



**MOTOROLA
INTEGRATED CIRCUITS**

900 Series
800 Series

This series of RTL integrated circuits is designed to exceed the old 700 and the old 800 series' electrical characteristics. This has been accomplished by combining the critical electrical parameters of both the 700 and 800 series into one standard series, the new 900/800.

MAXIMUM RATINGS

Rating	Value	Unit
Input Voltage - V_{in}	± 4	Vdc
Power Supply Voltage (Pulsed < 1 Second)	± 12	Vdc
Operating Temperature Range		$^{\circ}C$
900 Series	-55 to +125	$^{\circ}C$
800/9800 Series	0 to +75	$^{\circ}C$
Storage Temperature Range	-65 to +150	$^{\circ}C$

PACKAGING AVAILABLE

(See page 88):

H - 10-LEAD FLAT PACK C - 14-LEAD DUAL INLINE
 A - 14-LEAD FLAT PACK E - 16-LEAD DUAL INLINE
 G - 8-LEAD CAN I - 10-LEAD CAN

**FUNCTIONS AND
CHARACTERISTICS**

FUNCTION	TYPE/PKG		LOADING FACTOR EACH OUTPUT			PROPAGATION DELAY t_p ns typ
	0 to +75 $^{\circ}C$	-55 to +125 $^{\circ}C$	MRTL w/ mW MRTL	MRTL w/ MRTL	mW MRTL w/mW MRTL	
Buffer		900/G,H	80	25	—	20
Counter Adapter		901/G,H	16	5	—	22
R-S Flip-Flop		902/G,H	13	4	—	14
3-Input NOR Gate		903/G,H	16	5	—	12
Half Adder		904/G,H	16	5	—	14
Half-Shift Register		905/G,H	13	4	—	22
Half-Shift Register (w/o Inverter)		906/G,H	13	4	—	22
4-Input NOR Gate		907/G,H	16	5	—	12
Half Adder		908/G,H	—	—	4	60
2-Input Buffer		909/G,H	—	—	30	57
Dual 2-Input NOR Gate		910/G,H	—	—	4	27
4-Input OR/NOR Gate		911/G,H	—	—	4	60
Half Adder		912/G,H	—	—	4	66
Type D Flip-Flop		913/G,H	—	—	3	75
Dual 2-Input NOR Gate		914/G,H	16	5	—	12
Dual 3-Input NOR Gate		915/C,H,I	16	5	—	12
J K Flip-Flop		916/C,G,H	10	3	—	30
Quad 2-Input NOR Gate		917/C,A	—	—	4	27

RTL



RTL FUNCTIONS AND CHARACTERISTICS (continued)

FUNCTION	TYPE/PKG		LOADING FACTOR EACH OUTPUT			PROPAGATION DELAY t_p ns typ
	0 to +75° C	-55 to +125° C	MRTL w/ mW MRTL	MRTL w/ MRTL	mW MRTL w/mW MRTL	
Dual 3-Input NOR Gate		918/C,H,I	—	—	4	27
Dual 4-Input NOR Gate		919/C,A	—	—	4	27
J-K Flip-Flop		920/G,H	—	—	2	50
Dual 2-Input Gate Expander		921/G,H	—	—	—	27
J-K Flip-Flop		922/C,H,I	—	—	4	70
Quad 2-Input NOR Gate		924/C,A	16	5	—	12
Dual 4-Input NOR Gate		925/C,A	16	5	—	12
J-K Flip-Flop		926/C,H,I	16	5	—	35
Quad Inverter		927/H,I	16	5	—	12
5-Input NOR Gate		928/G,H	—	—	4	27
5-Input NOR Gate		929/G,H	16	5	—	12
Dual Exclusive OR/NOR Gate	864/C		—	—	4	—
Quad Latch	867/E		—	—	9	50
BCD-to-Decimal Decoder	870/E		—	—	7	36
Quad Exclusive OR Gate		971/C,A	16	5	—	12
J-K Flip-Flop		974/G,H	16	5	—	35
Dual Half Adder		975/C,A	16	5	—	20
Dual J-K Flip-Flop		976/C,A	—	—	—	50
Binary Up Counter	877/C		10	3	—	—
Dual Type D Flip-Flop		978/C,A	—	—	3	60
Type D Flip-Flop, 1 Expander, 2 Buffers	879/C		—	—	—	—
Decade Up Counter	880/C		10	3	—	—
Dual Buffer		981/G,H	—	—	30	57
J-K Flip-Flop		982/G,H	—	—	2	80
Dual Half-Shift Register		983/C,A	13	4	—	22
Dual Half-Shift Register (w/o Inverter)		984/C,A	13	4	—	22
Quad 2-Input Expander		985/C,A	—	—	—	12
Dual 4-Input Expander		986/C,A	—	—	—	12
1 J-K Flip-Flop, 1 Inverter, 2 Buffers	887/C		—	—	—	—
Dual 3-Input Buffer (Non-Inverting)		988/C,A	80	25	—	24
Hex Inverter		989/C,A	16	5	—	12

