Electrical Characteristics over recommended operating free-air temperature range (unless otherwise noted).

Parameter			Conditions		DM54/74 H74 Min	DM54/74 H74 Typ (1)	DM54/74 H74 Max	Units
V_{IH}	High Level Input Voltage				2			V
V_{IL}	Low Level Input Voltage						0.8	V
V_I	Input Clamp Voltage		V_{CC} = Min, I_I = −8 mA				−1.5	V
I_{OH}	High Level Output Current						−1000	μA
V_{OH}	High Level Output Voltage		V_{CC} = Min, V_{IH} = 2 V V_{IL} = 0.8 V, I_{OH} = Max		2.4	3.4		V
I_{OL}	Low Level Output Current						20	mA
V_{OL}	Low Level Output Voltage		V_{CC} = Min, V_{IH} = 2 V V_{IL} = 0.8 V, I_{OL} = 20 mA			0.2	0.4	V
I_I	Input Current at Maximum Input Voltage		V_{CC} = Max, V_I = 5.5 V				1	mA
I_{IH}	High Level Input Current	D	V_{CC} = Max, V_I = 2.4 V				50	μA
		Clear					150	
		Preset					100	
		Clock					100	
I_{IL}	Low Level Input Current	D	V_{CC} = Max, V_I = 0.4 V				−2	mA
		Clear					−4	
		Preset					−2	
		Clock					−4	
I_{OS}	Short Circuit Output Current		V_{CC} = Max (2)		−40		−100	mA
I_{CC}	Supply Current (Average per Flip-Flop)		V_{CC} = Max (3)	DM54		15	21	mA
				DM74		15	25	

Note 1: All typical values are at V_{CC} = 5 V, T_A = 25°C.

Note 2: Not more than one output should be shorted at a time, and duration of the short circuit should not exceed one second.

Note 3: With all outputs open, I_{CC} is measured with the Q and $\overline{Q}$ outputs high in turn. At the time of measurement, the clock input is grounded.

Switching Characteristics at V_{CC} = 5 V, T_A = 25°C

Parameter			From (Input)	To (Output)	Conditions	DM54/74 H74 Min	DM54/74 H74 Typ	DM54/74 H74 Max	Units
f_{MAX}	Maximum Clock Frequency				C_L = 25 pF, R_L = 280 Ω	35	43		MHz
t_{PLH}	Propagation Delay Time, Low-to-High Level Output		Preset (as applicable)	Q				20	ns
t_{PHL}	Propagation Delay Time, High-to-Low Level Output			$\overline{Q}$				30	
t_{PLH}	Propagation Delay Time, Low-to-High Level Output		Clear (as applicable)	$\overline{Q}$				20	ns
t_{PHL}	Propagation Delay Time, High-to-Low Level Output			Q				30	
t_{PLH}	Propagation Delay Time, Low-to-High Output		Clock	Q or $\overline{Q}$			8.5	15	ns
t_{PHL}	Propagation Delay Time, High-to-Low Level Output						13	20	
t_w	Pulse Width	Clock High				15			ns
		Clock Low				13.5			
		Clear or Preset Low				25			
t_{SETUP}	Setup Time (4)	High Level Data				10↑			ns
		Low Level Data				15↑			
t_{HOLD}	Hold time (4)					5↑			ns

Note 4: ↑ The arrow indicates the edge of the clock pulse used for reference; ↑ for the rising edge, ↓ for the falling edge.

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