

PART NUMBER

54161DMB-ROCV

Rochester Electronics

Manufactured Components

Rochester branded components are manufactured using either die/wafers purchased from the original suppliers or Rochester wafers recreated from the original IP. All re-creations are done with the approval of the Original Component Manufacturer. (OCM)

Parts are tested using original factory test programs or Rochester developed test solutions to guarantee product meets or exceeds the OCM data sheet.

Quality Overview

- ISO-9001
- AS9120 certification
- Qualified Manufacturers List (QML) MIL-PRF-38535
 - Class Q Military
 - Class V Space Level

Qualified Suppliers List of Distributors (QSLD)

- Rochester is a critical supplier to DLA and meets all industry and DLA standards.

Rochester Electronics, LLC is committed to supplying products that satisfy customer expectations for quality and are equal to those originally supplied by industry manufacturers.

The original manufacturer's datasheet accompanying this document reflects the performance and specifications of the Rochester manufactured version of this device. Rochester Electronics guarantees the performance of its semiconductor products to the original OCM specifications. 'Typical' values are for reference purposes only. Certain minimum or maximum ratings may be based on product characterization, design, simulation, or sample testing.

54/74161 • 54LS/74LS161 54/74163 • 54LS/74LS163 SYNCHRONOUS PRESETTABLE BINARY COUNTERS

DESCRIPTION — The '161 and '163 are high speed synchronous modulo-16 binary counters. They are synchronously presettable for application in programmable dividers and have two types of Count Enable Inputs plus a Terminal Count output for versatility in forming synchronous multistage counters. The '161 has an asynchronous Master Reset input that overrides all other inputs and forces the outputs LOW. The '163 has a Synchronous Reset input that overrides counting and parallel loading and allows the outputs to be simultaneously reset on the rising edge of the clock. For functional description and detail specifications please refer to the '160 data sheet. For S-TTL and LP-TTL versions please see the 9316 data sheet.

- SYNCHRONOUS COUNTING AND LOADING
- HIGH SPEED SYNCHRONOUS EXPANSION
- LS VERSIONS FULLY EDGE TRIGGERED

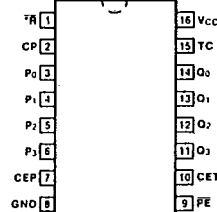
ORDERING CODE: See Section 9

PKGS	PIN OUT	COMMERCIAL GRADE	MILITARY GRADE	PKG TYPE
		V _{CC} = +5.0 V ±5%, T _A = 0°C to +70°C	V _{CC} = +5.0 V ±10%, T _A = -55°C to +125°C	
Plastic DIP (P)	A	74161PC, 74LS161PC 74163PC, 74LS163PC		9B
Ceramic DIP (D)	A	74161DC, 74LS161DC 74163DC, 74LS163DC	54161DM, 54LS161DM 54163DM, 54LS163DM	7B
Flatpak (F)	A	74161FC, 74LS161FC 74163FC, 74LS163FC	54161FM, 54LS161FM 54163FM, 54LS163FM	4L

INPUT LOADING/FAN-OUT: See Section 3 for U.L. definitions

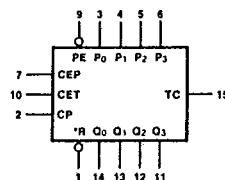
PIN NAMES	DESCRIPTION	54/74 (U.L.) HIGH/LOW	54/74LS (U.L.) HIGH/LOW
CEP	Count Enable Parallel Input	1.0/1.0	0.6/0.3
CET	Count Enable Trickle Input	2.0/2.0	1.0/0.5
CP	Clock Pulse Input (Active Rising Edge)	2.0/2.0	0.6/0.3
$\overline{MR}$ ('161)	Asynchronous Master Reset Input (Active LOW)	1.0/1.0	0.5/0.25
$\overline{SR}$ ('163)	Synchronous Reset Input (Active LOW)	1.0/1.0	0.5/0.25
P ₀ — P ₃	Parallel Data Inputs	1.0/1.0	0.5/0.25
$\overline{PE}$	Parallel Enable Input (Active LOW)	1.0/1.0	0.6/0.3
Q ₀ — Q ₃	Flip-flop Outputs	20/10	10/5.0 (2.5)
TC	Terminal Count Output	20/10	10/5.0 (2.5)

CONNECTION DIAGRAM PINOUT A



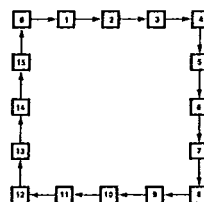
* $\overline{MR}$ for '161
* $\overline{SR}$ for '163

