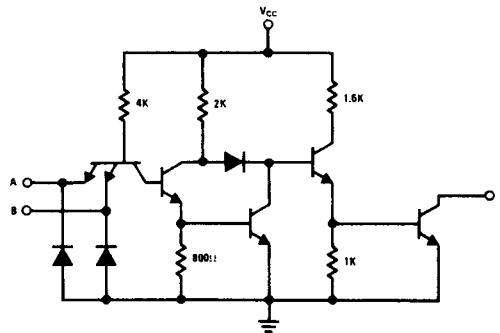


DS7819/DS8819 Quad 2-Input TTL-MOS AND Gate

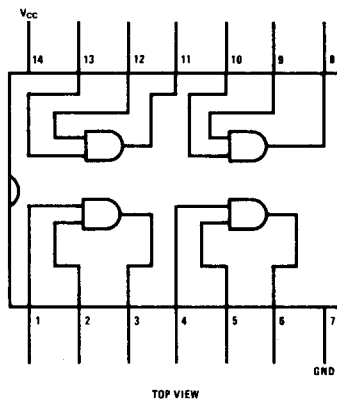
The DS7819/DS8819 is the high output voltage version of the SN5409. Its open-collector outputs may be "pulled-up" to 14V in the logical "1"

state thus providing guaranteed interface between TTL and MOS logic levels.

Schematic and Connection Diagrams



Dual-In-Line Package



Order Number DS7819J or DS8819J
 Order Number DS8819N
 Order Number DS7819W
 See NS Package J14A, N14A or W14A

Absolute Maximum Ratings (Note 1)

Supply Voltage	7.0V
Input Voltage	5.5V
Output Voltage	15V
Storage Temperature Range	-65°C to +150°C
Maximum Power Dissipation* at 25°C	
Cavity Package	1254 mW
Molded Package	1106 mW
Lead Temperature (Soldering, 10 sec)	300°C

*Derate cavity package 8.36 mW/°C above 25°C; derate molded package 8.85 mW/°C above 25°C.

Operating Conditions

	MIN	MAX	UNITS
Supply Voltage (V _{CC})			
DS7819	4.5	5.5	V
DS8819	4.75	5.25	V
Temperature (T _A)			
DS7819	-55	+125	°C
DS8819	0	70	°C

Electrical Characteristics (Notes 2 and 3)

PARAMETER		CONDITIONS	MIN	TYP	MAX	UNITS
V _{IH}	Logical "1" Input Voltage	V _{CC} = Min	2.0			V
V _{IL}	Logical "0" Input Voltage	V _{CC} = Min			0.8	V
I _{OH}	Logical "1" Output Current	V _{CC} = Min	V _{IN} = 2.0V, V _{OUT} = 10V		40.0	μA
			V _{IN} = 4.5V, V _{OUT} = 14V		1.0	mA
V _{OL}	Logical "0" Output Voltage	V _{CC} = Min, V _{IN} = 0.8V, I _{OUT} = 16 mA			0.4	V
I _{IH}	Logical "1" Input Current	V _{CC} = Max	V _{IN} = 2.4V		40.0	μA
			V _{IN} = 5.5V		1.0	mA
I _{IL}	Logical "0" Input Current	V _{CC} = Max, V _{IN} = 0.4V			-1.6	mA
I _{CCH}	Logical "1" Supply Current	V _{CC} = Max, V _{IN} = 5V		11.0	21.0	mA
I _{CCL}	Logical "0" Supply Current	V _{CC} = Max, V _{IN} = 0V		20.0	33.0	mA
V _{CL}	Input Clamp Voltage	V _{CC} = 5.0V, T _A = 25°C, I _{IN} = -12 mA			-1.5	V

Switching Characteristics T_A = 25°C, V_{CC} = 5V

PARAMETER		CONDITIONS	MIN	TYP	MAX	UNITS
t _{pd0}	Propagation Delay to a Logical "0"	C _{OUT} = 15 pF, R _L = 400Ω		16.0	24.0	ns
t _{pd1}	Propagation Delay to a Logical "1"			16.0	32.0	ns

Note 1: "Absolute Maximum Ratings" are those values beyond which the safety of the device cannot be guaranteed. Except for "Operating Temperature Range" they are not meant to imply that the devices should be operated at these limits. The table of "Electrical Characteristics" provides conditions for actual device operation.

Note 2: Unless otherwise specified min/max limits apply across the -55°C to +125°C temperature range for the DS7819 and across the 0°C to +70°C range for the DS8819.

Note 3: All currents into device pins shown as positive, out of device pins as negative, all voltages referenced to ground unless otherwise noted. All values shown as max or min on absolute value basis.

AC Test Circuit and Switching Time Waveforms

