

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.

SN54ALS762, SN54ALS763, SN54AS762, SN54AS763 SN74ALS762, SN74ALS763, SN74AS762, SN74AS763 OCTAL BUFFERS AND LINE DRIVERS WITH OPEN-COLLECTOR OUTPUTS

SDAS067A – DECEMBER 1983 – REVISED MAY 1986

- Package Options include Plastic Small Outline Packages, Ceramic Chip Carriers, and Standard Plastic and Ceramic 300-mil DIPs
- 'ALS762 and 'AS762 Have True and Complementary Outputs
- 'ALS763 and 'AS763 Have Complementary G and \bar{G} Inputs
- Open-Collector Outputs Drive Bus Lines or Buffer Memory Address Registers
- Eliminates the Need for 3-State Overlap Protection
- Current Sinking Capability Up to 64 mA
- Dependable Texas Instruments Quality and Reliability

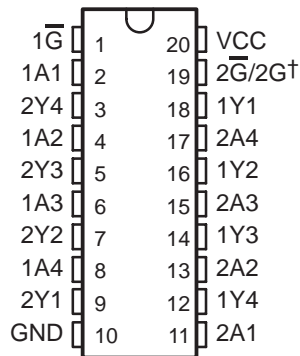
description

These octal buffers and line drivers are designed specifically to improve the performance of 3-state memory address drivers, clock drivers, and bus-oriented receivers and transmitters by eliminating the need for 3-state overlap protection. The designer has a choice of selected combinations of inverting and noninverting outputs, symmetrical \bar{G} (active-low output control) inputs, and complementary G and \bar{G} inputs.

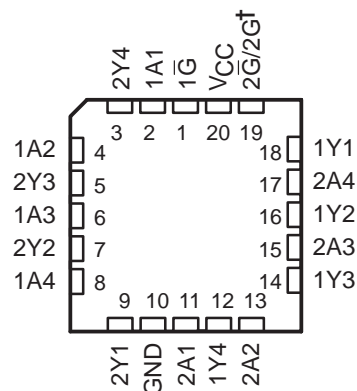
The -1 versions of the SN74ALS' parts are identical to their standard versions except that the recommended maximum I_{OL} is increased to 48-mA. There are no -1 versions of the SN54ALS' parts.

The SN54' family is characterized for operation over the full military temperature range of -55°C to 125°C . The SN74' family is characterized for operation from 0°C to 70°C .

SN54ALS', SN54AS' ... J PACKAGE
SN74ALS', SN74AS' ... DW OR N PACKAGE
(TOP VIEW)



SN54ALS', SN54AS' ... FK PACKAGE
(TOP VIEW)



†2 \bar{G} for 'ALS762, 'AS762 and 2G 'ALS763, 'AS763

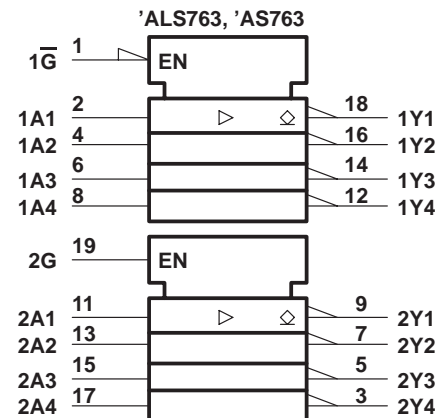
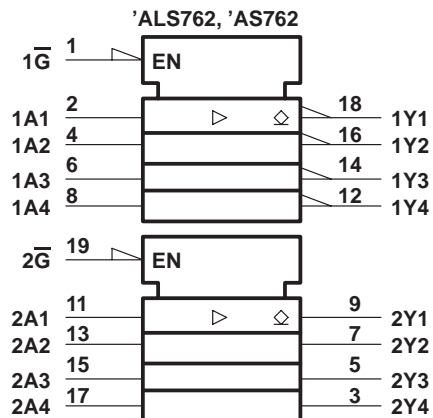
SN54ALS762, SN54ALS763, SN54AS762, SN54AS763

