

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.

74F2244

Octal Buffer/Line Driver with 25Ω Series Resistors in Outputs

General Description

The F2244 is an octal buffer/line driver designed to drive the capacitive inputs of MOS memory drivers, address drivers, clock drivers and bus-oriented transmitters/receivers.

The 25Ω series resistors in the outputs reduce ringing and eliminate the need for external resistors.

Features

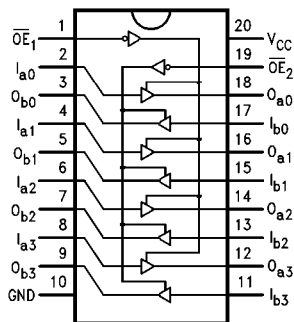
- 3-STATE outputs drive bus lines or buffer memory address registers
- 12 mA source current
- 25Ω series resistors in the outputs eliminate the need for external resistors.
- Designed to drive the capacitive inputs of MOS devices
- Guaranteed 4000V minimum ESD protection

Ordering Code:

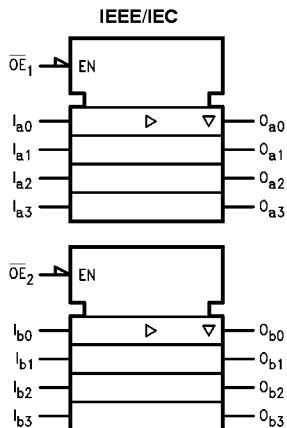
Order Number	Package Number	Package Description
74F2244SC	M20B	20-Lead Small Outline Integrated Circuit (SOIC), JEDEC MS-013, 0.300 Wide
74F2244MSA	MSA20	20-Lead Shrink Small Outline Package (SSOP), EIAJ TYPE II, 5.3mm Wide
74F2244PC	N20A	20-Lead Plastic Dual-In-Line Package (PDIP), JEDEC MS-001, 0.300 Wide

Devices also available in Tape and Reel. Specify by appending the suffix letter "X" to the ordering code.

Connection Diagram



Logic Symbol



74F2244 Octal Buffer/Line Driver with 25Ω Series Resistors in Outputs

Unit Loading/Fan Out

Pin Names	Description	U.L. HIGH/LOW	Input I_{IH}/I_{IL} Output I_{OH}/I_{OL}
$\overline{OE}_1, \overline{OE}_2$	3-STATE Output Enable Input (Active LOW)	1.0/1.667	20 μ A/-1 mA
OE_2	3-STATE Output Enable Input (Active HIGH)	1.0/1.667	20 μ A/-1 mA
I_{an}, I_{bn}	Inputs	1.0/2.667 (Note 1)	20 μ A/-1.6 mA
O_{an}, O_{bn}	Outputs	750/20	-15 mA/12 mA

Note 1: Worst-case F2244 disabled

Truth Table

\overline{OE}_1	I_{an}	O_{an}	\overline{OE}_2	I_{bn}	O_{bn}
H	X	Z	H	X	Z
L	H	H	L	H	H
L	L	L	L	L	L

H = HIGH Voltage Level

L = LOW Voltage Level

X = Immaterial

Z = High Impedance

Absolute Maximum Ratings(Note 2)

Storage Temperature	-65°C to +150°C
Ambient Temperature under Bias	-55°C to +125°C
Junction Temperature under Bias	-55°C to +150°C
V _{CC} Pin Potential to Ground Pin	-0.5V to +7.0V
Input Voltage (Note 3)	-0.5V to +7.0V
Input Current (Note 3)	-30 mA to +5.0 mA
Voltage Applied to Output in HIGH State (with V _{CC} = 0V)	
Standard Output	-0.5V to V _{CC}
3-STATE Output	-0.5V to +5.5V
Current Applied to Output in LOW State (Max)	twice the rated I _{OL} (mA)
ESD Last Passing Voltage (Min)	4000V

Recommended Operating Conditions

Free Air Ambient Temperature	0°C to +70°C
Supply Voltage	+4.5V to +5.5V

Note 2: Absolute maximum ratings are values beyond which the device may be damaged or have its useful life impaired. Functional operation under these conditions is not implied.

Note 3: Either voltage limit or current limit is sufficient to protect inputs.