RTL FUNCTIONS AND CHARACTERISTICS (continued)

FUNCTION	TYPE/PKG		LOADING FACTOR EACH OUTPUT			PROPAGATION DELAY t_p ns typ
	0 to +75° C	-55 to +125° C	MRTL w/ mW MRTL	MRTL w/ MRTL	mW MRTL w/mW MRTL	
Dual J-K Flip-Flop		990/C,A	10	3	—	35
Dual J-K Flip-Flop		991/C,A	16	5	—	40
Triple 3-Input NOR Gate		992/C,A	16	5	—	12
Triple 3-Input NOR Gate		993/C,A	—	—	4	27
Serial-Parallel Shift Register	894/C		16	5	—	55
Dual Full Adder		996/C,A	16	5	—	60
Dual Full Subtractor		997/C,A	16	5	—	60
Dual 2-Input Buffer		998/C,A	—	—	30	57
Dual Buffer		999/C,H,I	80	25	—	15
Dual 4-Channel Data Selector	9801/E		16	5	—	25
Dual J-K Flip-Flop	9802/C		10	3	—	35
4-Bit Parallel Full Adder	9804/E		6	2	—	125
Dual 4-Channel Data Distributor	9807/E		16	5	—	25
Quad Schmitt Trigger	9809/C		16	5	—	30
Quad 2-Input AND Gate	9813/C		16	5	—	28
Quad 2-Input NAND Gate	9814/C		16	5	—	35
Quad 2-Input OR Gate	9815/C		16	5	—	40
Hex Inverter	9818/C		—	—	4	27
Hex Expander	9819/C		—	—	—	12
Hex Expander	9820/C		—	—	—	12
Quad 2-Input Expander	9821/C		—	—	—	27
Dual J-K Flip-Flop	9822/C		—	—	4	75
Quad 2-Input AND Gate	9823/C		—	—	4	50
Quad 2-Input NAND Gate	9824/C		—	—	4	50
Quad 2-Input OR Gate	9825/C		—	—	4	50

PACKAGING INFORMATION

Per MIL-M-38510 Package Case Outline

All of Lansdale's products come in one of the following configurations. On each of the product pages in the catalog, there is a package box. The letters in that box correspond to one of the letters below. This is a guide to how the product is available.

LETTER	DESIGNATION	DESCRIPTION
A	F-1	14-LEAD FP (1/4" X 1/4")
B	F-3	14-LEAD FP (3/16" X 1/4")
C *	D-1	14-LEAD DIP (1/4" X 3/4")
D *	F-2	14-LEAD FP (1/4" X 3/8")
E *	D-2	16-LEAD DIP (1/4" X 7/8")
F *	F-5	16-LEAD FP (1/4" X 3/8")
G	A-1	8-LEAD CAN
H *	F-4	10-LEAD FP (1/4" X 1/4")
I *	A-2	10-LEAD CAN
J *	D-3	24-LEAD DIP (1/2" X 1 1/4")
K *	F-6	24-LEAD FP (3/8" X 5/8")
L	D-9	24-LEAD DIP (1/4" X 1 1/4")
M	A-3	12-LEAD CAN
P	D-4	8-LEAD DIP (1/4" X 3/8")
Q	D-5	40-LEAD DIP (9/16" X 2 1/16")
R	D-8	20-LEAD DIP (1/4" X 1 1/16")
S	F-9	20-LEAD FP (1/4" X 1/2")
V	D-6	18-LEAD DIP (1/4" X 15/16")
W	D-7	22-LEAD DIP (3/8" X 1 1/8")

FP (flat pack)
DIP (dual inline)
CAN (metal can)

* LANSDALE STANDARD PACKAGES

CONTACT FACTORY FOR OTHER PACKAGE QUOTES