

### High-performance mega-pixel series for digital still cameras

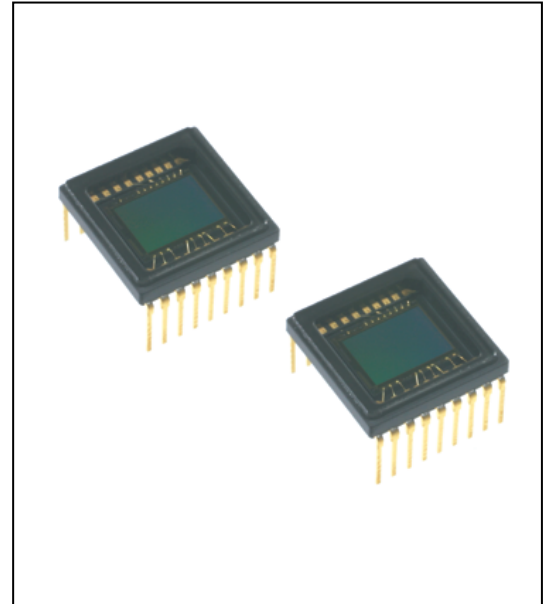
## CCD Area Image Sensor MN39482PJ

#### ■ Overview

MN39482PJ is a 1/2.5 type CCD image sensor having a square picture element array. A total pixel count of 4.24 mega-pixels allows these sensors to deliver stable high-resolution images, proving ideal for improving digital still camera picture quality.

#### ■ Feature

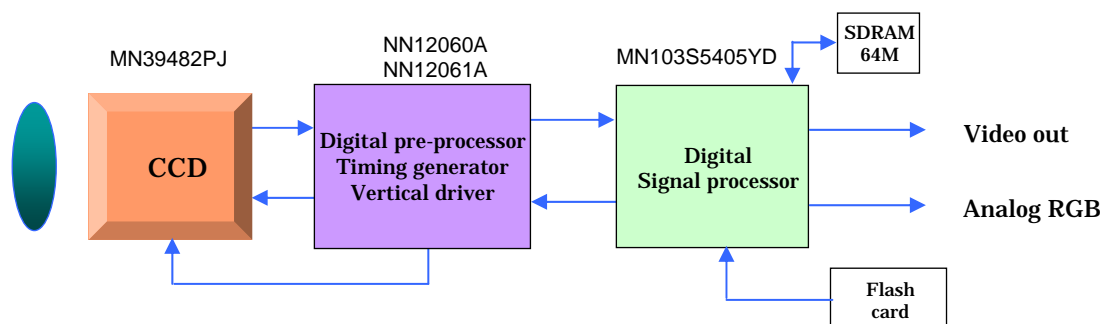
- High sensitivity
- Low smear
- low noise amp
- Horizontal CCD at 3.3V for low power consumption
- Highly reliable packaging