SN74ALS762, SN74ALS763, SN74AS762, SNAS763

OCTAL BUFFERS AND LINE DRIVERS WITH OPEN-COLLECTOR OUTPUTS

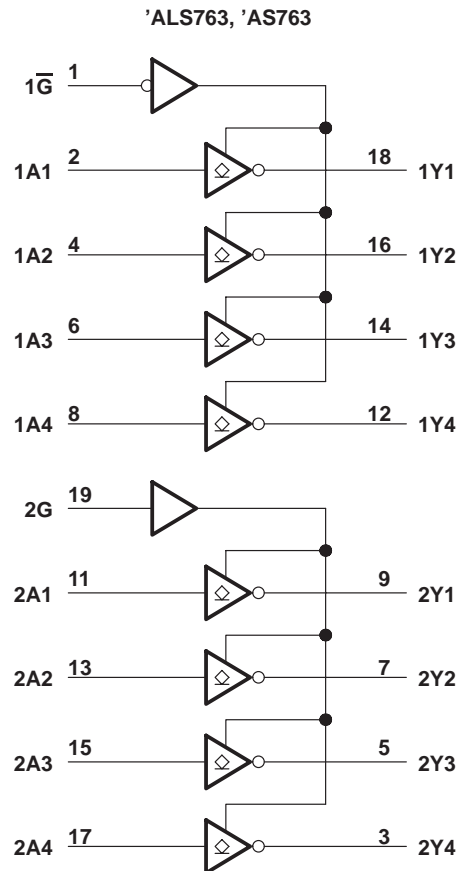
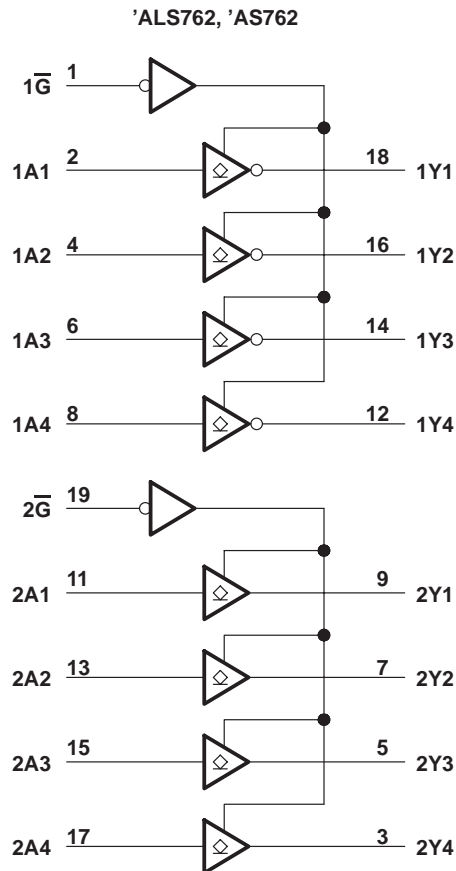
SDAS067A - DECEMBER 1983 - REVISED MAY 1986

logic symbols†



† These symbols are in accordance with ANSI/IEEE Std 91-1984 and IEC Publication 617-12.

logic diagrams (positive logic)



SN54ALS762, SN74ALS762 OCTAL BUFFERS AND LINE DRIVERS WITH OPEN-COLLECTOR OUTPUT

SDAS067A – DECEMBER 1983 – REVISED MAY 1986

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

Supply voltage, V_{CC}	7 V
Input voltage	7 V
Off-state output voltage	7 V
Operating free-air temperature range: SN54ALS762	–55°C to 125°C
SN74ALS762	0°C to 70°C
Storage temperature range	–65°C to 150°C

recommended operating conditions

		SN54ALS762			SN74ALS762			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
V_{OH}	High-level output voltage			5.5			5.5	mA
I_{OL}	Low-level output current			12			24 48†	mA
T_A	Operating free-air temperature	–55		125	0		70	°C

† The extended limits apply only if V_{CC} is maintained between 4.75 V and 5.25 V. The 48-mA limit applies for the SN74ALS762-1 only.

