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

Parameter			Conditions	DM54/74									Units
				H103			H106			H108			
				Min	Typ (1)	Max	Min	Typ (1)	Max	Min	Typ (1)	Max	
V_{IH}	High Level Input Voltage			2			2			2			V
V_{IL}	Low Level Input Voltage					0.8			0.8			0.8	V
V_I	Input Clamp Voltage		V_{CC} = Min, I_I = −8 mA			−1.5			−1.5			−1.5	V
I_{OH}	High Level Output Current					−500			−500			−500	μA
V_{OH}	High Level Output Voltage		V_{CC} = Min, V_{IH} = 2 V V_{IL} = 0.8 V, I_{OH} = −500 μA	2.4	3.4		2.4	3.4		2.4	3.4		V
I_{OL}	Low Level Output Current					20			20			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		0.2	0.4		0.2	0.4	V
I_I	Input Current at Maximum Input Voltage		V_{CC} = Max, V_I = 5.5 V			1			1			1	mA
I_{IH}	High Level Input Current	Any J or K	V_{CC} = Max, V_I = 2.4 V			50			50			50	μA
		Clear				100			100			200	
		Preset				N/A			100			100	
		Clock		0		−1	0		−1	0		−1	mA
I_{IL}	Low Level Input Current	Any J or K	V_{CC} = Max, V_I = 0.4 V		−1	−2		−1	−2		−1	−2	mA
		Clear			−1	−2		−1	−2		−2	−4	
		Preset				N/A		−1	−2		−1	−2	
		Clock			−3	−4.8		−3	−4.8		−6	−9.6	
I_{OS}	Short Circuit Output Current		V_{CC} = Max (2)	−40		−100	−40		−100	−40		−100	mA
I_{CC}	Supply Current		V_{CC} = Max (3)		40	76		40	76		40	76	mA

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 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	Min	Typ	Max	Units
f_{MAX}	Maximum Clock Frequency					C_L = 25 pF, R_L = 280 Ω	40	50		MHz
t_{PLH}	Propagation Delay Time, Low-to-High Level Output		Preset or Clear		Q or $\overline{Q}$			8	12	ns
t_{PHL}	Propagation Delay Time, High-to-Low Level Output		Preset or Clear	Clock High	$\overline{Q}$ or Q			15	20	ns
				Clock Low				23	35	
t_{PLH}	Propagation Delay Time, Low-to-High Level Output		Clock		Q or $\overline{Q}$			10	15	ns
t_{PHL}	Propagation Delay Time, High-to-Low Level Output							16	20	
t_W	Pulse Width	Clock High					10			ns
		Clock Low					15			
		Clear or Preset Low					16			
t_{SETUP}	Setup Time (4)	High Level Data					10↓			ns
		Low Level Data					13↓			
t_{HOLD}	Hold Time (4)						0↓			ns

Note 4: ↓ The arrow indicates that the falling edge of the clock pulse is used for reference.

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