual-In-Line Package**




TL/F/6612–2

**Order Number DM2504J or DM2504CN**
**See NS Package Number J24A or N24A**

**See the LS/S/TTL Logic Databook for Complete Specifications**