



Capacitance^[6]

Parameter	Description	Test Conditions	Typ. ^[5]	Max.	Unit
C _{IN}	Input Capacitance		5	10	pF
C _{OUT}	Output Capacitance		9	12	pF

Power Supply Characteristics

Parameter	Description	Test Conditions	Typ. ^[5]	Max.	Unit
I _{CC}	Quiescent Power Supply Current	V _{CC} = Max., V _{IN} ≤ 0.2V, V _{IN} ≥ V _{CC} - 0.2V	0.1	0.2	mA
I _{CC}	Quiescent Power Supply Current (TTL inputs)	V _{CC} = Max., V _{IN} = 3.4V ^[8] f _I = 0, Outputs Open	0.5	2.0	mA
I _{CCD}	Dynamic Power Supply Current ^[9]	V _{CC} = Max., 50% Duty Cycle, Outputs Open, One Bit Toggling at f _I = 10 MHz, OE _A = OE _B = GND, or OE _A = GND, OE _B = V _{CC} , V _{IN} ≤ 0.2V or V _{IN} ≥ V _{CC} - 0.2V	0.06	0.12	mA/ MHz
I _C	Total Power Supply Current ^[10]	V _{CC} = Max., 50% Duty Cycle, Outputs Open, One Bit Toggling at f _I = 10 MHz, OE _A = OE _B = GND, or OE _A = GND, OE _B = V _{CC} , V _{IN} ≤ 0.2V or V _{IN} ≥ V _{CC} - 0.2V	0.7	1.4	mA
		V _{CC} = Max., 50% Duty Cycle, Outputs Open, One Bit Toggling at f _I = 10 MHz, OE _A = OE _B = GND, or OE _A = GND, OE _B = V _{CC} , V _{IN} = 3.4V or V _{IN} = GND	1.0	2.4	mA
		V _{CC} = Max., 50% Duty Cycle, Outputs Open, Eight Bits Toggling at f _I = 2.5 MHz, OE _A = OE _B = GND, or OE _A = GND, OE _B = V _{CC} , V _{IN} ≤ 0.2V or V _{IN} ≥ V _{CC} - 0.2V	1.3	2.6 ^[11]	mA
		V _{CC} = Max., 50% Duty Cycle, Outputs Open, Eight Bits Toggling at f _I = 2.5 MHz, OE _A = OE _B = GND, or OE _A = GND, OE _B = V _{CC} , V _{IN} = 3.4V or V _{IN} = GND	3.3	10.6 ^[11]	mA

Notes:

- 8. Per TTL driven input (V_{IN} = 3.4V); all other inputs at V_{CC} or GND.
- 9. This parameter is not directly testable, but is derived for use in total Power Supply calculations.
- 10. I_C = I_{QUIESCENT} + I_{INPUTS} + I_{DYNAMIC}
I_C = I_{CC} + I_{CC} · D_I · N_I + I_{CCD} · (f_I/2 + f_I · N_I)
I_{CC} = Quiescent Current with CMOS input levels
I_{CC} = Power Supply Current for a TTL HIGH input (V_{IN} = 3.4V)
D_I = Duty Cycle for TTL inputs HIGH
- N_T = Number of TTL inputs at D_I
- I_{CCD} = Dynamic Current caused by an input transition pair (HLH or LHL)
- f_I = Clock frequency for registered devices, otherwise zero
- f_I = Input signal frequency
- N_I = Number of inputs changing at f_I
- All currents are in milliamps and all frequencies are in megahertz.
- 11. Values for these conditions are examples of the I_{CC} formula. These limits are guaranteed but not tested.



CY54/74FCT540T
CY54/74FCT541T

Ordering Information—FCT540T

Speed (ns)	Ordering Code	Package Name	Package Type	Operating Range
3.8	CY74FCT540DTQC	Q5	20-Lead (150-Mil) QSOP	Commercial
	CY74FCT540DTSOC	S5	20-Lead (300-Mil) Molded SOIC	
4.1	CY74FCT540CTPC	P5	20-Lead (300-Mil) Molded DIP	Commercial
	CY74FCT540CTQC	Q5	20-Lead (150-Mil) QSOP	
	CY74FCT540CTSOC	S5	20-Lead (300-Mil) Molded SOIC	
4.7	CY54FCT540CTDMB	D6	20-Lead (300-Mil) CerDIP	Military
	CY54FCT540CTLMB	L61	20-Pin Square Leadless Chip Carrier	
4.8	CY74FCT540ATPC	P5	20-Lead (300-Mil) Molded DIP	Commercial
	CY74FCT540ATQC	Q5	20-Lead (150-Mil) QSOP	
	CY74FCT540ATSOC	S5	20-Lead (300-Mil) Molded SOIC	
5.1	CY54FCT540ATDMB	D6	20-Lead (300-Mil) CerDIP	Military
	CY54FCT540ATLMB	L61	20-Pin Square Leadless Chip Carrier	
8.5	CY74FCT540TPC	P5	20-Lead (300-Mil) Molded DIP	Commercial
	CY74FCT540TQC	Q5	20-Lead (150-Mil) QSOP	
	CY74FCT540TSOC	S5	20-Lead (300-Mil) Molded SOIC	
9.5	CY54FCT540TDMB	D6	20-Lead (300-Mil) CerDIP	Military
	CY54FCT540TLMB	L61	20-Pin Square Leadless Chip Carrier	

Ordering Information—FCT541T

Speed (ns)	Ordering Code	Package Name	Package Type	Operating Range
3.8	CY74FCT541DTQC	Q5	20-Lead (150-Mil) QSOP	Commercial
	CY74FCT541DTSOC	S5	20-Lead (300-Mil) Molded SOIC	
4.1	CY74FCT541CTPC	P5	20-Lead (300-Mil) Molded DIP	Commercial
	CY74FCT541CTQC	Q5	20-Lead (150-Mil) QSOP	
	CY74FCT541CTSOC	S5	20-Lead (300-Mil) Molded SOIC	
4.6	CY54FCT541CTDMB	D6	20-Lead (300-Mil) CerDIP	Military
	CY54FCT541CTLMB	L61	20-Pin Square Leadless Chip Carrier	
4.8	CY74FCT541ATPC	P5	20-Lead (300-Mil) Molded DIP	Commercial
	CY74FCT541ATQC	Q5	20-Lead (150-Mil) QSOP	
	CY74FCT541ATSOC	S5	20-Lead (300-Mil) Molded SOIC	
5.1	CY54FCT541ATDMB	D6	20-Lead (300-Mil) CerDIP	Military
	CY54FCT541ATLMB	L61	20-Pin Square Leadless Chip Carrier	
8.0	CY74FCT541TPC	P5	20-Lead (300-Mil) Molded DIP	Commercial
	CY74FCT541TQC	Q5	20-Lead (150-Mil) QSOP	
	CY74FCT541TSOC	S5	20-Lead (300-Mil) Molded SOIC	
9.0	CY54FCT541TDMB	D6	20-Lead (300-Mil) CerDIP	Military
	CY54FCT541TLMB	L61	20-Pin Square Leadless Chip Carrier	

Shaded areas contain preliminary information.
Document #: 38-00260-A