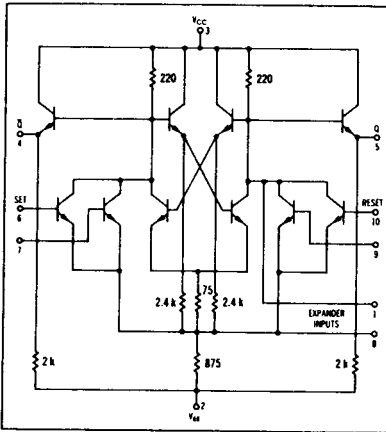


R-S FLIP-FLOP

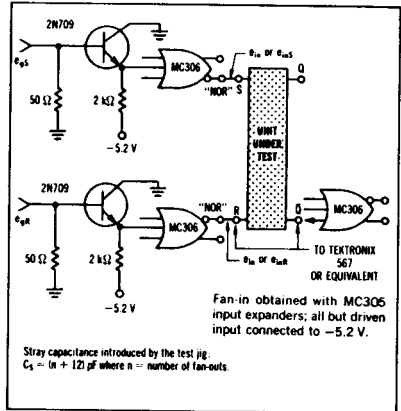
MC302

MECL MC300 series

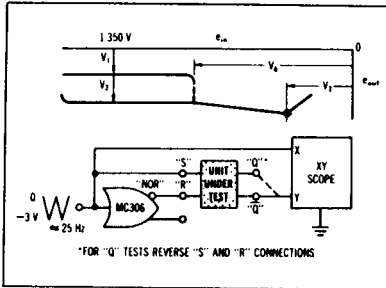
DC Set-Reset flip-flop with an expandable input and buffered outputs.