LOGIC SYMBOL



* $\overline{MR}$ for '161 V_{CC} = Pin 16
* $\overline{SR}$ for '163 Gnd = Pin 8

STATE DIAGRAM

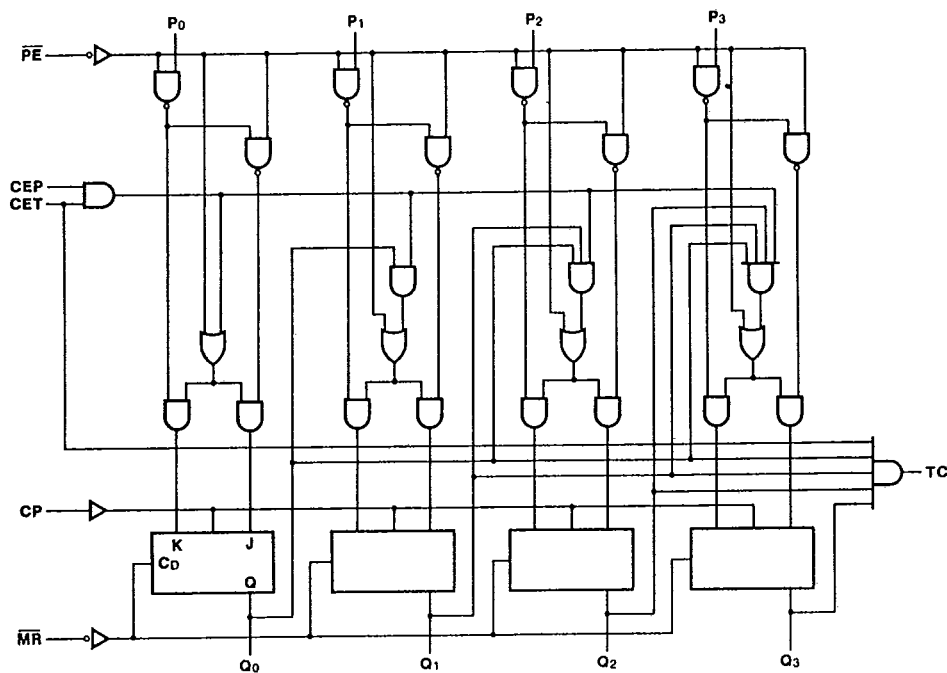


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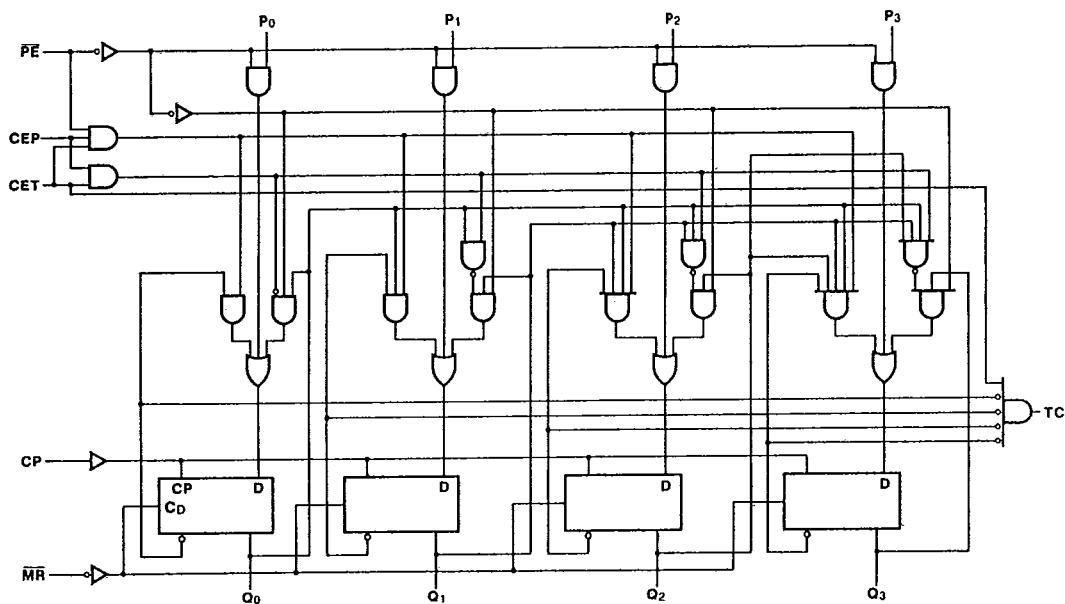
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LOGIC DIAGRAMS