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

PARAMETER	TEST CONDITIONS	SN54ALS762			SN74ALS762			UNIT
		MIN	TYP‡	MAX	MIN	TYP‡	MAX	
V_{IK}	$V_{CC} = 4.5$ V, $I_I = -18$ mA			–1.2			–1.2	V
I_{OH}	$V_{CC} = 4.5$ V, $V_{OH} = 5.5$ V			0.1			0.1	mA
V_{OL}	$V_{CC} = 4.5$ V, $I_{OL} = 12$ mA		0.25	0.4		0.25	0.4	V
	$V_{CC} = 4.5$ V, $I_{OL} = 24$ mA ($I_{OL} = 48$ mA for -1 versions)					0.35	0.55	
I_I	$V_{CC} = 5.5$ V, $V_I = 7$ V			0.1			0.1	mA
I_{IH}	$V_{CC} = 5.5$ V, $V_I = 2.7$ V			20			20	μA
I_{IL}	$V_{CC} = 5.5$ V, $V_I = 0.4$ V			–0.1			–0.1	mA
I_{CC}	'ALS762	$V_{CC} = 5.5$ V	Outputs high		11		11	mA
			Outputs low		18		18	

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

'ALS762 switching characteristics (see Note 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	$V_{CC} = 5.5$ V, $C_L = 50$ pF, $R_L = 680$ Ω, $T_A = 25^\circ\text{C}$		$V_{CC} = 4.5$ V to 5.5 V, $C_L = 50$ pF, $R_L = 680$ Ω, $T_A = \text{MIN to MAX}^\S$		UNIT		
			'ALS762		SN54ALS762			SN74ALS762	
			TYP		MIN	MAX		MIN	MAX
t_{PLH}	A	Y	17				ns		
t_{PHL}			6						
t_{PLH}	\bar{G}	Y	14				ns		
t_{PHL}			18						

§ The conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.

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

PRODUCT PREVIEW information concerns products in the formative or design phase of development. Characteristic data and other specifications are design goals. Texas Instruments reserves the right to change or discontinue these products without notice.



POST OFFICE BOX 655303 • DALLAS, TEXAS 75265
POST OFFICE BOX 1443 • HOUSTON, TEXAS 77001

SN54ALS763, SN74ALS763 OCTAL BUFFERS AND LINE DRIVERS WITH OPEN-COLLECTOR OUTPUT

SDAS067A – DECEMBER 1983 – REVISED MAY 1986

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

Supply voltage, V_{CC}	7 V
Input voltage	7 V
Off-state output voltage	7 V
Operating free-air temperature range: SN54ALS763	-55°C to 125°C
SN74ALS763	0°C to 70°C
Storage temperature range	-65°C to 150°C

recommended operating conditions

		SN54ALS763			SN74ALS763			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
V_{OH}	High-level output voltage			5.5			5.5	V
I_{OL}	Low-level output current			12			24	mA
							48†	
T_A	Operating free-air temperature	-55		125	0		70	°C

† The extended limits apply only if V_{CC} is maintained between 4.75 V and 5.25 V. The 48-mA limit applies for the SN74ALS763-1 only.

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

PARAMETER	TEST CONDITIONS	SN54ALS763			SN74ALS763			UNIT	
		MIN	TYP‡	MAX	MIN	TYP‡	MAX		
V_{IK}	$V_{CC} = 4.5$ V, $I_I = -18$ mA			-1.2			-1.2	V	
I_{OH}	$V_{CC} = 4.5$ V, $V_{OH} = 5.5$ V			0.1			0.1	mA	
V_{OL}	$V_{CC} = 4.5$ V, $I_{OL} = 12$ mA		0.25	0.4		0.25	0.4	V	
	$V_{CC} = 4.5$ V, $I_{OL} = 24$ mA ($I_{OL} = 48$ mA for -1 versions)					0.35	0.5		
I_I	$V_{CC} = 5.5$ V, $V_I = 7$ V			0.1			0.1	mA	
I_{IH}	$V_{CC} = 5.5$ V, $V_I = 2.7$ V			20			20	μA	
I_{IL}	$V_{CC} = 5.5$ V, $V_I = 0.4$ V			-0.1			-0.1	mA	
I_{CC}	'ALS763	$V_{CC} = 5.5$ V	Outputs high		7	11	7	11	mA
			Outputs low		14	22	14	22	

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

'ALS763 switching characteristics (see Note 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	$V_{CC} = 5.5$ V, $C_L = 50$ pF, $R_L = 680$ Ω, $T_A = 25^\circ\text{C}$	$V_{CC} = 4.5$ V to 5.5 V, $C_L = 50$ pF, $R_L = 680$ Ω, $T_A = \text{MIN to MAX}^\S$				UNIT		
				'ALS763		SN54ALS763			SN74ALS763	
				TYP	MIN	MAX	MIN		MAX	
t_{PLH}	A	Y	16	7	28	7	25	ns		
t_{PHL}				2	11	2	9			
t_{PLH}	\bar{G}	Y	18	8	28	9	25	ns		
t_{PHL}				5	25	5	21			
t_{PLH}	G	Y	18	8	28	9	25	ns		
t_{PHL}				5	25	5	21			

§ The conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.

