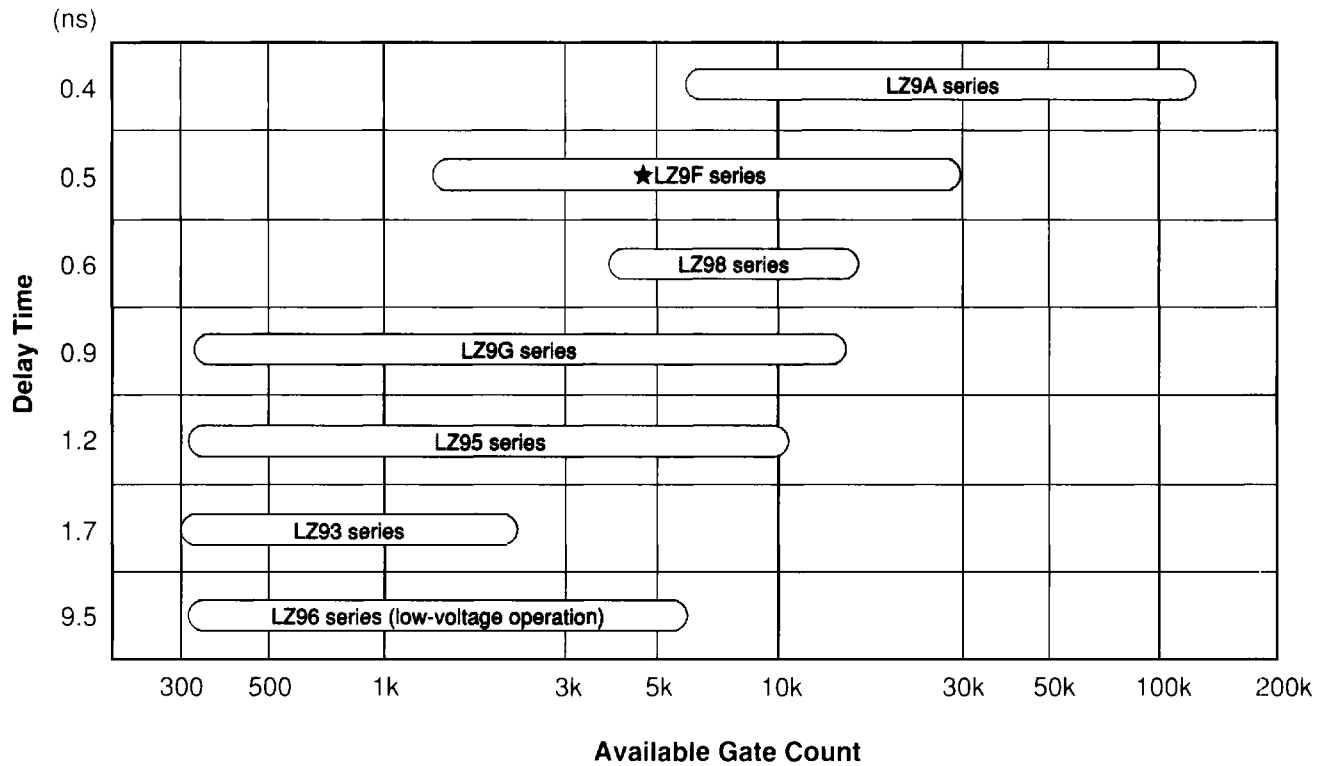


Gate Arrays

Lineup of Gate Arrays



■ Standard Type (Available for Short Turnaround Time Delivery*1)

		Gate count	Model No.	I/O buffer
LZ93 series		300 gates	LZ93300	37
		600 gates	LZ93600	51
		1 010 gates	LZ931000	67

Delay time	Internal gate	1.7 ns/gate(V _{cc} =5 V, F.O.=3, ℓ =2 mm)
	Input buffer	2.47 ns(V _{cc} =5 V, F.O.=3, ℓ =2 mm)
	Output buffer	4.2 ns(V _{cc} =5 V, C _L =20 pF)
	Supply voltage	2.0 to 5.5V

*1 Sharp offers short turnaround time on request.
(approx. 10 days from timing simulation to test sample)

High-Speed Type

Delay time	Internal gate	1.2 ns/gates($V_{CC}=5\text{ V}$, F.O.=3, $\ell=2\text{ mm}$)
	Input buffer	2.4 ns($V_{CC}=5\text{ V}$, F.O.=3, $\ell=2\text{ mm}$)
	Output buffer	4.0 ns($V_{CC}=5\text{ V}$, $C_L=20\text{ pF}$)
Supply voltage		2.0 to 5.5 V

LZ95 series	Gate count	Model No.	I/O buffer
	315 gates	LZ95300	46
	650 gates	LZ95650	62
	1 170 gates	LZ951170	77
	1 680 gates	LZ951600	97
	2 000 gates	LZ952000	97
	3 100 gates	LZ953000	116
	4 255 gates	LZ954000	128
	5 000 gates	LZ955000	138
	6 075 gates	LZ956000	148
	8 370 gates	LZ958000	176
	10 032 gates	LZ9510000	194

