

DATA SHEET

Part No.	AN13206A
Package Code No.	XLGA012-L-0303

SEMICONDUCTOR COMPANY
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

Contents

■ Overview	3
■ Features	3
■ Applications	3
■ Package	3
■ Type	3
■ Block Diagram	4
■ Test Circuit Diagram	5
■ Pin Descriptions	6
■ Absolute Maximum Ratings	7
■ Operating Supply Voltage Range	7

AN13206A

Video 75 Ω Driver IC built in Charge Pump Circuit

■ Overview

AN13206A is a 75 Ω driver IC for video which can operate with power supply of 2.85 V. It can be used for direct DC coupling by a charge pump circuit which can get a sufficient output dynamic range from power supply of 2.85 V

■ Features

1. Power Supply voltage : 2.85V, 75 Ω driver for 1-ch. Video signal.
2. Output capacitor is unnecessary by generating negative voltage from Charge Pump Circuit.
3. Supporting wide output dynamic range.
4. Adopting of small size non-leaded package.
Mounting area : -45% (than conventional products), including shrinking the area of peripheral parts.
5. Output pin can be a high impedance. Additionally two switches are built-in, the output pin for a video signal is usable with other ICs .
6. Peripheral resistor of 75 Ω is possible to use as terminating resistance. (output pin is shorted to GND by internal switch.)

■ Applications

- Video 75 Ω driver for the mobile devices. (For mobile phone, digital still camera etc.)

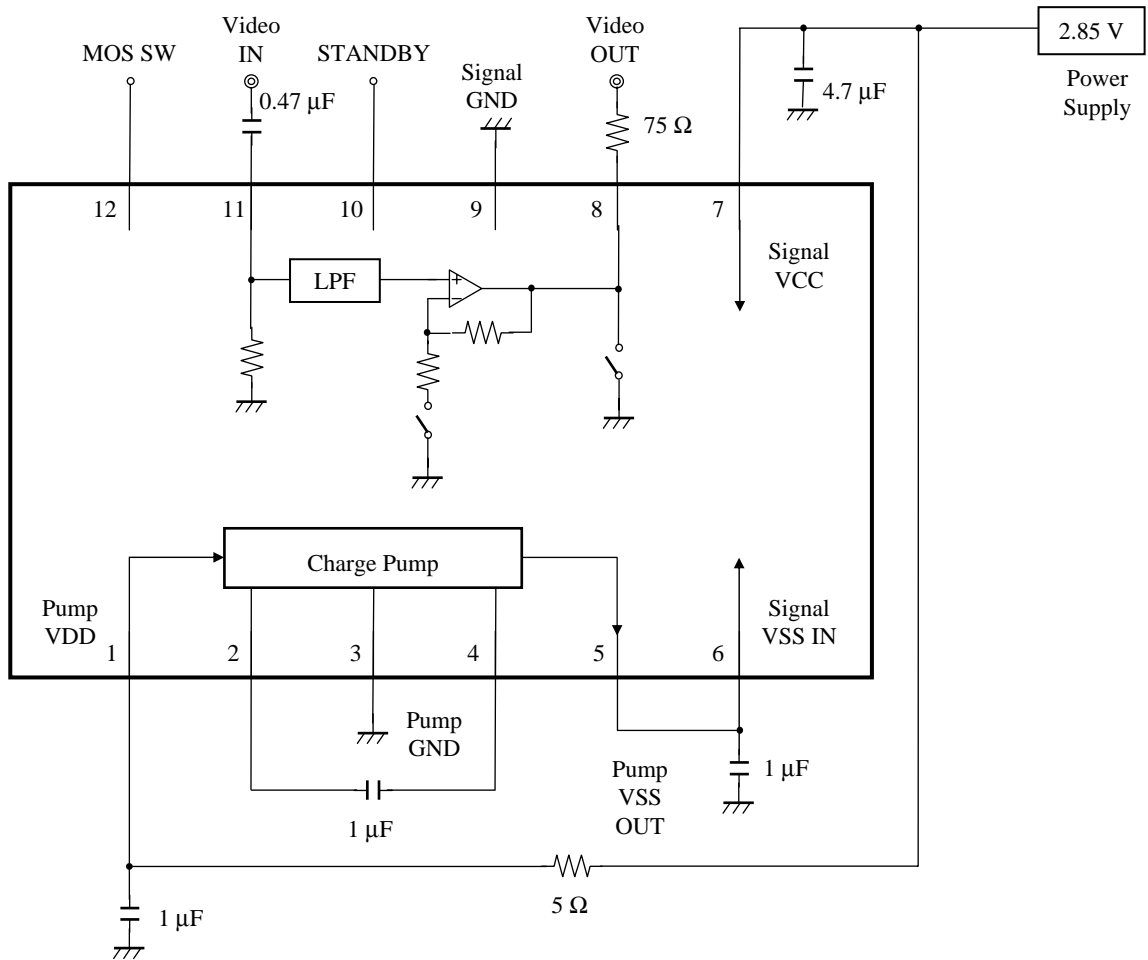
■ Package

- 12 pin Fine Pitch Land Grid Array Package (LGA Type)

