



6-Bit D Register Differential Data & Clock

Product Preview

ELECTRICALLY TESTED PER:
100E851

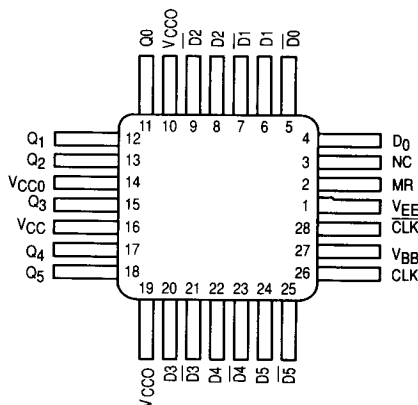
The 100E851 contains 6 D-type flip-flops with single-ended outputs and differential data inputs. The common clock input is also differential. The registers are triggered by a positive transition of the positive clock (Clk) input.

A High on the Master Reset (MR) input resets all Q outputs to Low. The V_{BB} output is intended for use as a reference voltage for single-ended reception of ECL signals to that device only. When used for this purpose, it is recommended that V_{BB} is decoupled to V_{CC} via a 0.01 μF capacitor.

- Differential Inputs: Data and Clock
- V_{BB} Outputs
- 1100 MHz Min. Toggle Frequency
- Asynchronous Master Reset
- Extended 100E V_{EE} Range of - 4.2 V to - 5.46 V
- 75 kΩ Input Pulldown Resistors

PIN NAME

Pin	Function
D ₀ - D ₅	+ Data Inputs
$\overline{D_0} - \overline{D_5}$	- Data Inputs
CLK	+ Clock Inputs
$\overline{CLK}$	- Clock Inputs
MR	Master Reset
V _{BB}	V _{BB} Output
Q ₀ - Q ₅	Data Outputs



Military 100E851

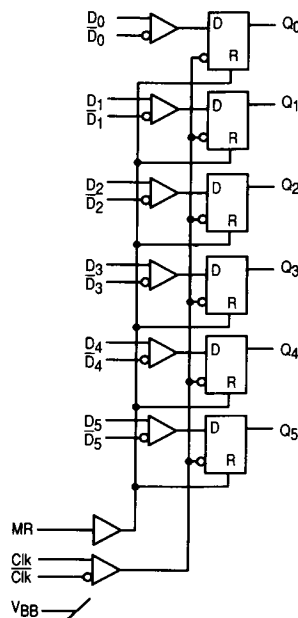


AVAILABLE AS

- 1) JAN: N/A
 - 2) SMD: N/A
 - 3) 883: Planned
- X = CASE OUTLINE AS FOLLOWS:**

**PACKAGE: NON-Compliant
QFP: X**

LOGIC DIAGRAM



This document contains information on a product under development. Motorola reserves the right to change or discontinue this product without notice.

100E851

100E Series DC CHARACTERISTICS: $V_{EE} = -4.2 \text{ V to } -5.46 \text{ V}$, $V_{CC} = V_{CCO} = \text{GND}$; $-55^{\circ}\text{C to } +125^{\circ}\text{C}$

Symbol	Parameter	Min	Max	Units	TEST CONDITION APPLIED:		
VOH	Output HIGH Voltage	-1025	-880	mV	VIN = VIH(max) or VIN = VIL(min)	Loading with 50Ω to -2.0 V	
VOL	Output LOW Voltage	-1810	-1620	mV			
VOHA	Output HIGH Voltage	-1035		mV	VIN = VIH(min) or VIN = VIL(max)	Loading with 50Ω to -2.0 V	
VOLA	Output LOW Voltage		-1610	mV			
VIH	Input HIGH Voltage	-1165	-880	mV	Guaranteed HIGH Signal for All Inputs		
VIL	Input LOW Voltage	-1810	-1475	mV	Guaranteed LOW Signal for All Inputs		
IIL	Input LOW Current	0.5		μA	VIN = VIL(min)		

DC CHARACTERISTICS: $V_{EE} = V_{EE}(\text{min})$ to $V_{EE}(\text{max})$, $V_{CC} = V_{CCO} = \text{GND}$

Symbol	Parameter	Limits						Units	TEST CONDITION APPLIED:
	Functional Parameters:	+ 25° C		+ 125° C		- 55° C			
		Min	Max	Min	Max	Min	Max		
V _{BB}	Output Reference Voltage	-1.38	-1.26	-1.38	-1.26	-1.38	-1.26	V	V _{IL} = Open, V _{IH} = Open, R _L = 50Ω to - 2.0 V.
I _{IH}	Input Current High		150		150		150	μA	V _{IL} = - 1.810 V, V _{IH} = - 0.880 V, R _L = 50Ω to - 2.0 V.
I _{EE}	Power Supply Current		101		116		101	mA	V _{EE} (MAX), V _{IL} = - 1.810 V, V _{IH} = - 0.880 V, R _L = 50Ω to - 2.0 V.
V _{CMR}	Common Mode Range	-2.0	-0.4	-2.0	-0.4	-2.0	-0.4	V	(Note 1)

1. V_{CMR} is referenced to the most positive side of the differential input signal. Normal operations obtained when the "HIGH" input is within the V_{CMR} range and the input swing is greater than V_{PPMIN} and $< 1.0 \text{ V}$.