Binary Counter

The MC1654 is a four-bit counter capable of divide-by-two, divide-by-four, divide-by-eight, or a divide-by-16 functions. When used independently, the divide-by-16 section will toggle at 325 MHz typically. Clock inputs rigger on the positive going edge of the Clock pulse.

Set and Reset inputs override the Clock, allowing asynchronous "set" or "clear". Individual Set and common Reset inputs are provided, as well as complementary outputs for the first and fourth bits. True outputs are available at all bits.
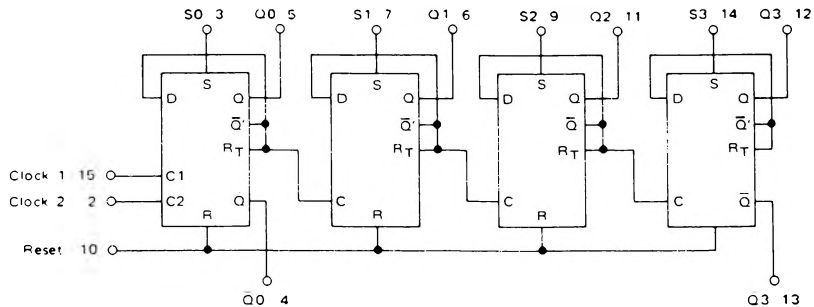
TRUTH TABLE

INPUTS							OUTPUTS			
R	S0	S1	S2	S3	C1	C2	Q0	Q1	Q2	Q3
1	0	0	0	0	ϕ	ϕ	0	0	0	0
0	1	1	1	1	ϕ	ϕ	1	1	1	1
0	0	0	0	0	1	ϕ	No Count			
0	0	0	0	0	ϕ	1	No Count			
0	0	0	0	0	••		0	0	0	0
0	0	0	0	0	••		1	0	0	0
0	0	0	0	0	••		0	1	0	0
0	0	0	0	0	••		1	1	0	0
0	0	0	0	0	••		0	0	1	0
0	0	0	0	0	••		1	0	1	0
0	0	0	0	0	••		0	1	1	0
0	0	0	0	0	••		1	1	1	0
0	0	0	0	0	••		0	0	0	1
0	0	0	0	0	••		1	0	0	1
0	0	0	0	0	••		0	1	0	1
0	0	0	0	0	••		1	1	0	1
0	0	0	0	0	••		0	0	1	1
0	0	0	0	0	••		1	0	1	1
0	0	0	0	0	••		0	1	1	1
0	0	0	0	0	••		1	1	1	1

ϕ = Don't Care

•• V_{IL}⌐⎺V_{IH} Clock transition from V_{IL} to V_{IH} may be applied to C1 or C2 or both for same effect.

Power Dissipation = 750 mW typ
f_{Tog} = 325 MHz typ

V_{CC} = 1, 16
V_{EE} = 8

MC1654

COUNTERS