■ Type

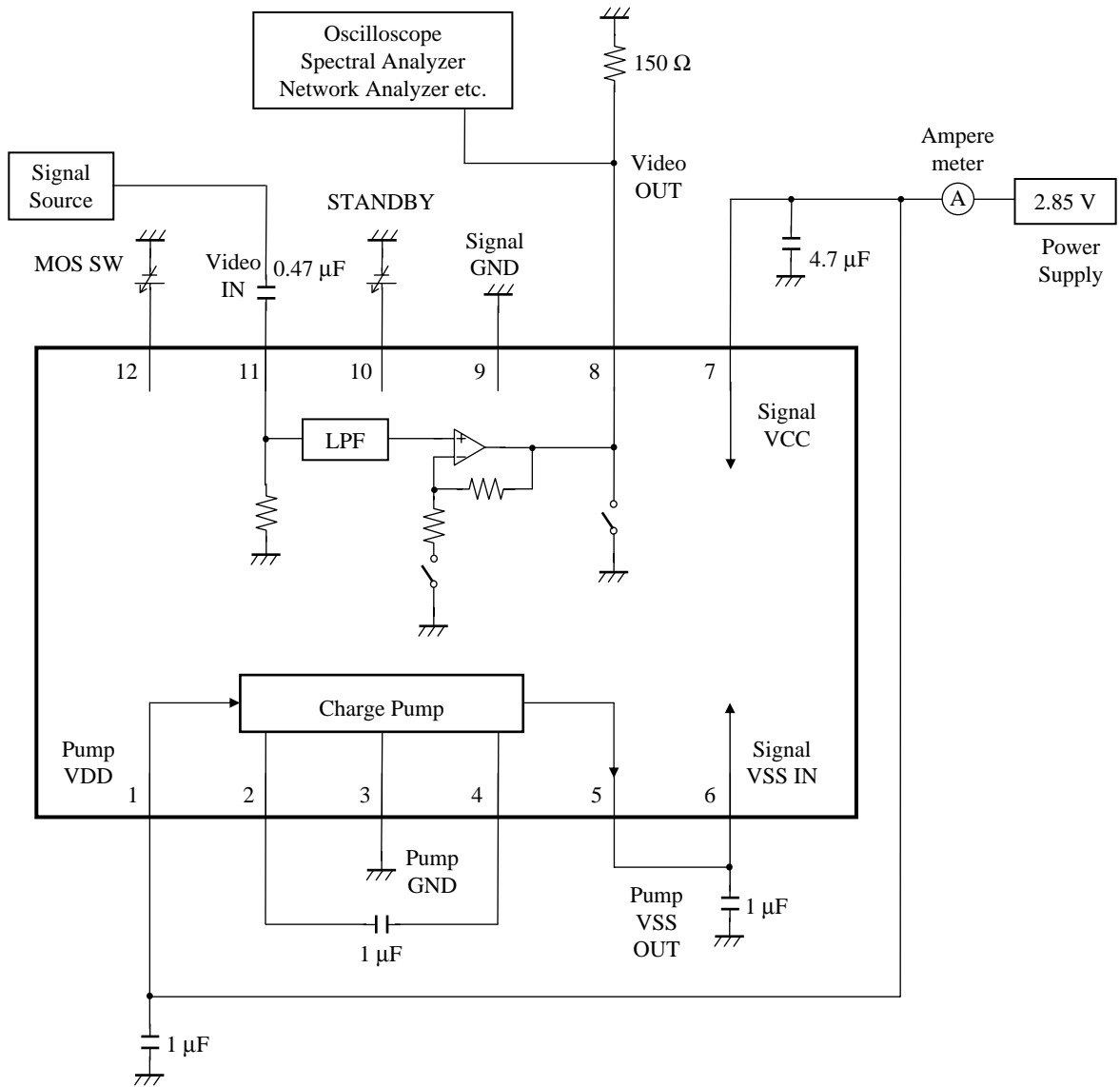
- Silicon monolithic Bi-CMOS IC

■ Block Diagram



Note) The Above circuit and peripheral part's constants shows an example of design, but it is not guaranteed as those for mass production sets.

