Rochester Electronics

Datasheet

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 recreations are done with the approval of the OCM.

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

Quality Overview

- ISO-9001
- AS9120 certification
- Qualified Manufacturers List (QML) MIL-PRF-35835
    - 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 OEM specifications. 'Typical' values are for reference purposes only. Certain minimum or maximum ratings may be based on product characterization, design, simulation, or sample testing.

ABSOLUTE MAXIMUM RATINGS*

Case Temperature under Bias . . . −55°C to +125°C

Storage Temperature . . . . . −65°C to +150°C

Voltage on Any Pin with
Respect to Ground . . . . . −1.0V to +7.0V

/Package Power Dissipation 1W
Not to exceed the maximum allowable die temperature based on thermal resistance of the package.

NOTICE: This data sheet contains information on products in the sampling and initial production phases of development. It is valid for the devices indicated in the revision history. The specifications are subject to change without notice.

**WARNING: Stressing the device beyond the "Absolute Maximum Ratings" may cause permanent damage. These are stress ratings only. Operation beyond the "Operating Conditions" is not recommended and extended exposure beyond the "Operating Conditions" may affect device reliability.*

NOTICE: The specifications are subject to change without notice.

DC CHARACTERISTICS $T_C = -55°C$ to $+125°C$, $V_{CC} = 5V \pm 10\%$

Symbol	Parameter	Min	Max	Units	Test Conditions
V_{IL}	Input Low Voltage (Except X1)	−0.5	$0.2\,V_{CC} - 0.3$	V	
V_{IL1}	Clock Input Low Voltage (X1)	−0.5	0.6	V	
V_{IH}	Input High Voltage (All except X1 and $\overline{RES}$)	$0.2\,V_{CC} + 0.9$	$V_{CC} + 0.5$	V	
V_{IH1}	Input High Voltage ($\overline{RES}$)	3.0	$V_{CC} + 0.5$	V	
V_{IH2}	Clock Input High Voltage (X1)	3.9	$V_{CC} + 0.5$	V	
V_{OL}	Output Low Voltage		0.45	V	I_{OL} = 2.5 mA (S0, 1, 2) I_{OL} = 2.0 mA (others)
V_{OH}	Output High Voltage	2.4	V_{CC}	V	I_{OH} = −2.4 mA @ 2.4V (4)
		$V_{CC} - 0.5$	V_{CC}	V	I_{OH} = −200 µA @ V_{CC} −0.5(4)
I_{CC}	Power Supply Current		100	mA	@ 20 MHz, −55°C V_{CC} = 5.5V(3)
			90	mA	@16 MHz, −55°C V_{CC} = 5.5V(3)
			80	mA	@ 12.5 MHz, −55°C V_{CC} = 5.5V (3)
			70	mA	@ 10 MHz, −55°C V_{CC} = 5.5V (3)
I_{LI}	Input Leakage Current		±10	µA	@ 0.5 MHz, $0.45V \le V_{IN} \le V_{CC}$
I_{LO}	Output Leakage Current		±10	µA	@ 0.5 MHz, $0.45V \le V_{OUT} \le V_{CC}$(1)
V_{CLO}	Clock Output Low		0.45	V	I_{CLO} = 4.0 mA

DC CHARACTERISTICS (Continued) $T_C = -55°C$ to $+125°C$, $V_{CC} = 5V \pm 10\%$

Symbol	Parameter	Min	Max	Units	Test Conditions
V_{CHO}	Clock Output High	$V_{CC} - 0.5$		V	$I_{CHO} = -500\ \mu A$
C_{IN}	Input Capacitance		10	pF	@ 1 MHz(2)
C_{IO}	Output or I/O Capacitance		20	pF	@ 1 MHz(2)

NOTES:
1. Pins being floated during HOLD or by invoking the ONCE Mode.
2. Characterization conditions are a) Frequency = 1 MHz; b) Unmeasured pins at GND; c) V_{IN} at + 5.0V or 0.45V. This parameter is not tested.
3. Current is measured with the device in RESET with X1 and X2 driven and all other non-power pins open.
4. $\overline{RD}$/QSMD, $\overline{UCS}$, $\overline{LCS}$, $\overline{MCS0}$/PEREQ, $\overline{MCS1}$/$\overline{ERROR}$ and $\overline{TEST}$/BUSY pins have internal pullup devices. Loading some of these pins above $I_{OH} = -200\ \mu A$ can cause the M80C186XL to go into alternative modes of operation. See the section on Local Bus Controller and Reset for details.

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