

SANYO	NO.3029B	LB8902M
	3-Channel Clock Driver	

Overview

- The LB8902M is designed to drive a capacitive load at a high speed.
- Suited for horizontal clock drive of CCD image sensor

Functions and Features

- 3-channel inverter buffer amplifier
- Fast propagation time (10ns typ. for 100pF load)
- Low-voltage operation available (5V min.)
- Low quiescent current (10µA max.)

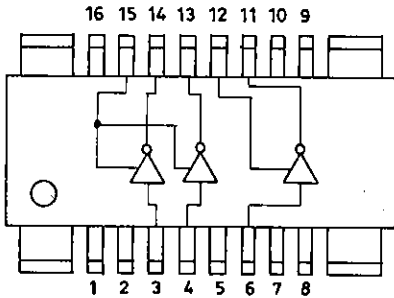
Absolute Maximum Ratings at Ta = 25°C

Maximum Supply Voltage	V _{CC} max	-0.3 to +12.0	unit
Input Supply Voltage	V _{IN}	-0.3 to +6.0	V
Maximum Output Current	I _{OUT}	150	mA
Allowable Power Dissipation	P _d max	900	mW
Operating Temperature	T _{opr}	-10 to +70	°C
Storage Temperature	T _{stg}	-40 to +125	°C

Allowable Operating Conditions at Ta = 25°C

Operating Voltage	5 to 11	unit
		V

Pin Assignment

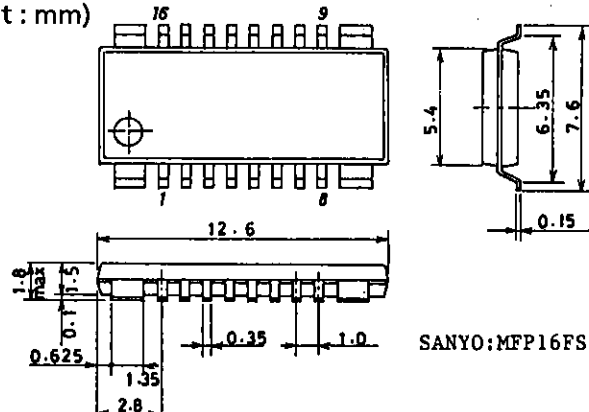


Pin No.	Function	Pin No.	Function
1	Frame GND	9	Frame GND
2	GND	10	N.C.
3	IN 1	11	OUT 3
4	IN 2	12	V _{CC} 2
5	GND	13	OUT 2
6	IN 3	14	OUT 1
7	N.C.	15	V _{CC} 1
8	Frame GND	16	Frame GND

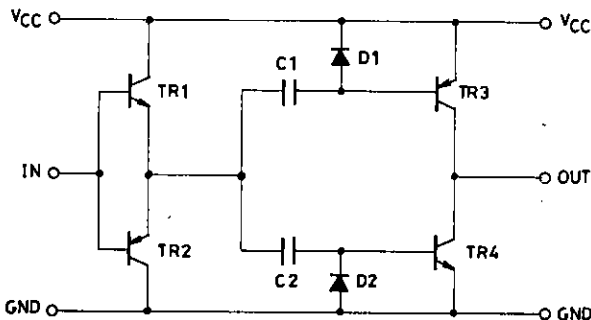
Note) Do not use the N.C. pin.

Package Dimensions 3097-M16FSIC

(unit : mm)



Equivalent Circuit Block Diagram



LB8902M

Electrical Characteristics (DC Characteristics) at $T_a = 25^\circ\text{C}, V_{CC1} = V_{CC2} = 11\text{V}$

			min	typ	max	unit
Leakage Current	Across V_{CC} and GND	$I_{Leak 1}$			10	μA
	Across IN and V_{CC}	$I_{Leak 2}$	$V_{IN} = 0\text{V}$		10	μA
	Across IN and GND	$I_{Leak 3}$	$V_{IN} = 6\text{V}$		10	μA
	Across OUT and V_{CC}	$I_{Leak 4}$	$V_{OUT} = 0\text{V}$		10	μA
	Across OUT and GND	$I_{Leak 5}$	$V_{OUT} = 11\text{V}$		10	μA

Switching Characteristics at $T_a = 25^\circ\text{C}, V_{CC1} = V_{CC2} = 9\text{V}, V_{in} = 5\text{V}_{p-p} (f = 14.3\text{MHz})$

			$t_r, t_f \leq 6\text{ns}$, load conditions: $R_L = 25\Omega, C_L = 100\text{pF}$	min	typ	max	unit
Propagation Time	$t_{PLH 1-3}$	See Fig.A.			10	15	ns
	$t_{PHL 1-3}$	See Fig.A.			8	15	ns
Transient Time	$t_r 1-3$	See Fig.A.			8	15	ns
	$t_f 1-3$	See Fig.A.			8	15	ns
Output Amplitude	V_{OP-p}	See Fig.A.		$V_{CC} - 0.8$		V_{CC}	Vp-p
Current Dissipation	I_{CC1}	See Fig.A.		32			mA
	I_{CC2}	See Fig.A.		32			mA
	I_{CC3}	See Fig.A.		32			mA

