

Absolute Maximum Ratings (Note 1)

Voltage at Any Pin	-0.3V to $V_{CC}+0.3V$	Maximum V_{CC} Voltage	18V
Operating Temperature		Package Dissipation	500mW
MM54C95	-55°C to +125°C	Operating V_{CC} Range	+3V to +15V
MM74C95	-40°C to +85°C	Lead Temperature (Soldering, 10 sec.)	300°C
Storage Temperature	-65°C to +150°C		

DC Electrical Characteristics Max./min. limits apply across temperature range unless otherwise noted.

Parameter	Conditions	Min.	Typ.	Max.	Units
CMOS to CMOS					
$V_{IN(1)}$ Logical "1" Input Voltage	$V_{CC} = 5.0V$ $V_{CC} = 10V$	3.5 8.0			V V
$V_{IN(0)}$ Logical "0" Input Voltage	$V_{CC} = 5.0V$ $V_{CC} = 10V$			1.5 2.0	V V
$V_{OUT(1)}$ Logical "1" Output Voltage	$V_{CC} = 5.0V$ $V_{CC} = 10V$	4.5 9			V V
$V_{OUT(0)}$ Logical "0" Output Voltage	$V_{CC} = 5.0V$ $V_{CC} = 10V$			0.5 1	V V
$I_{IN(1)}$ Logical "1" Input Current	$V_{CC} = 15V$			1	μA
$I_{IN(0)}$ Logical "0" Input Current	$V_{CC} = 15V$	-1			μA
I_{CC} Supply Current	$V_{CC} = 15V$		0.050	300	μA
Low Power TTL/CMOS Interface					
$V_{IN(1)}$ Logical "1" Input Voltage	54C, $V_{CC} = 4.5V$ 74C, $V_{CC} = 4.75V$	$V_{CC} - 1.5$ $V_{CC} - 1.5$			V V
$V_{IN(0)}$ Logical "0" Input Voltage	54C, $V_{CC} = 4.5V$ 74C, $V_{CC} = 4.75V$			0.8 0.8	V V
$V_{OUT(1)}$ Logical "1" Output Voltage	54C, $V_{CC} = 4.5V$, $I_O = 360\mu A$ 74C, $V_{CC} = 4.75V$, $I_O = 360\mu A$	2.4 2.4			V V
$V_{OUT(0)}$ Logical "0" Output Voltage	54C, $V_{CC} = 4.5V$, $I_O = 360\mu A$ 74C, $V_{CC} = 4.75V$, $I_O = 360\mu A$			0.4 0.4	V V
Output Drive (See 54C/74C Family Characteristics Data Sheet)					
I_{SOURCE} Output Source Current	$V_{CC} = 5.0V$, $V_{IN(0)} = 0V$ $T_A = 25^\circ C$, $V_{OUT} = 0V$	-1.75			mA
I_{SOURCE} Output Source Current	$V_{CC} = 10V$, $V_{IN(0)} = 0V$ $T_A = 25^\circ C$, $V_{OUT} = 0V$	-8.0			mA
I_{SINK} Output Sink Current	$V_{CC} = 5.0V$, $V_{IN(1)} = 5.0V$ $T_A = 25^\circ C$, $V_{OUT} = V_{CC}$	1.75			mA
I_{SINK} Output Sink Current	$V_{CC} = 10V$, $V_{IN(1)} = 10V$ $T_A = 25^\circ C$, $V_{OUT} = V_{CC}$	8.0			mA

AC Electrical Characteristics $T_A = 25^\circ C$, $C_L = 50pF$, unless otherwise noted.

Parameter	Conditions	Min.	Typ.	Max.	Units
t_{pd} Propagation Delay Time to a Logical "0" or Logical "1" from Clock to Q or \bar{Q}	$V_{CC} = 5.0V$ $V_{CC} = 10V$		200 80	400 160	ns ns
t_{s0} , t_{s1} Time Prior to Clock Pulse that Data must be Preset	$V_{CC} = 5.0V$ $V_{CC} = 10V$	60 25	30 10		ns ns
t_{H0} , t_{H1} Time After Clock Pulse that Data must be Held	$V_{CC} = 5.0V$ $V_{CC} = 10V$	25 10	10 50		ns ns
t_{PW} Minimum Clock Pulse Width ($t_{WL} = t_{WH}$)	$V_{CC} = 5.0V$ $V_{CC} = 10V$		100 50		ns ns
t_{SM} Time Prior to Clock Pulse that Mode Control must be Preset	$V_{CC} = 5.0V$ $V_{CC} = 10V$	200 100	100 50		ns ns
f_{MAX} Maximum Input Clock Frequency	$V_{CC} = 5.0V$ $V_{CC} = 10V$	3 6.5	5 10		MHz MHz
C_{IN} Input Capacitance	Any Input. (Note 2)		5		pF
C_{PD} Power Dissipation Capacitance	(Note 3)		100		pF

Note 1: "Absolute Maximum Ratings" are those values beyond which the safety of the device cannot be guaranteed. Except for "Operating Temperature Range" they are not meant to imply that the devices should be operated at these limits. The table of "Electrical Characteristics" provides conditions for actual device operation.

Note 2: Capacitance is guaranteed by periodic testing.

Note 3: C_{PD} determines the no load AC power consumption of any CMOS device. For complete explanation see 54C/74C Family Characteristics application note AN-90.