

**MOTOROLA INTEGRATED CIRCUITS**  
**DTL 830 - 930 & 1800 - 1900 Series**

<b>Rating</b>	<b>Value</b>	<b>Unit</b>			
Supply Operating Voltage Range - $V_{CC}$	4.5 to 5.5	Vdc			
Positive Voltage - $V_{in}$	+5.5	Vdc			
Negative Voltage - $V_{out}$	-1.5	Vdc			
Operating Temperature Range	-55 to +125	°C			

  

<b>Function</b>	<b>Type/Pkg</b>	<b>Loading Factor Each Output</b>	<b>Propagation Delay ns typ</b>	<b>Power Dissipation mW typ/pkg</b>
Expandable Dual 4-Input NAND Gate	930/C,A	8	30	22
Expandable Dual 3-2 Input NAND Gate	930/I	8	30	22
Clocked Flip-Flop	931/C,A,I	7	40	55
Expandable Dual 4-Input Buffer	932/C,A	25	35	85
Expandable 3-2 Input Buffer	932/I	25	35	85
Dual 4-Input Expander	933/C,A	-	-	-
Dual 3 + 4 Input Expander	933/I	-	-	-
Hex Inverter	934/C,A	8	30	66
Hex Inverter (w/o output resistors)	935/C,A	8	30	42
Hex Inverter	936/C,A	8	30	66
Hex Inverter	937/C,A	7	25	90
Decade Counter	938/C,A	8	30MHz	150
Divide-by-Sixteen Counter	939/C,A	8	30 MHz	150
Hex Inverter (w/o input diodes)	940/C,A	8	30	66
Hex Inverter (w/o output resistors & input diodes)	941/C,A	8	30	42
4-Input AND Driver w/NOR Strobe	943/I	-	-	-
Expandable Dual 4-Input Power Gate	944/C,A	27	30	65
Expandable Dual 3-2 Input Power Gate	944/I	27	30	65

<b>Function</b>	<b>Type/Pkg</b>	<b>Loading Factor Each Output</b>	<b>Propagation Delay ns typ</b>	<b>Power Dissipation mW typ/pkg</b>
Clocked Flip-Flop	945/C,A,I	12/10	40	60
Quad 2-Input NAND Gate	946/C,A	8	30	44
Quad Inverter	946/I	8	30	44
Quad 2-Input Gate Expander	947/C,A	-	-	-
Clocked Flip-Flop	948/C,A,I	11/9	40	70
Quad 2-Input NAND Gate (2K pullup resistor)	949/C,A	7	25	66
Quad Inverter (2K pullup resistor)	949/I	7	25	60
Pulse Triggered Binary	950/C,A,I	10/8	15	50
Monostable Multivibrator	951/C,A,I	10	40	30
Dual J-K Flip-Flop (Common clock & C <sub>D</sub> )	952/C,A	12/10	40	120
Dual J-K Flip-Flop (Separate clock & S <sub>D</sub> , no C <sub>D</sub> )	953/C,A	12/10	40	120
Dual J-K Flip-Flop (2K pullup resistor)	955/C,A	11/9	40	140
Dual J-K Flip-Flop (2K pullup resistor)	956/C,A	11/9	40	140
Quad 2-Input Buffer	957/C,A	25	35	170
Quad 2-Input NAND Power Gate	958/C,A	27	30	130
Expandable Dual 4-Input NAND Gate	961/C,A	7	25	33
Expandable Dual 3-2 Input NAND Gate	961/I	7	25	33
Triple 3-Input NAND Gate	962/C,A	8	30	33
Dual 2-Input NAND Gate plus Inverter	962/I	8	30	30
Triple 3-Input NAND Gate	963/C,A	7	25	50
Dual 2-Input NAND Gate plus Inverter	963/I	7	25	45

<b>Function</b>	<b>Type/Pkg</b>	<b>Loading Factor Each Output</b>	<b>Propagation Delay ns typ</b>	<b>Power Dissipation mW typ/pkg</b>
Dual 5-Input NAND Gate (6K pullup resistor)	1900/C,A	8	30	22
Quad 2-Input AND Gate (2K pullup resistor)	1907/C,A	7	30	85
Quad 2-Input Exclusive OR Gate	1912/C,A	8	40	120