Low-Voltage Type

Delay time	Internal gate	9.5 ns/gate ($V_{CC}=1.5\text{ V}$, F.O.=3, $\ell=2\text{ mm}$)
	Input buffer	20 ns($V_{CC}=1.5\text{ V}$, F.O.=3, $\ell=2\text{ mm}$)
	Output buffer	40 ns($V_{CC}=1.5\text{ V}$, $C_L=20\text{ pF}$)
Supply voltage		0.9 to 5.5 V

LZ96 series	Gate count	Model No.	I/O buffer
	315 gates	LZ96300	46
	650 gates	LZ96650	62
	1 170 gates	LZ961170	77
	2 000 gates	LZ962000	97
	4 255 gates	LZ964000	128
	6 075 gates	LZ966000	148

★Under development

■ Sea-of-Gate Type

LZ98 series

Delay time	Internal gate	0.6 ns/gate (Vcc=5 V, F.O.=3, ℓ =1 mm)
	Input buffer	2.2 ns(Vcc=5 V, F.O.=3, ℓ =1 mm)
	Output buffer	2.7 ns(Vcc=5 V, CL=20 pF)
Supply voltage		2.0 to 5.5V

*3 The normal gate usage rate is 60%, however actual gate usage rates may vary depending on the cells and the circuit configuration.

Gate count *3	Model No.	I/O buffer
8 000 gates	LZ988000	96
9 000 gates	LZ989000	128
11 000 gates	LZ9811000	136
12 000 gates	LZ9812000	116
13 000 gates	LZ9813000	142
16 000 gates	LZ9816000	134
17 000 gates	LZ9817000	156
23 000 gates	LZ9823000	184
24 000 gates	LZ9824000	162
30 000 gates	LZ9830000	178

LZ9A series

Delay time	Internal gate	0.4 ns/gate (Vcc=5 V, F.O.=2, ℓ =2 mm)
	Input buffer	2.1 ns(Vcc=5 V, F.O.=2, ℓ =2 mm)
	Output buffer	2.7 ns(Vcc=5 V, CL=20 pF)
Supply voltage		2.0 to 5.5 V

*4 The normal gate usage rate is 60%, however actual gate usage rates may vary depending on the cells and the circuit configuration.

Gate count *4	Model No.	I/O buffer
10 000 gates	LZ9A10000	124
20 000 gates	LZ9A20000	166
30 000 gates	LZ9A30000	198
40 000 gates	LZ9A40000	214
51 300 gates	LZ9A50000	245
60 100 gates	LZ9A60000	258
80 200 gates	LZ9A80000	293
100 100 gates	LZ9A100000	322
150 200 gates	LZ9A150000	387
200 000 gates	★LZ9A200000	442

★Under development

■ High-Density Sea-of-Gate Type

LZ9G series

Delay time	Internal gate	0.9 ns/gate (Vcc=5 V, F.O.=2, ℓ =2 mm)
	Input buffer	2.7 ns(Vcc=5 V, F.O.=2, ℓ =2 mm)
	Output buffer	5.0 ns(Vcc=5 V, C _L =20 pF)
Supply voltage		2.0 to 5.5 V

*5 The normal gate usage rate is 45%, however actual gate usage rates may vary depending on the cells and the circuit configuration.

Gate count *5	Model No.	I/O buffer
750 gates	LZ9G750	45
1 900 gates	LZ9G1900	61
3 400 gates	LZ9G3400	75
5 100 gates	LZ9G5100	87
7 000 gates	LZ9G7000	97
9 800 gates	LZ9G9800	110
11 900 gates	LZ9G11000	120
14 600 gates	LZ9G14000	130
17 100 gates	LZ9G17000	140
22 900 gates	LZ9G22000	157
31 900 gates	LZ9G31000	182

LZ9F series

Delay time	Internal gate	0.5 ns/gate (Vcc=5 V, F.O.=2, ℓ =2 mm)
	Input buffer	2.6 ns(Vcc=5 V, F.O.=2, ℓ =2 mm)
	Output buffer	3.6 ns(Vcc=5 V, C _L =20 pF)
Supply voltage		2.0 to 5.5 V

*6 The normal gate usage rate is 40%, however actual gate usage rates may vary depending on the cells and the circuit configuration.

Gate count *6	Model No.	I/O buffer
3 000 gates	★LZ9F3000	48
5 100 gates	★LZ9F5000	62
7 500 gates	★LZ9F7000	76
10 700 gates	★LZ9F10000	88
12 900 gates	★LZ9F12000	96
19 100 gates	★LZ9F19000	109
27 700 gates	★LZ9F27000	128
36 600 gates	★LZ9F36000	145
42 800 gates	★LZ9F42000	156
56 300 gates	★LZ9F56000	173
71 500 gates	★LZ9F71000	192
87 100 gates	★LZ9F87000	209
106 100 gates	★LZ9F106000	228
125 100 gates	★LZ9F125000	245