

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		
V _{CC} max	-0.3 to +12.0	V
V_{IN}	-0.3 to +6.0	v
I_{OUT}	150	mΑ
Pd max	900	mW
Topr	-10 to +70	$^{\circ}\mathrm{C}$
Tstg	-40 to +125	$^{\circ}\mathrm{C}$
	V _{CC} max V _{IN} I _{OUT} Pd max Topr	$\begin{array}{ccc} V_{CC} \max & & -0.3 \text{ to } + 12.0 \\ V_{IN} & & -0.3 \text{ to } + 6.0 \\ I_{OUT} & & 150 \\ Pd \max & & 900 \\ Topr & & -10 \text{ to } + 70 \\ \end{array}$

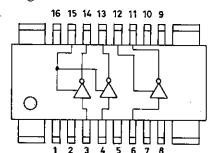
Allowable Operating Conditions at Ta = 25°C

Operating Voltage

unit

5 to 11

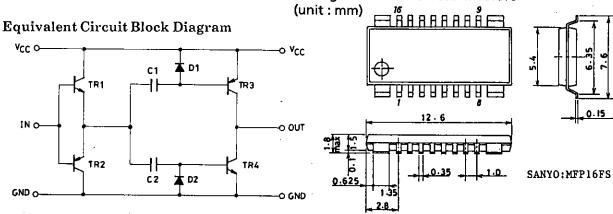
Pin Assignment



Pin No.	Function	Pin No.	Function	
1	Frame GND	9	Frame GNI	
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.

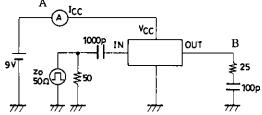
Package Dimensions 3097-M16FSIC

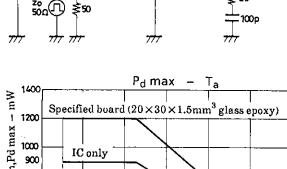


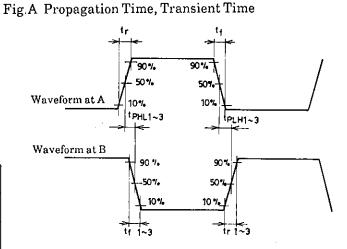
Electrical Character	ristics (DC Ch	aracteristic	s) at T	$a = 25$ °C, $V_{CC}1 = V_{C}$	$_{\rm C}2 = 11 \text{V}$			_	
					min	typ	max	unit	
Leakage Current	Across V _{CC} an	dGND ILe	ak 1				10	μA	
	Across IN and	V _{CC} I Le	ak 2	$V_{IN} = 0V$			10	μA	
	Across IN and	GND I Le	ak 3	$V_{IN} = 6V$			10	μA	
	Across OUT an	${ m id} { m V}_{ m CC}$ I Le	ak 4	$V_{OUT} = 0V$			10	μA	
	Across OUT an	nd GND I Le	ak 5	$V_{OUT} = 11V$			10	μA	
Switching Characteristics at Ta=25°C, V _{CC} 1=V _{CC} 2=9V, Vin=5Vp-p (f=14.3MHz)									
	$\mathbf{t_{r,t_{f}}}$	\leq 6ns,load c_0	nditio	ns: $R_L = 25\Omega, C_L = 1$	00pF min	typ	max	unit	
Propagation Time	t_{PLH} 1-3	See Fig.A.				10	15	ns	
	$ m t_{PHL}1 ext{-}3$	See Fig.A.				8	15	ns	
Transient Time	t _r 1-3	See Fig.A.				8	15	ns	
	$ m t_f$ 1-3	See Fig.A.				8	15	ns	
Output Amplitude	$V_{\mathbf{OP}^{-\mathbf{p}}}$	See Fig.A.			$V_{\rm CC} - 0.8$		V_{CC}	Vp-p	
Current Dissipation		See Fig.A.			00	32	00	mA	
	$I_{CC}2$	See Fig.A.				32		mA	
	I _{CC} 3	See Fig.A.				32		mA	

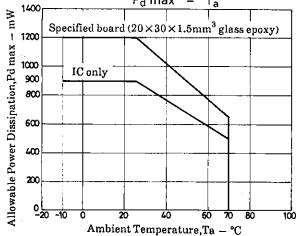


Unit (resistance: Ω , capacitance: F)









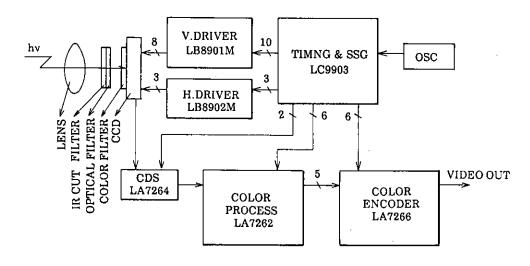
Proper Cares to be Taken in Designing a Printed Circuit Board

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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