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

PRODUCTION DATA information is current as of publication date. Products conform to specifications per the terms of Texas Instruments standard warranty. Production processing does not necessarily include testing of all parameters.



POST OFFICE BOX 655303 • DALLAS, TEXAS 75265
POST OFFICE BOX 1443 • HOUSTON, TEXAS 77001

SN54AS762, SN54AS763, SN74AS762, SN74AS763 OCTAL BUFFERS AND LINE DRIVERS WITH OPEN-COLLECTOR OUTPUT

SDAS067A – DECEMBER 1983 – REVISED MAY 1986

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

Supply voltage, V_{CC}	7 V
Input voltage	7 V
Off-state output voltage	7 V
Operating free-air temperature range: SN54AS762, SN54AS763	–55°C to 125°C
SN74AS762, SN74AS763	0°C to 70°C
Storage temperature range	–65°C to 150°C

recommended operating conditions

		SN54AS762 SN54AS763			SN74AS762 SN74AS763			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			0.8			0.8	V
V_{OH}	High-level output voltage			5.5			5.5	V
I_{OL}	Low-level output current			48			64	mA
T_A	Operating free-air temperature	–55		125	0		70	°C

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

PARAMETER		TEST CONDITIONS		SN54AS762 SN54AS763			SN74AS762 SN74AS763			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	
I_{OH}		$V_{CC} = 4.5\text{ V}$,	$V_{OH} = 5.5\text{ V}$			0.1			0.1	mA	
V_{OL}		$V_{CC} = 4.5\text{ V}$,	$I_{OL} = 48\text{ mA}$			0.55				V	
		$V_{CC} = 4.5\text{ V}$,	$I_{OL} = 64\text{ mA}$					0.55			
I_I		$V_{CC} = 5.5\text{ V}$,	$V_I = 7\text{ V}$			0.1			0.1	mA	
I_{IH}		$V_{CC} = 5.5\text{ V}$,	$V_O = 2.7\text{ V}$			20			20	μA	
I_{IL}	'AS762 2A Inputs only	$V_{CC} = 5.5\text{ V}$,	$V_I = 0.4\text{ V}$			–1			–1	mA	
	All others					–0.5			–0.5		
I_{CC}	'AS762	$V_{CC} = 5.5\text{ V}$	Output high			15	23		15	23	mA
			Output low			55	87		55	87	
	'AS763	$V_{CC} = 5.5\text{ V}$	Output high			10	16		10	16	
			Output low			52	82		52	82	

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

PRODUCTION DATA information is current as of publication date. Products conform to specifications per the terms of Texas Instruments standard warranty. Production processing does not necessarily include testing of all parameters.



POST OFFICE BOX 655303 • DALLAS, TEXAS 75265
POST OFFICE BOX 1443 • HOUSTON, TEXAS 77001

SN54AS762, SN54AS763, SN74AS762, SN74AS763

OCTAL BUFFERS AND LINE DRIVERS WITH OPEN-COLLECTOR OUTPUTS

SDAS067A – DECEMBER 1983 – REVISED MAY 1986

'AS762 switching characteristics (see Note 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	V _{CC} = 4.5 V to 5.5 V, C _L = 50 pF, R _L = 500 Ω, T _A = MIN to MAX†				UNIT
			SN54AS762		SN74AS762		
			MIN	MAX	MIN	MAX	
t _{PLH}	1A	1Y	3	20	3	19	ns
t _{PHL}			1	7	1	6	
t _{PLH}	2A	2Y	3	19.5	3	18.5	ns
t _{PHL}			1	7	1	6	
t _{PLH}	\bar{G}	1Y	3	22	3	19.5	ns
t _{PHL}			1	8	1	7.5	
t _{PLH}	\bar{G}	2Y	3	20	3	19	ns
t _{PHL}			1	8	1	7	

'AS763 switching characteristics (see Note 1)

PARAMETER	FROM (INPUT)	TO (OUTPUT)	V _{CC} = 4.5 V to 5.5 V, C _L = 50 pF, R _L = 500 Ω, T _A = MIN to MAX†				UNIT
			SN54AS763		SN74AS763		
			MIN	MAX	MIN	MAX	
t _{PLH}	A	Y	3	20	3	19	ns
t _{PHL}			1	7	1	6	
t _{PLH}	\bar{G}	Y	3	22	3	19.5	ns
t _{PHL}			1	8.5	1	7.5	
t _{PLH}	G	Y	3	22	3	20	ns
t _{PHL}			1	8.5	1	8	

† The conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions.

