ELE202 Handout – Motorola CMOS Selection Guide by Function

**NAND Gates**
- MC14011B Quad 2-Input NAND Gate
- MC14011UB Quad 2-Input NAND Gate
- MC14093B Quad 2-Input NAND Schmitt Trigger
- MC14023B Triple 3-Input NAND Gate
- MC14023UB Triple 3-Input NAND Gate
- MC14012B Dual 4-Input NAND Gate
- MC14012UB Dual 4-Input NAND Gate
- MC14068B 8-Input NAND Gate

**NOR Gates**
- MC14001B Quad 2-Input NOR Gate
- MC14001UB Quad 2-Input NOR Gate
- MC14025B Triple 3-Input NOR Gate
- MC14025UB Triple 3-Input NOR Gate
- MC14000UB Dual 3-Input NOR Gate Plus Inverter
- MC14002B Dual 4-Input NOR Gate
- MC14002UB Dual 4-Input NOR Gate
- MC14078B 8-Input NOR Gate

**AND Gates**
- MC14081B Quad 2-Input AND Gate
- MC14073B Triple 3-Input AND Gate
- MC14082B Dual 4-Input AND Gate

**OR Gates**
- MC14071B Quad 2-Input OR Gate
- MC14075B Triple 3-Input OR Gate
- MC14072B Dual 4-Input OR Gate

**Complex Gates**
- MC14070B Quad Exclusive OR Gate
- MC14077B Quad Exclusive NOR Gate
- MC14501 UB Triple Gate
- MC14506UB Dual Expandable AOI Gate
- MC14530B Dual 5-Input Majority Logic Gate
- MC14519B 4-Bit AND/OR Selector
- MC14572UB Hex Gate

**Inverters/Buffers/Level Translator**
- MC14007UB Dual Complementary Pair Plus Inverter
- MC14049B Hex Inverting Buffer
- MC14049UB Hex Inverting Buffer
- MC14050B Hex Noninverting Buffer
- MC14069UB Hex Inverter
- MC14502B Strobed Hex Inverter/Buffer
- MC14503B Hex 3-State Buffer
- MC14504B TTL or CMOS to CMOS Hex Level Shifter
- MC14584B Hex Schmitt Trigger

**Decoders/Encoders**
- MC14028B BCD-to-Decimal/Binary-to-Octal Decoder
- MC14511 B BCD-to-7-Segment Latch/Decoder/Driver

**Multiplexers/Demultiplexers/Bilateral Switches**
- MC14016B Quad Analog Switch/Multiplexer
- MC14066B Quad Analog Switch/Multiplexer
- MC14551B Quad 2-Channel Analog Multiplexer/Demultiplexer
- MC14053B Triple 2-Channel Analog Multiplexer/Demultiplexer
- MC14052B Dual 4-Channel Analog Multiplexer/Demultiplexer
- MC14097B Dual 8-Channel Analog Multiplexer/Demultiplexer
- MC14529B Dual 4-Channel Analog Data Selector
- MC14539B Dual 4-Channel Data Selector/Multiplexer
- MC14067B 16-Channel Analog Multiplexer/Demultiplexer
- MC145051B 8-Channel Analog Multiplexer/Demultiplexer
- MC14512B 8-Channel Data Selector
- MC14519B 4-Bit AND/OR Selector

**Schmitt Triggers**
- MC14093B Quad 2-Input NAND Schmitt Trigger
- MC14583B Dual Schmitt Trigger
- MC14106B Hex Schmitt Trigger
- MC14584B Hex Schmitt Trigger

**Flip-Flops/Latches**
- MC14042B Quad Transparent Latch
- MC14043B Quad NOR R-S Latch
- MC14044B Quad NAND R-S Latch
- MC14076B Quad D-Type Register with Tri-State Outputs
- MC14175B Quad D Flip-Flop
- MC14013B Dual D Flip-Flop
- MC14027B Dual J-K Flip-Flop
- MC14508B Dual 4-Bit Latch
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**Shift Registers**
- MC14015B: Dual 4-Bit Static Shift Register
- MC14517B: Dual 64-Bit Static Shift Register
- MC14562B: 128-Bit ShH Register
- MC14557B: 1-to-64 Bit Variable Length Shift Register
- MC14006B: 18-Bit Static Shift Register
- MC14014B: 8-Bit Static Shift Register
- MC14021B: 8-Bit Static Shift Register
- MC14034B: 8-Bit Universal Bus Register
- MC14094B: 8-Stage ShifVStore Register with Tri-State Outputs
- MC14035B: 4-Bit Shift Register
- MC14194B: 4-Bit Universal Shift Register
- MC14549B: Successive Approximation Registers
- MC14559B: Successive Approximation Registers

**Counters**
- MC14017B: Decade Counter
- MC14018B: Presetable Divide-by-N Counter
- MC14020B: 14-Bit Binary Counter
- MC14022B: Octal Counter
- MC14024B: 7-Stage Ripple Counter
- MC14029B: Presetable Binary/BCD Up/Down Counter
- MC14040B: 12-Bit Binary Counter
- MC14060B: 14-Bit Binary Counter and Oscillator
- MC14160B: Synchronous Presetable BCD Counter
- MC14161B: Synchronous Presetable 4-Bit Binary Counter
- MC14162B: Synchronous Presetable BCD Counter
- MC14163B: Synchronous Presetable 4-Bit Binary Counter
- MC14510B: Presetable BCD Up/Down Counter
- MC14516B: Presetable Binary Up/Down Counter
- MC14518B: Presetable BCD Up Counter
- MC14520B: Dual Binary Up Counter
- MC14522B: Presetable BCD Down Counter
- MC14526B: Presetable 4-Bit Binary Down Counter
- MC14534B: 5 Cascaded BCD Counters
- MC14553B: 3-Digit BCD Counter
- MC14566B: Industrial Time Base Generator
- MC14569B: Programmable Dual 4-Bit Binary/BCD Counter

**Adders/Comparators**
- MC14008B: 4-Bit Full Adder
- MC14032B: Triple Serial Adder (Positive Logic)
- MC14038B: Triple Serial Adder (Negative Logic)
- MC14560B: NBCD Adder
- MC14561B: 9's Complementer
- MC14582B: Look-Ahead Carry Block
- MC14585B: 4-Bit Magnitude Comparator

**ALU/Rate Multipliers**
- MC14527B: BCD Rate Multiplier
- MC14554B: 2 x 2-Bit Parallel Binary Multiplier
- MC14581B: 4-Bit Arithmetic Logic Unit Parity Checker
- MC14531B: 12-Bit Parity Tree Memory
- MC14580B: 4 x 4 Multiport Register

**Microprocessor/Industrial Control**
- MC14500B: Industrial Control Unit

**Oscillators/Timers**
- MC14046B: Phase-Locked Loop
- MC14415: Quad Precision Timer/Driver
- MC14490: Hex Contact Bounce Eliminator
- MC14568B: Phase Comparator and Programmable Counters

**Other Complex Functions**
- MC14528B: Dual Monostable Multivibrator
- MC14538B: Dual Precision Monostable Multivibrator