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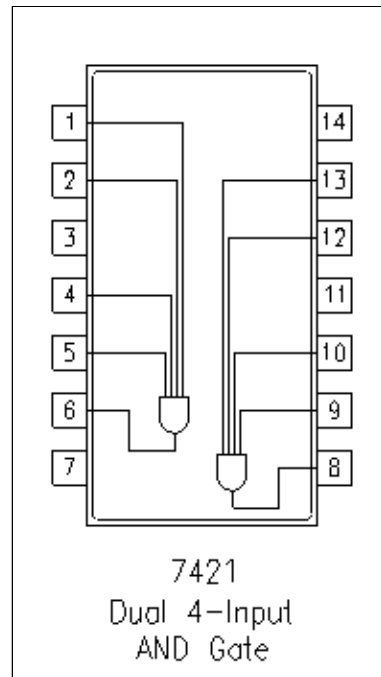
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7421 - 7421 Dual 4-input AND Gate Datasheet

Pin Layout



Features

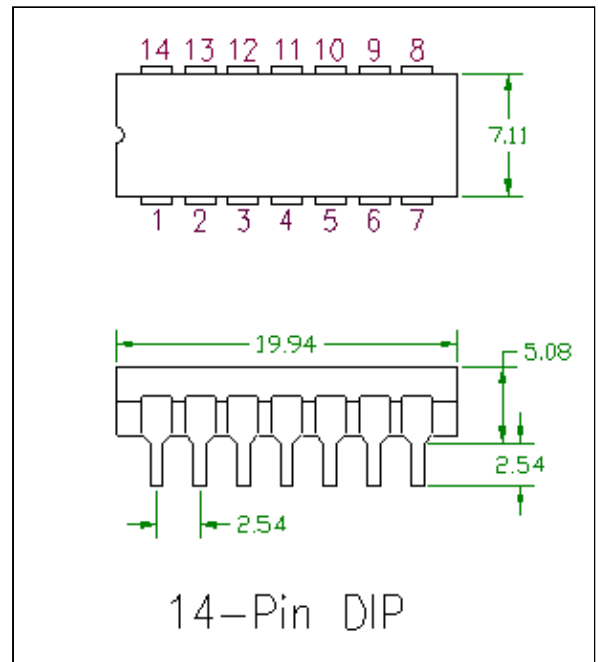
- ▶ Two 4-Input AND Gates in a 14-Pin DIP Package
- ▶ Outputs Directly Interface to CMOS, NMOS and TTL
- ▶ Large Operating Voltage Range
- ▶ Wide Operating Conditions
- ▶ Not Recommended for New Designs Use [74LS21](#)

Pin Description

Pin Number	Description
1	A Input Gate 1
2	B Input Gate 1
3	Not Connected
4	C Input Gate 1
5	D Input Gate 1
6	Y Output Gate 1
7	Ground
8	Y Output Gate 2
9	A Input Gate 2
10	B Input Gate 2
11	Not Connected

Dimensional Drawing

12	C Input Gate 2
13	D Input Gate 2
14	Vcc - Positive Supply



Technical Data

Absolute Maximum Ratings

Supply Voltage	7V
Input Voltage	5.5V
Operating Free Air Temperature	0oC to +70oC
Storage Temperature Range	-65oC to +150oC

Recommended Operating Conditions

Symbol	Parameter	Min	Typ	Max	Units
Vcc	Supply Voltage	4.75	5	5.25	V
Vih	HIGH Level Input Voltage	2			V
Vil	LOW Level Input Voltage			0.8	V
Ioh	HIGH Level Output Current			-0.4	mA
Iol	LOW Level Output Current			16	mA
Ta	Free Air Operating Temperature	0		70	°C

Electrical Characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Units
Vi	Input Clamp Voltage	Vcc=Min, Ii=-12mA			-1.5	V
Voh	HIGH Level Output Voltage	Vcc=Min, Ioh=MAX, Vil=MAX	2.4	3.4		V
Vol	LOW Level Output Voltage	Vcc=Min, Iol=MAX, Vih=MAX		0.2	0.4	V
Ii	Input Current@MAX Input Voltage	Vcc=Max, Vi=5.5V			1	mA
Iih	HIGH Level Input Current	Vcc=Max, Vi=2.4V			40	μA

I _{il}	LOW Level Input Current	V _{cc} =Max, V _i =0.4V			-1.6	mA
I _{os}	Short Circuit Output Current	V _{cc} =Max	-18		-55	mA
I _{cch}	Supply Current with Outputs HIGH	V _{cc} =Max		4	8	mA
I _{ccl}	Supply Current with Outputs LOW	V _{cc} =Max		12	22	mA

Switching Characteristics at V_{cc}=5V, T_a=25°C

Symbol	Parameter	Conditions	Min	Typ	Max	Units
t _{plh}	Propagation Delay Time LOW-to-HIGH Level Output	C _i =15pF R _i =400R			22	nS
t _{phl}	Propagation Delay Time HIGH-to-LOW Level Output	C _i =15pF R _i =400R			15	nS

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