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

PRODUCTION DATA information is current as of publication date. Products conform to specifications per the terms of Texas Instruments standard warranty. Production processing does not necessarily include testing of all parameters.



IMPORTANT NOTICE

Texas Instruments Incorporated and its subsidiaries (TI) reserve the right to make corrections, modifications, enhancements, improvements, and other changes to its products and services at any time and to discontinue any product or service without notice. Customers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All products are sold subject to TI's terms and conditions of sale supplied at the time of order acknowledgment.

TI warrants performance of its hardware products to the specifications applicable at the time of sale in accordance with TI's standard warranty. Testing and other quality control techniques are used to the extent TI deems necessary to support this warranty. Except where mandated by government requirements, testing of all parameters of each product is not necessarily performed.

TI assumes no liability for applications assistance or customer product design. Customers are responsible for their products and applications using TI components. To minimize the risks associated with customer products and applications, customers should provide adequate design and operating safeguards.

TI does not warrant or represent that any license, either express or implied, is granted under any TI patent right, copyright, mask work right, or other TI intellectual property right relating to any combination, machine, or process in which TI products or services are used. Information published by TI regarding third-party products or services does not constitute a license from TI to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

Reproduction of TI information in TI data books or data sheets is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. Reproduction of this information with alteration is an unfair and deceptive business practice. TI is not responsible or liable for such altered documentation. Information of third parties may be subject to additional restrictions.

Resale of TI products or services with statements different from or beyond the parameters stated by TI for that product or service voids all express and any implied warranties for the associated TI product or service and is an unfair and deceptive business practice. TI is not responsible or liable for any such statements.

TI products are not authorized for use in safety-critical applications (such as life support) where a failure of the TI product would reasonably be expected to cause severe personal injury or death, unless officers of the parties have executed an agreement specifically governing such use. Buyers represent that they have all necessary expertise in the safety and regulatory ramifications of their applications, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of TI products in such safety-critical applications, notwithstanding any applications-related information or support that may be provided by TI. Further, Buyers must fully indemnify TI and its representatives against any damages arising out of the use of TI products in such safety-critical applications.

TI products are neither designed nor intended for use in military/aerospace applications or environments unless the TI products are specifically designated by TI as military-grade or "enhanced plastic." Only products designated by TI as military-grade meet military specifications. Buyers acknowledge and agree that any such use of TI products which TI has not designated as military-grade is solely at the Buyer's risk, and that they are solely responsible for compliance with all legal and regulatory requirements in connection with such use.

TI products are neither designed nor intended for use in automotive applications or environments unless the specific TI products are designated by TI as compliant with ISO/TS 16949 requirements. Buyers acknowledge and agree that, if they use any non-designated products in automotive applications, TI will not be responsible for any failure to meet such requirements.

Following are URLs where you can obtain information on other Texas Instruments products and application solutions:

Products

Amplifiers	amplifier.ti.com
Data Converters	dataconverter.ti.com
DSP	dsp.ti.com
Clocks and Timers	www.ti.com/clocks
Interface	interface.ti.com
Logic	logic.ti.com
Power Mgmt	power.ti.com
Microcontrollers	microcontroller.ti.com
RFID	www.ti-rfid.com
RF/IF and ZigBee® Solutions	www.ti.com/lprf

Applications

Audio	www.ti.com/audio
Automotive	www.ti.com/automotive
Broadband	www.ti.com/broadband
Digital Control	www.ti.com/digitalcontrol
Medical	www.ti.com/medical
Military	www.ti.com/military
Optical Networking	www.ti.com/opticalnetwork
Security	www.ti.com/security
Telephony	www.ti.com/telephony
Video & Imaging	www.ti.com/video
Wireless	www.ti.com/wireless

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
Copyright © 2008, Texas Instruments Incorporated