# DATA SHEET

Part No.	MN82832
Package Code No.	LQFP176-P-2424B

SEMICONDUCTOR COMPANY MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.

MN82832 Panasonic

# MN82832

# 3-Dimension Y/C Separation LSI

#### Overview

MN82832 is a system LSI which incorporates processing necessary for high-quality televisions in a one chipconfiguration.

High-efficiency 3-dimensions Y/C separation and color demodulation corresponding to an NTSC/PAL system, plus various functions of the digital YUV output are built in. It is most suitable as a television use LSI providing high-quality processing and multi-processing.

#### Features

• Input (A/D input Y: 10-bit, C/U/V: 8-bit)

Composite video signal

YC signal

YUV signal

• Analog Output (D/A output Y: 10-bit, C/U/V: 8-bit)

YC signal

YUV signal

• Digital Output (Y: 10-bit, C/U/V: 8-bit)

YC signal

YUV signal (4:2:2 rate or 4:2:0 rate)

- Main functions
  - · 3 dimension Y/C separation with full 10-bit operation (16M-bit or 64M-bit SDRAM) (Non-standard: 3 frame average type YNR, 5 dB improvement of S/N ratio)
  - · Clamp control(Clamp current source included)
  - · Color demodulation (NTSC/PAL-BGHI, M, N)
  - · Sync separation
  - · ID -1 detection
  - · DD conversion (burst lock clock ⇒ line lock clock)
  - · Horizontal/vertical aperture correction
  - · 10-bit A/D converter (1-ch.)
  - · 8-bit A/D converter (1-ch.)
  - · 10-bit D/A converter (1-ch.)
  - · 8-bit D/A converter (2-ch.)
  - · IIC bus control

## Specifications

· Clock frequency 4 fsc (first half processing part)

4 (8) fsc or 13.5 (27) MHz (latter half processing part)

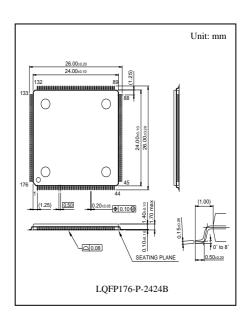
16 fsc (SDRAM-I/F part)

• Supply voltage  $3.3 \text{ V} \pm 0.165 \text{ V}$ 

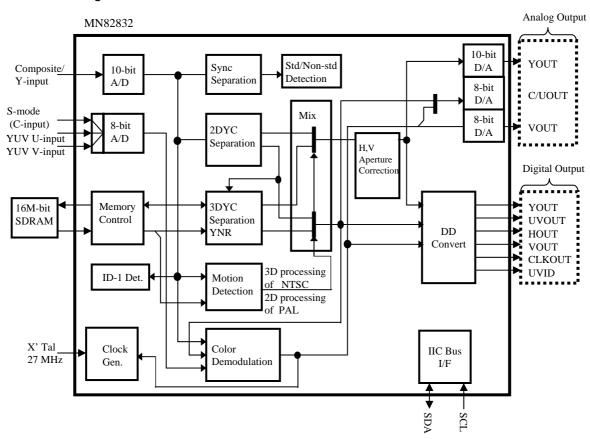
· Package 176-pin LQFP (□ 24mm, 0.5mm pitch)

### Applications

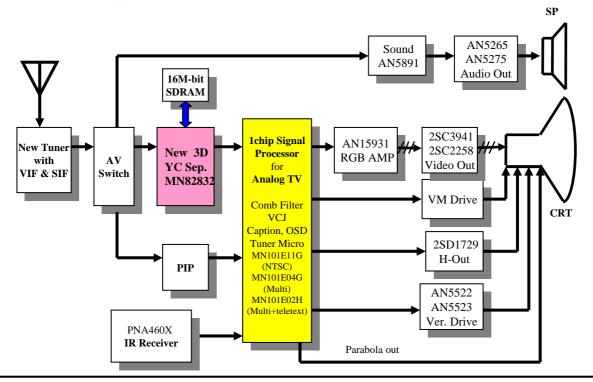
CRT Televisions, LCD Televisions, PDP Televisions, TV Capture Cards, Monitors with Built-in TV Tuner



## ■ Block Diagram



Application System of MN82832 (Middle Class with PIP)



SDB00105AEM 3

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

- (1) An export permit needs to be obtained from the competent authorities of the Japanese Government if any of the products or technical information described in this material and controlled under the "Foreign Exchange and Foreign Trade Law" is to be exported or taken out of Japan.
- (2) The technical information described in this material is limited to showing representative characteristics and applied circuits examples of the products. It neither warrants non-infringement of intellectual property right or any other rights owned by our company or a third party, nor grants any license.
- (3) We are not liable for the infringement of rights owned by a third party arising out of the use of the technical information as described in this material.
- (4) The products described in this material 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.

physical injury, fire, social damages, for example, by using the products.

- (5) The products and product specifications described in this material 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.
- (6) When designing your equipment, comply with the guaranteed values, in particular those of maximum rating, the range of operating power supply voltage, and heat radiation characteristics. 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
- (7) When using products for which damp-proof packing is required, observe the conditions (including shelf life and amount of time let standing of unsealed items) agreed upon when specification sheets are individually exchanged.
- (8) This material may be not reprinted or reproduced whether wholly or partially, without the prior written permission of Matsushita Electric Industrial Co., Ltd.