Test Circuit

Unit (resistance: Ω , capacitance: F)

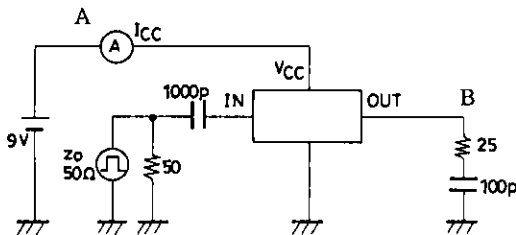
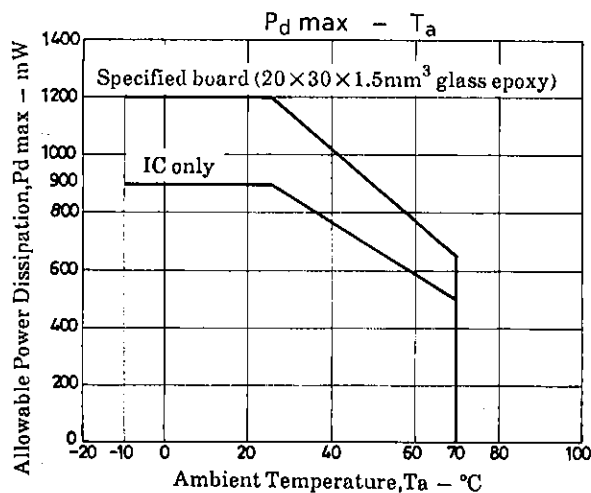
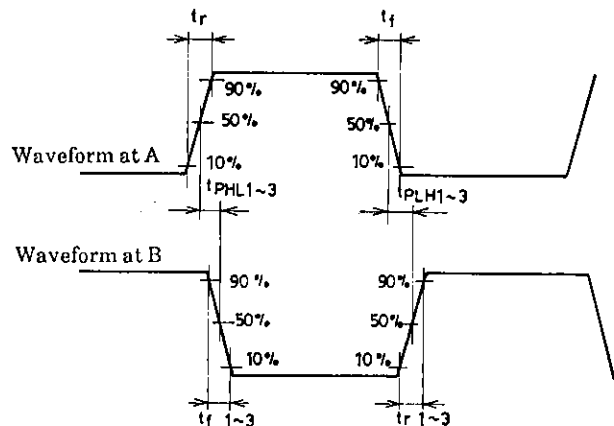


Fig.A Propagation Time, Transient Time



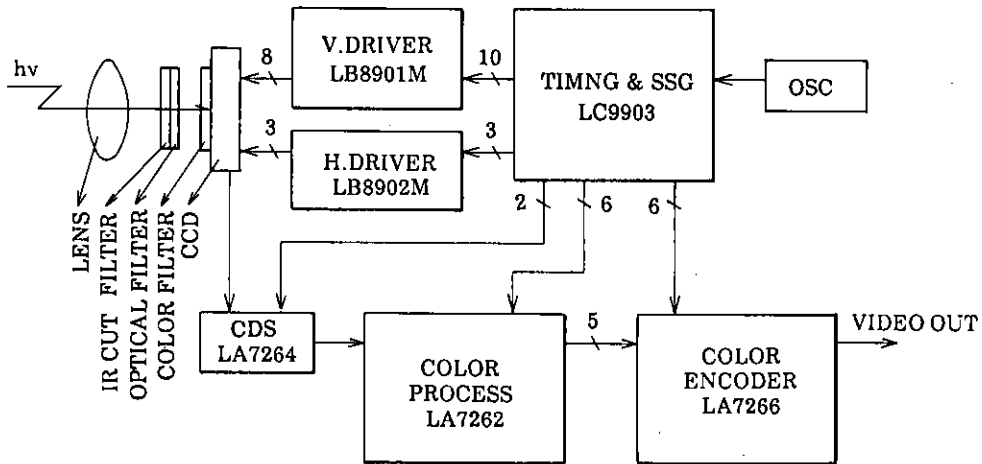
Proper Cares to be Taken in Designing a Printed Circuit Board

The LB8902M is designed to drive a load at a very high speed. When designing a printed circuit board, keep in mind the following points.

- 1) Make the pattern of the power supply, GND lines as large as possible.
- 2) Place the bypass capacitor as close to the IC as possible (less than 1cm).
- 3) Make the wiring of the input signal line as short as possible to minimize the effect of stray capacitance.
- 4) Make the wiring of the output signal line also as short as possible, because the inductance of a long signal line may affect the output waveforms adversely.

Take such necessary measures that a small resistance is inserted in series with a load.

Sample Application Circuit : Camera Block Diagram



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