■ Test Circuit Diagram



■ Pin Descriptions

Pin No.	Pin name	Type	Description
1	PUMP_VCC	Power supply	VCC for a charge pump circuit block
2	CP1	Output	Capacitor pin No.1 for generating negative voltage by the charge pump circuit.
3	PUMP_GND	Ground	GND for a charge pump circuit block.
4	CP2	Output	Capacitor pin No.2 for generating negative voltage by the charge pump circuit.
5	PUMPVSS	Output	The negative voltage-output pin created in the charge pump circuit.
6	VSS_SUB	Input	Negative voltage input pin (Substrate potential of IC).
7	VCC	Power supply	VCC for a video circuit block.
8	VIDEO_OUT	Output	Video output pin.
9	GND	Ground	GND for a video circuit block.
10	DRIVER_SW	Input	Standby On/Off control pin.
11	VIDEO_IN	Input	Video input pin.
12	SHORT SW	Input	Standby On/Off control pin.

■ Absolute Maximum Ratings

A No.	Parameter	Symbol	Rating	Unit	Note
1	Supply voltage	V_{CC}	3.3	V	*1
2	Supply current	I_{CC}	—	A	—
3	Power dissipation	P_D	51	mW	*2
4	Operating ambient temperature	T_{opr}	-20 to +70	°C	*3
5	Storage temperature	T_{stg}	-55 to +125	°C	*3

Note) *1 : The values under the condition not exceeding the above absolute maximum ratings and the power dissipation.

*2 : The power dissipation shown is the value at $T_a = 70^\circ\text{C}$ for the independent (unmounted) IC package without a heat sink.

*3 : Except for the power dissipation, operating ambient temperature, and storage temperature, all ratings are for $T_a = 25^\circ\text{C}$.

■ Operating Supply Voltage Range

Parameter	Symbol	Range	Unit	Note
Supply voltage range	V_{CC}	2.7 to 3.1	V	—

Note) * : The values under the condition not exceeding the above absolute maximum ratings and the power dissipation.

Request for your special attention and precautions in using the technical information and semiconductors described in this book

- (1) If any of the products or technical information described in this book is to be exported or provided to non-residents, the laws and regulations of the exporting country, especially, those with regard to security export control, must be observed.
- (2) The technical information described in this book is intended only to show the main characteristics and application circuit examples of the products, and no license is granted under any intellectual property right or other right owned by our company or any other company. Therefore, no responsibility is assumed by our company as to the infringement upon any such right owned by any other company which may arise as a result of the use of technical information described in this book.
- (3) The products described in this book are intended to be used for standard applications or general electronic equipment (such as office equipment, communications equipment, measuring instruments and household appliances).
Consult our sales staff in advance for information on the following applications:
 - Special applications (such as for airplanes, aerospace, automobiles, traffic control equipment, combustion equipment, life support systems and safety devices) in which exceptional quality and reliability are required, or if the failure or malfunction of the products may directly jeopardize life or harm the human body.
 - Any applications other than the standard applications intended.
- (4) The products and product specifications described in this book are subject to change without notice for modification and/or improvement. At the final stage of your design, purchasing, or use of the products, therefore, ask for the most up-to-date Product Standards in advance to make sure that the latest specifications satisfy your requirements.
- (5) When designing your equipment, comply with the range of absolute maximum rating and the guaranteed operating conditions (operating power supply voltage and operating environment etc.). Especially, please be careful not to exceed the range of absolute maximum rating on the transient state, such as power-on, power-off and mode-switching. Otherwise, we will not be liable for any defect which may arise later in your equipment.
 - Even when the products are used within the guaranteed values, take into the consideration of incidence of break down and failure mode, possible to occur to semiconductor products. Measures on the systems such as redundant design, arresting the spread of fire or preventing glitch are recommended in order to prevent physical injury, fire, social damages, for example, by using the products.
- (6) Comply with the instructions for use in order to prevent breakdown and characteristics change due to external factors (ESD, EOS, thermal stress and mechanical stress) at the time of handling, mounting or at customer's process. When using products for which damp-proof packing is required, satisfy the conditions, such as shelf life and the elapsed time since first opening the packages.
- (7) This book may be not reprinted or reproduced whether wholly or partially, without the prior written permission of Matsushita Electric Industrial Co., Ltd. Industrial Co., Ltd.