

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

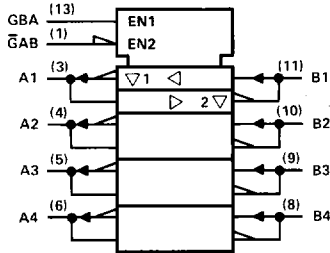
- ISO-9001
- AS9120 certification
- Qualified Manufacturers List (QML) MIL-PRF-35835
 - Class Q Military
 - Class V Space Level
- Qualified Suppliers List of Distributors (QSLD)
 - Rochester is a critical supplier to DLA and meets all industry and DLA standards.

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.

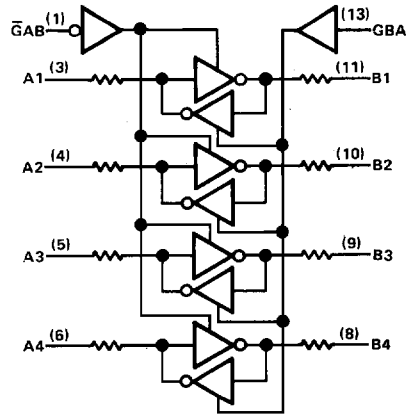
SN54ALS2242, SN74ALS2242 QUADRUPLE BUS TRANSCEIVERS/MOS DRIVER

logic symbol†



† This symbol is in accordance with ANSI/IEEE Std 91-1984 and IEC Publication 617-12. Pin numbers shown are for D, J, and N packages.

logic diagrams (positive logic)



absolute maximum ratings over operating free-air temperature range (unless otherwise noted)

Supply voltage, V_{CC}	7 V
Input voltage: All inputs	7 V
I/O ports	5.5 V
Operating free-air temperature range: SN54ALS2242	-55°C to 125°C
SN74ALS2242	0°C to 70°C
Storage temperature range	-65°C to 150°C

recommended operating conditions

	SN54ALS2242			SN74ALS2242			UNIT
	MIN	NOM	MAX	MIN	NOM	MAX	
V_{CC} Supply voltage	4.5	5	5.5	4.5	5	5.5	V
V_{IH} High-level input voltage	2			2			V
V_{IL} Low-level input voltage			0.7			0.8	V
T_A Operating free-air temperature	-55		125	0		70	°C

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ALS and AS Circuits

SN54ALS2242, SN74ALS2242 QUADRUPLE BUS TRANSCEIVERS/MOS DRIVER

electrical characteristics over recommended operating free-air temperature range (unless otherwise noted)

PARAMETER	TEST CONDITIONS	SN54ALS2242			SN74ALS2242			UNIT	
		MIN	TYP [†]	MAX	MIN	TYP [†]	MAX		
V_{IK}	$V_{CC} = 4.5 \text{ V}$, $I_I = -18 \text{ mA}$			1.2			-1.2	V	
V_{OH}	$V_{CC} = 4.5 \text{ V to } 5.5 \text{ V}$, $I_{OH} = 0.4 \text{ mA}$	$V_{CC} / 2$			$V_{CC} / 2$			V	
V_{OL}	$V_{CC} = 4.5 \text{ V}$, $I_{OL} = 1 \text{ mA}$		0.15	0.5		0.15	0.5	V	
	$V_{CC} = 4.5 \text{ V}$, $I_{OL} = 12 \text{ mA}$		0.35	0.8		0.35	0.8		
I_I	Control inputs	$V_{CC} = 5.5 \text{ V}$, $V_I = 7 \text{ V}$		0.1			0.1	mA	
	A or B ports	$V_{CC} = 5.5 \text{ V}$, $V_I = 5.5 \text{ V}$		0.1			0.1		
I_{IH}	Control inputs	$V_{CC} = 5.5 \text{ V}$, $V_I = 2.7 \text{ V}$		20			20	μA	
	A or B ports [‡]			20			20		
I_{IL}	Control inputs	$V_{CC} = 5.5 \text{ V}$, $V_I = 0.4 \text{ V}$		0.1			0.1	mA	
	A or B ports [‡]			0.1			0.1		
I_{O3}	$V_{CC} = 5.5 \text{ V}$, $V_O = 2.25 \text{ V}$	-30		112	30		-112	mA	
I_{OH}	$V_{CC} = 4.5 \text{ V}$, $V_O = 2 \text{ V}$		15			15		mA	
I_{OL}	$V_{CC} = 4.5 \text{ V}$, $V_O = 2 \text{ V}$		30			30		mA	
I_{CC}	$V_{CC} = 5.5 \text{ V}$	Outputs high		10	20		10	16	mA
		Outputs low		14	26		14	21	
		Outputs disabled		13	24		13	19	

[†]All typical values are at $V_{CC} = 5 \text{ V}$, $T_A = 25^\circ\text{C}$.

[‡]For I-O ports, the parameters I_{IH} and I_{IL} include the off state output current.

[§]The output conditions have been chosen to produce a current that closely approximates one half of the true short-circuit output current, I_{OS} .

switching characteristics (see Note 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	$V_{CC} = 5 \text{ V}$, $C_L = 50 \text{ pF}$, $R_1 = 500 \Omega$, $R_2 = 500 \Omega$, $T_A = 25^\circ\text{C}$		$V_{CC} = 4.5 \text{ V to } 5.5 \text{ V}$, $C_L = 50 \text{ pF}$, $R_1 = 500 \Omega$, $R_2 = 500 \Omega$, $T_A = \text{MIN to MAX}$		UNIT		
			ALS2242		SN54ALS2242			SN74ALS2242	
			TYP	MIN	MAX	MIN		MAX	
t_{PLH}	A or B	B or A	5	2	15	2	11	ns	
t_{PHL}			5	2	14	2	10		
t_{PZH}	$\bar{G}AB$	B	8	3	18	3	16	ns	
t_{PZL}			11	5	22	5	20		
t_{PHZ}	$\bar{G}AB$	B	6	2	12	2	10	ns	
t_{PLZ}			6	2	18	2	12		
t_{PZH}	GBA	A	10	3	18	3	16	ns	
t_{PZL}			12	5	22	5	20		
t_{PHZ}	GBA	A	6	2	12	2	10	ns	
t_{PLZ}			6	2	18	2	14		

NOTE 1: Load circuit and voltage waveforms are shown in Section 1.

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