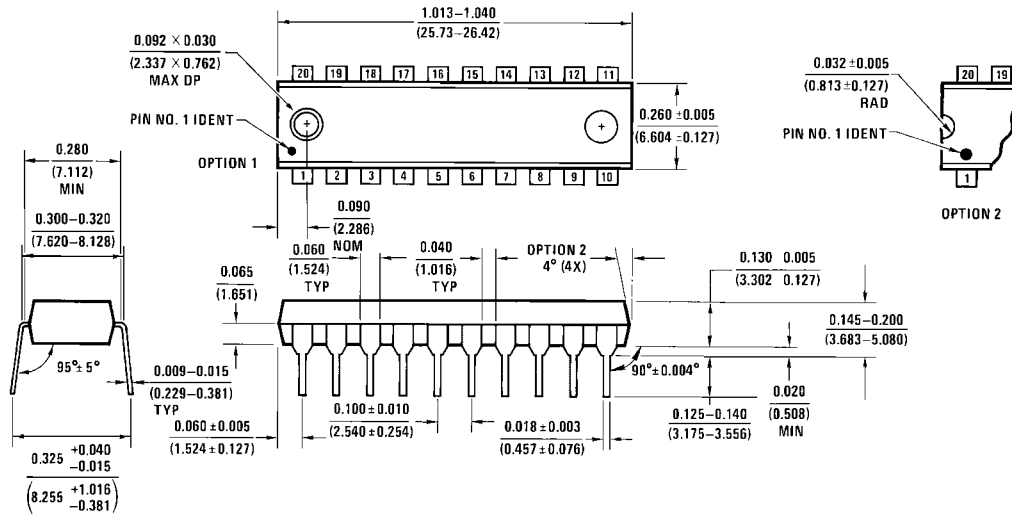
DC Electrical Characteristics

Symbol	Parameter	Min	Typ	Max	Units	V _{CC}	Conditions
V _{IH}	Input HIGH Voltage	2.0			V		Recognized as a HIGH Signal
V _{IL}	Input LOW Voltage			0.8	V		Recognized as a LOW Signal
V _{CD}	Input Clamp Diode Voltage			-1.2	V	Min	I _{IN} = -18 mA
V _{OH}	Output HIGH Voltage	2.4			V	Min	I _{OH} = -3 mA I _{OH} = -15 mA I _{OH} = -3 mA
		10% V _{CC}					
		10% V _{CC}	2.0				
		5% V _{CC}	2.7				
V _{OL}	Output LOW Voltage			0.50	V	Min	I _{OL} = 1 mA I _{OL} = 12 mA
				0.75			
I _{IH}	Input HIGH Current			5.0	μA	Max	V _{IN} = 2.7V
I _{BVI}	Input HIGH Current Breakdown Test			7.0	μA	Max	V _{IN} = 7.0V
I _{CEX}	Output HIGH Leakage Current			50	μA	Max	V _{OUT} = V _{CC}
V _{ID}	Input Leakage Test	4.75			V	0.0	I _{ID} = 1.9 μA All other pins grounded
I _{OD}	Output Leakage Circuit Current			3.75	μA	0.0	V _{IOD} = 150 mV All other pins grounded
I _{IL}	Input LOW Current			-1.0	mA	Max	V _{IN} = 0.5V (OE ₁ , OE ₂ , OE ₂) V _{IN} = 0.5V (I _n)
				-1.6			
I _{OZH}	Output Leakage Current			50	μA	Max	V _{OUT} = 2.7V
I _{OZL}	Output Leakage Current			-50	μA	Max	V _{OUT} = 0.5V
I _{OS}	Output Short-Circuit Current	-100		-225	mA	Max	V _{OUT} = 0V
I _{CCH}	Power Supply Current		40	60	mA	Max	V _O = HIGH
I _{CCL}	Power Supply Current		60	90	mA	Max	V _O = LOW
I _{CCZ}	Power Supply Current		60	90	mA	Max	V _O = HIGH Z

AC Electrical Characteristics

Symbol	Parameter	T _A = +25°C V _{CC} = +5.0V C _L = 50 pF			T _A = -55°C to +125°C C _L = 50 pF		T _A = 0°C to +70°C C _L = 50 pF		Units
		Min	Typ	Max	Min	Max	Min	Max	
t _{PLH}	Propagation Delay	1.5		7.0	2.0	6.5	1.5	7.0	ns
t _{PHL}	Data to Output	2.5		8.0	2.0	7.0	2.0	8.0	
t _{PZH}	Output Enable Time	1.5		9.0	2.0	7.0	1.0	9.5	ns
t _{PZL}		2.5		11.5	2.0	8.5	2.5	12.0	
t _{PHZ}	Output Disable Time	1.5		9.0	2.0	7.0	1.0	9.5	
t _{PLZ}		1.5		8.5	2.0	7.5	1.5	9.5	

Physical Dimensions inches (millimeters) unless otherwise noted (Continued)



20-Lead Plastic Dual-In-Line Package (PDIP), JEDEC MS-001, 0.300 Wide
Package Number N20A

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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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