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

Parameter		Conditions			DM54/74 37, 40			DM54/74 H40			DM54/74 LS37, LS40			DM54/74 S40, S140			Units
					Min	Typ (1)	Max	Min	Typ (1)	Max	Min	Typ (1)	Max	Min	Typ (1)	Max	
V_{IH}	High Level Input Voltage				2			2			2			2			V
V_{IL}	Low Level Input Voltage			DM54			0.8			0.8			0.8			0.8	V
				DM74			0.8			0.8			0.8			0.8	
V_I	Input Clamp Voltage	V_{CC} = Min	I_I = −8 mA							−1.5							V
			I_I = −12 mA				−1.5										
			I_I = −18 mA										−1.5			−1.2	
I_{OH}	High Level Output Current			Others			−1.2			−1.5			−1.2			−3	mA
				S140												−40	
V_{OH}	High Level Output Voltage	V_{CC} = Min	I_{OH} = Max, V_{IL} = Max	DM54	2.4	3.3		2.4	3.4		2.5	3.4		2.5	3.4		V
				DM74	2.4	3.3		2.4	3.4		2.7	3.4		2.7	3.4		
			V_{IL} = 0.5 V, R_O = 50 Ω to GND, S140 Only											2			
I_{OL}	Low Level Output Current			DM54			48			60			12			60	mA
				DM74			48			60			24			60	
V_{OL}	Low Level Output Voltage	V_{CC} = Min, V_{IH} = 2 V	I_{OL} = Max	DM54		0.2	0.4		0.2	0.4		0.25	0.4			0.5	V
				DM74		0.2	0.4		0.2	0.4		0.35	0.5			0.5	
			I_{OL} = 12 mA	DM74								0.25	0.4				
I_I	Input Current at Maximum Input Voltage	V_{CC} = Max	V_I = 5.5 V				1			1						1	mA
			V_I = 7 V										0.1				
I_{IH}	High Level Input Current	V_{CC} = Max	V_I = 2.4 V				40			100							μA
			V_I = 2.7 V										20			100	
I_{IL}	Low Level Input Current	V_{CC} = Max	V_I = 0.4 V				−1.6			−4			−0.36				mA
			V_I = 0.5 V													−4	
I_{OS}	Short Circuit Output Current	V_{CC} = Max (2)		DM54	−20		−70	−40		−125	−20		−100	−50		−225	mA
				DM74	−18		−70	−40		−125	−20		−100	−50		−225	
I_{CC}	Supply Current	V_{CC} = Max			See Table												

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 for 37, LS37, 40, H40 or LS40; or 100 milliseconds for S40 and S140.

Supply Currents

Device	I_{CCH} (mA) Total With Outputs High		I_{CCL} (mA) Total With Outputs Low	
	Typ	Max	Typ	Max
37	9	15.5	34	54
40	4	8	17	27
H40	10.4	16	25	40
LS37	0.9	2	6	12
LS40	0.45	1	3	6
S40	10	18	25	44
S140	10	18	25	44

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

Device	Conditions	t_{PLH} (ns) Propagation Delay Time, Low-To-High Level Output			t_{PHL} (ns) Propagation Delay Time, High-To-Low Level Output		
		Min	Typ	Max	Min	Typ	Max
37	C_L = 45 pF, R_L = 133 Ω		13	22		8	15
40	C_L = 15 pF, R_L = 133 Ω		13	22		8	15
H40	C_L = 25 pF, R_L = 93 Ω		8.5	12		6.5	12
LS37, LS40	C_L = 45 pF, R_L = 667 Ω	3	10	15	3	10	15
	C_L = 150 pF, R_L = 667 Ω	4	13	18	4	16	21
S40, S140	C_L = 50 pF, R_L = 93 Ω	2	4	6.5	2	4	6.5
	C_L = 150 pF, R_L = 93 Ω	3	6	9	3	6	9