AO331 is an AND/OR circuit providing the logical function Q = (A.B.C+D.E.F+G).

Truth Table

A	B	C	D	E	F	G	Q
L	X	X	L	X	X	L	L
L	X	X	X	L	X	L	L
L	X	X	X	X	L	L	L
X	L	X	L	X	X	L	L
X	L	X	X	L	X	L	L
X	L	X	X	X	L	L	L
X	X	L	L	X	X	L	L
X	X	L	X	L	X	L	L
X	X	L	X	X	L	L	L
X	X	X	X	X	X	H	H
X	X	X	H	H	H	X	H
H	H	H	X	X	X	X	H
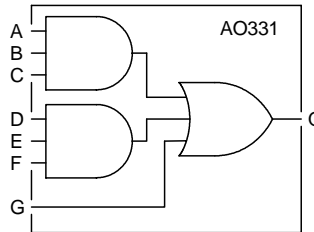
Capacitance

	Ci (pF)
A	0.062
B	0.063
C	0.068
D	0.062
E	0.063
F	0.068
G	0.048

Area

1.22 mils^2

Power

4.84 µW/MHz

Delay [ns] = tpd.. = f(SL, L)   with SL = Input Slope [ns] ; L = Output Load [pF]
Output Slope [ns] = op_sl.. = f(L)   with L = Output Load [pF]

AC Characteristics :   Tj = 25°C   VDD = 3.3V   Typical Process

AC Characteristics

Characteristics	Symbol	SL = 0.1			SL = 2.0		
		L = 0.1	L = 0.7	L = 1.0	L = 0.1	L = 0.7	L = 1.0
Delay A to Q	tpdar	0.88	2.33	2.99	0.88	2.32	2.95
	tpdaf	1.03	2.17	2.73	1.17	2.34	2.85
Delay B to Q	tpdbr	0.87	2.31	3.00	0.97	2.41	3.12
	tpdbf	0.97	2.11	2.66	1.11	2.26	2.78
Delay C to Q	tpdcr	0.84	2.28	2.95	1.04	2.47	3.12
	tpdcf	0.91	2.05	2.61	1.04	2.18	2.73
Delay D to Q	tpddr	0.78	2.18	2.85	0.78	2.15	2.81
	tpddf	0.96	2.12	2.63	1.14	2.27	2.82
Delay E to Q	tpder	0.76	2.15	2.84	0.86	2.25	2.92
	tpdef	0.90	2.07	2.58	1.08	2.23	2.75
Delay F to Q	tpdfr	0.73	2.09	2.82	0.92	2.33	2.96
	tpdff	0.84	1.99	2.52	1.00	2.14	2.71

Characteristics	Symbol	SL = 0.1			SL = 2.0		
		L = 0.1	L = 0.7	L = 1.0	L = 0.1	L = 0.7	L = 1.0
Delay G to Q	tpdgr	0.69	2.11	2.76	0.98	2.39	3.03
	tpdgf	0.80	1.95	2.52	1.07	2.22	2.76
Output Slope A to Q	op_slar	1.10	5.38	7.53	1.03	5.32	7.55
	op_slaf	0.83	3.70	5.10	0.83	3.65	5.06
Output Slope B to Q	op_slbr	1.11	5.35	7.58	1.05	5.37	7.53
	op_slbf	0.81	3.71	5.28	0.82	3.76	5.37
Output Slope C to Q	op_slcr	1.08	5.40	7.55	1.05	5.33	7.53
	op_slcf	0.77	3.67	5.22	0.80	3.65	5.23
Output Slope D to Q	op_sldr	1.05	5.31	7.48	0.97	5.27	7.51
	op_sldf	0.82	3.72	5.30	0.82	3.86	5.36
Output Slope E to Q	op_sler	1.05	5.31	7.55	0.98	5.30	7.51
	op_slef	0.81	3.73	5.07	0.82	3.80	5.35
Output Slope F to Q	op_slfr	1.02	5.30	7.50	0.98	5.28	7.51
	op_slff	0.77	3.82	5.37	0.80	3.80	5.12
Output Slope G to Q	op_slgr	1.05	5.35	7.55	1.05	5.31	7.52
	op_slgf	0.82	3.83	5.33	0.85	3.81	5.18