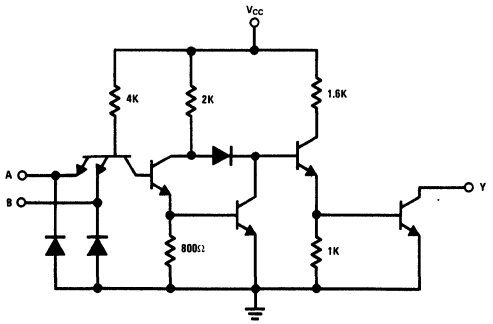
Level Translators/Buffers

DM7819/DM8819 quad 2-input TTL-MOS AND gate

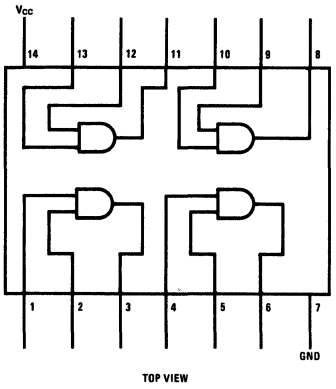
general description

The DM7819 is the high output voltage version of the SN5409. Its open-collector outputs may be "pulled-up" to +14 volts in the logical "1" state thus providing guaranteed interface between TTL and MOS logic levels.

schematic and connection diagrams



Dual-In-Line and Flat Package



TOP VIEW

Order Number DM7819J or DM8819J
See Package 16
Order Number DM7819N or DM8819N
See Package 22
Order Number DM7819W or DM8819W
See Package 27

absolute maximum ratings (Note 1)

Supply Voltage	7.0V
Input Voltage	5.5V
Output Voltage	5.5V
Storage Temperature Range	−65°C to +125°C
Lead Temperature (Soldering, 10 sec)	300°C

operating conditions

	MIN	MAX	UNITS
Supply Voltage (V_{CC})			
DM7819	4.5	5.5	V
DM8819	4.75	5.25	V
Temperature (T_A)			
DM7819	−55	+125	°C
DM8819	0	70	°C

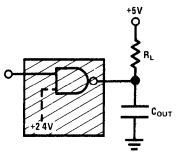
electrical characteristics (Note 2)

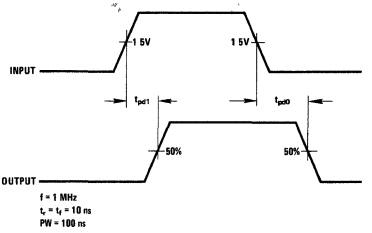
PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Logical "1" Input Voltage	V_{CC} = Min	2 0			V
Logical "0" Input Voltage	V_{CC} = Min			0 8	V
Logical "1" Output Current	V_{CC} = Min, V_{IN} = 2 0V, V_{OUT} = 10V			40.0	μA
	V_{CC} = Min, V_{IN} = 4.5V, V_{OUT} = 14V			1.0	mA
Logical "0" Output Voltage	V_{CC} = Min, V_{IN} = 0.8V, I_{OUT} = 16 mA			0 4	V
Logical "1" Input Current	V_{CC} = Max, V_{IN} = 2.4V			40.0	μA
	V_{CC} = Max, V_{IN} = 5.5V			1 0	mA
Logical "0" Input Current	V_{CC} = Max, V_{IN} = 0.4V			−1.6	mA
Supply Current — Logical "1"	V_{CC} = Max, V_{IN} = 5V		11 0	21.0	mA
Logical "0"	V_{CC} = Max, V_{IN} = 0V		20 0	33.0	mA
Input Clamp Voltage	V_{CC} = 5.0V, T_A = 25°C, I_{IN} = −12 mA			−1.5	V
Propagation Delay to a Logical "0" t_{pd0}					
DM7819 / DM8819	V_{CC} = 5.0V, T_A = 25°C		16.0	24.0	ns
Propagation Delay to a Logical "1" t_{pd1}					
DM7819 / DM8819	V_{CC} = 5.0V, T_A = 25°C		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 DM7819 and across the 0°C to 70°C range for the DM8819 All typicals are given for V_{CC} = 5 0V and T_A = 25°C

ac test circuit and switching time waveforms





f = 1 MHz
$t_r = t_f$ = 10 ns
PW = 100 ns