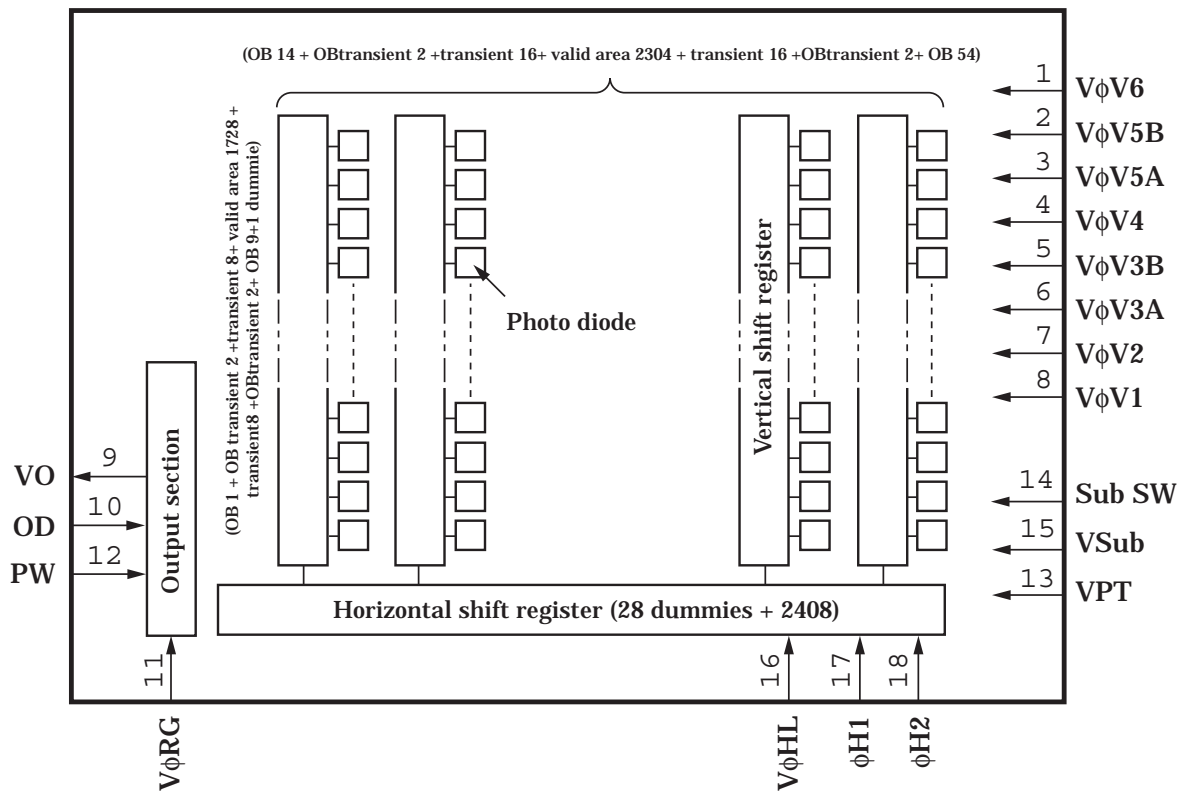
#### ■ Applications

Digital still cameras

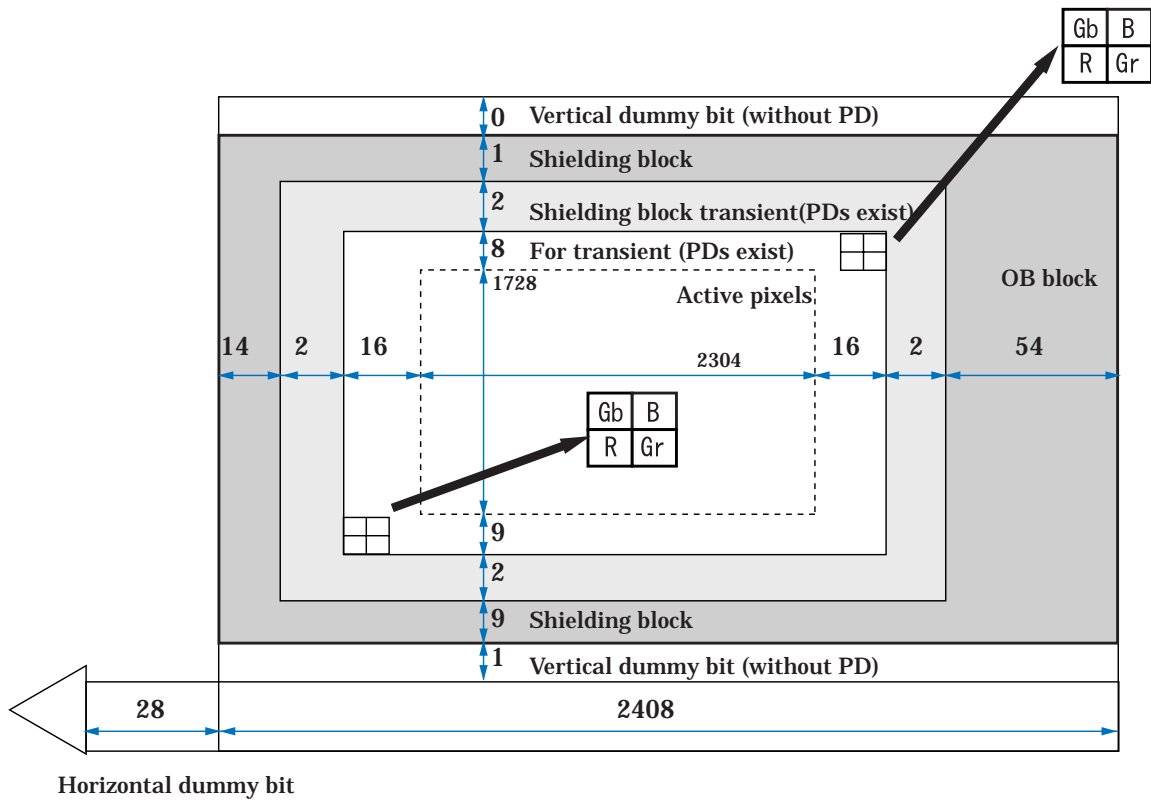
#### ■ System Block Diagram



## ■ Block Diagram



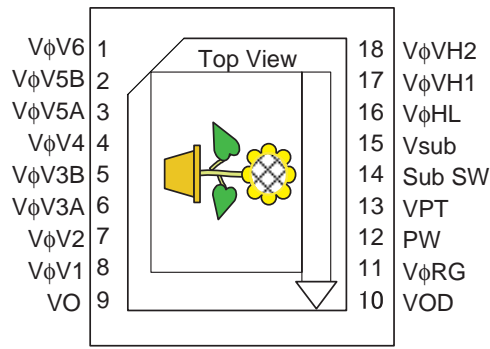
## ■ Element Construction



## ■ Pin Description

Pin No.	Symbol	Pin Description	Pin No.	Symbol	Pin Description
1	V $\phi$ V6	Vertical shift register clock pulse 6	10	VOD	Output drain
2	V $\phi$ V5B	Vertical shift register clock pulse 5B	11	V $\phi$ RG	Reset pulse
3	V $\phi$ V5A	Vertical shift register clock pulse 5A	12	PW	GND
4	V $\phi$ V4	Vertical shift register clock pulse 4	13	VPT	P-Well
5	V $\phi$ V3B	Vertical shift register clock pulse 3B	14	SubSW	Substrate control
6	V $\phi$ V3A	Vertical shift register clock pulse 3A	15	VSub	Substrate
7	V $\phi$ V2	Vertical shift register clock pulse 2	16	V $\phi$ HL	Horizontal shift register clock pulse
8	V $\phi$ V1	Vertical shift register clock pulse 1	17	V $\phi$ H1	Horizontal shift register clock pulse 1
9	VO	CCD output	18	V $\phi$ H2	Horizontal shift register clock pulse 2

## ■ Pin Arrays



## ■ Device Parameter

Parameter	Value	Unit
Total pixel number	2,408(H) $\times$ 1,758(V) = 4,233,264	pixel
Effective pixel number (Transient exist)	2,336(H) $\times$ 1,744(V) = 4,073,984	pixel
Active pixel number	2,304(H) $\times$ 1,728(V) = 3,981,312	pixel
Pixel dimension	2.5 $\times$ 2.5	$\mu\text{m}^2$
Image sensing block dimension	5.7600(H) $\times$ 4.3200(V)	mm <sup>2</sup>

## ■ Optical Characteristics

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Saturation output	Vsat	–	–	600	–	mV
Sensitivity	SoG	–	–	200	–	mV
Smear	Sm	–	–	-86	–	dB

Matsushita tester value