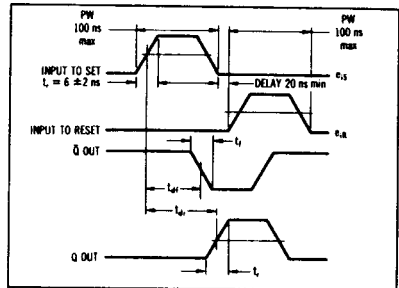
SWITCHING TIME TEST CIRCUIT



TRANSFER CHARACTERISTICS



SWITCHING TIME WAVEFORMS

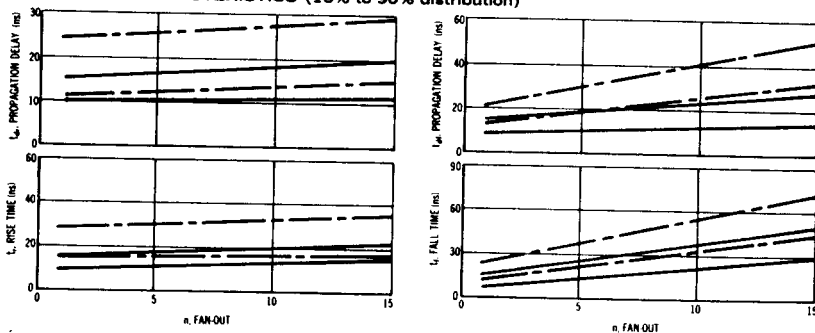


ELECTRICAL CHARACTERISTICS

Characteristic	Test Conditions						Symbol	Test Limits						Unit		
	V _{cc} ± 1%							-55°C		+25°C		+125°C				
	V _{cc} Pin No	V _{ee} Pin No	V _i Pin No	V _o Pin No	dV _o Pin No	I _c Pin No		Min	Max	Min	Max	Min	Max			
Power Supply Drain Current	—	—	—	2, 7, 9, 10	—	—	3	I _{cc} (1)	—	10.35	—	10.35	—	0.52	mAdc	
Input Current	6	—	—	2, 7, 9, 10	—	—	3	I _{ic} (6)	—	—	—	100	—	—	μAdc	
	7	—	—	2, 6, 9, 10	—	—	3	I _{ic} (7)	—	—	—	—	—	—	—	
	9	—	—	2, 6, 7, 10	—	—	3	I _{ic} (9)	—	—	—	—	—	—	—	
	10	—	—	2, 6, 7, 9	—	—	3	I _{ic} (10)	—	—	—	—	—	—	—	
"B" Logical "1" Output Voltage	—	—	9Ⓞ	2, 7, 9, 10	—	—	3	V _o (5)	-0.825	-0.945	-0.690	0.795	-0.525	-0.655	Vdc	
"B" Logical "0" Output Voltage	—	—	7Ⓞ	2, 6, 9, 10	—	—	3	V _o (5)	-0.825	-0.945	-0.690	0.795	-0.525	-0.655	Vdc	
"B" Logical "0" Output Voltage	—	—	9Ⓞ	2, 6, 7, 10	—	—	3	V _o (5)	-1.560	-1.850	-1.465	-1.750	-1.340	-1.675	Vdc	
	—	—	10Ⓞ	2, 6, 7, 9	—	—	3	V _o (5)	-1.560	-1.850	-1.465	-1.750	-1.340	-1.675	Vdc	
"B" Logical "1" Output Voltage	—	—	9Ⓞ	2, 6, 7, 10	—	—	3	V _o (4)	-0.825	-0.945	-0.690	0.795	-0.525	-0.655	Vdc	
	—	—	10Ⓞ	2, 6, 7, 9	—	—	3	V _o (4)	-0.825	-0.945	-0.690	0.795	-0.525	-0.655	Vdc	
"B" Logical "0" Output Voltage	—	—	9Ⓞ	2, 7, 9, 10	—	—	3	V _o (4)	-1.560	-1.850	-1.465	-1.750	-1.340	-1.675	Vdc	
	—	—	7Ⓞ	2, 6, 9, 10	—	—	3	V _o (4)	-1.560	-1.850	-1.465	-1.750	-1.340	-1.675	Vdc	
"B" Output Voltage Change	—	6	—	2, 7, 9, 10	—	5Ⓞ	3	ΔV _o (3)	—	-0.025	—	-0.025	—	-0.060	Volts	
"B" Output Voltage Change	—	10	—	2, 6, 7, 9	—	4Ⓞ	3	ΔV _o (4)	—	-0.055	—	-0.055	—	-0.060	Volts	
"B" Saturation Breakpoint Voltage	—	—	—	2, 7, 9	6, 10Ⓞ	—	3	V _o (3)	—	-0.50	—	-0.65	—	-0.75	Vdc	
"B" Saturation Breakpoint Voltage	—	—	—	2, 7, 9	6, 10Ⓞ	—	3	V _o (4)	—	-0.50	—	-0.65	—	-0.75	Vdc	
"B" or "C" Logic Voltage	—	—	—	2, 7, 9	6, 10Ⓞ	—	3	V _o (6, 10)	-1.18	-1.34	-1.09	-1.21	-0.93	-1.07	Vdc	
Switching Times	Pulse In	Pulse Out							Typ		Max		Typ		Max	
Propagation Delay Time	6, 10	4, 5	—	2, 7, 9	—	—	3	t _p (4, 5)	9.0	14.0	10.5	16.0	22.0	29.0	ns	
	6, 10	4, 5	—	2, 7, 9	—	—	3	t _p (6, 3)	8.5	14.0	11.5	16.0	18.0	24.0		
Rise Time	6, 10	4, 5	—	2, 7, 9	—	—	3	t _r (4, 5)	9.0	15.0	11.5	18.0	23.0	31.0	ns	
Fall Time	6, 10	4, 5	—	2, 7, 9	—	—	3	t _f (4, 5)	7.0	13.0	12.5	19.5	18.0	29.0		

Pin not listed are left open. Ⓞ Input voltage is adjusted to obtain dV_o/dV_i = 0, dV_o/dV_{cc} = 0, dV_o/dV_{ee} = 0. ⊕ Current test conditions: no load = 0, full load = -2.5 mAdc ± 5%.
 ⊙ Apply momentary V_{cc} to set output, then V_i for measurement. ⊕ Input voltage is adjusted to obtain dV_o/dV_{cc} = 0.

SWITCHING CHARACTERISTICS (10% to 90% distribution)



— -55°C and +25°C
 - -125°C