'161



'LS161

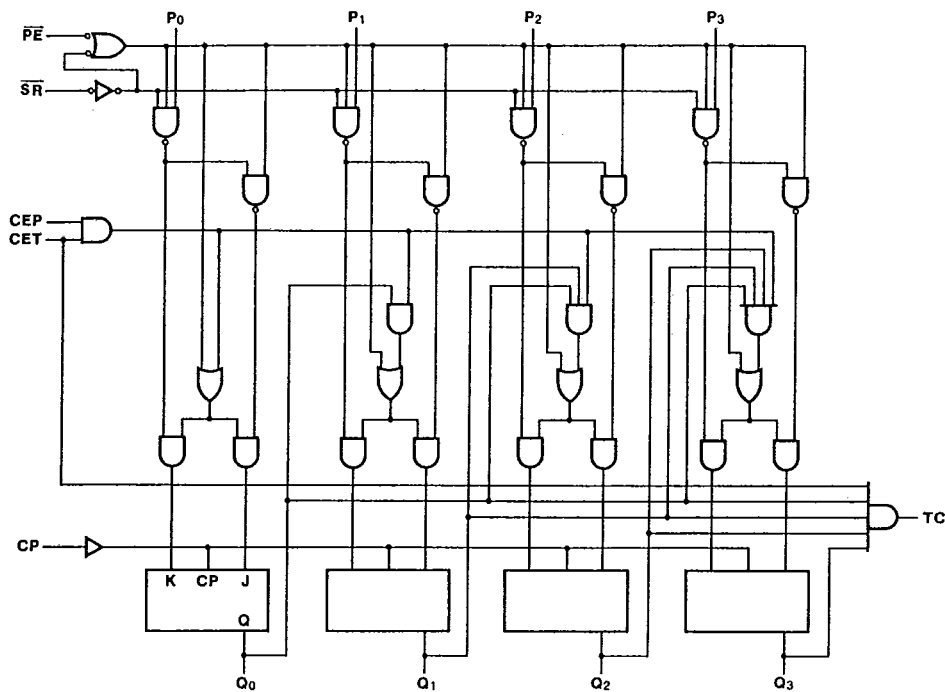


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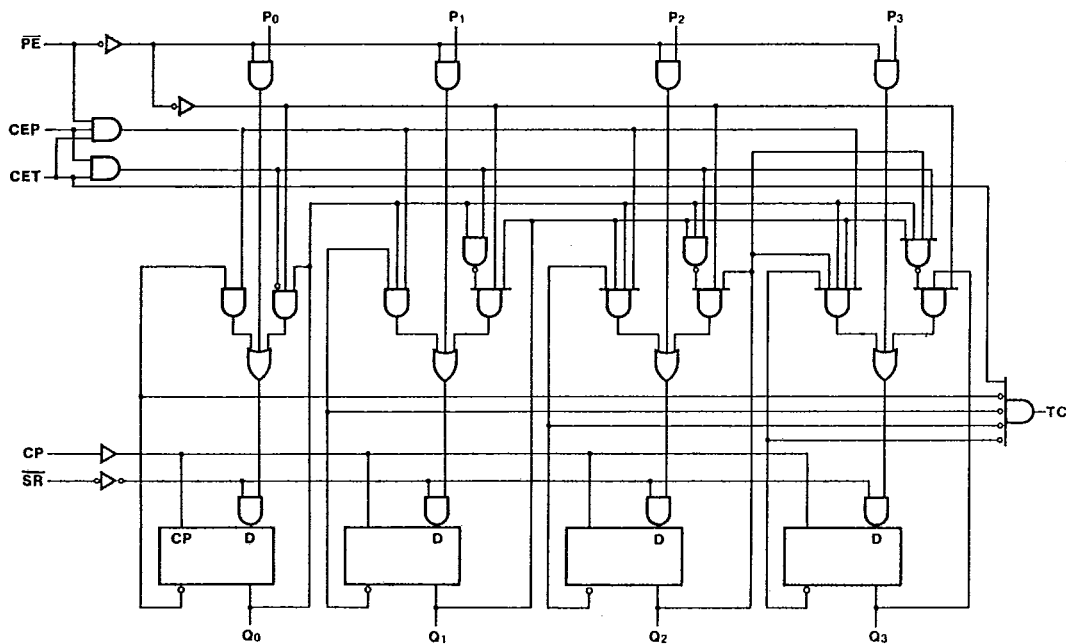
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LOGIC DIAGRAMS

'163



'LS163



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