

High-performance mega-pixel series for digital still cameras

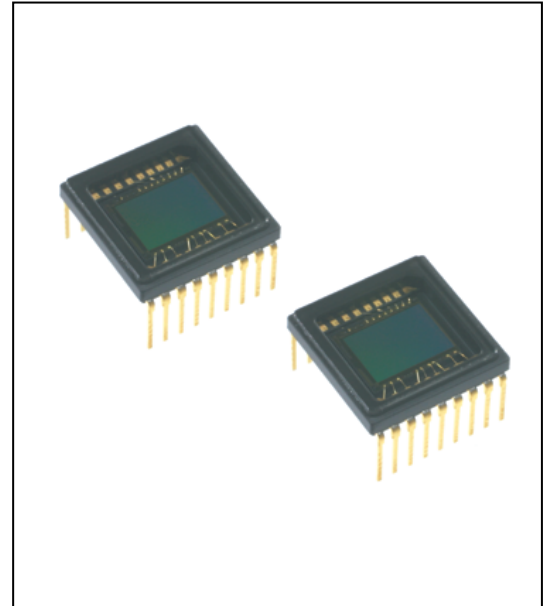
CCD Area Image Sensor MN39480PJ

■ Overview

MN39480PJ is a 1/2.72 type CCD image sensor having a square picture element array. A total pixel count of 3.34 mega-pixels allows these sensors to deliver stable high-resolution images, proving ideal for improving digital still camera picture quality.

■ Feature

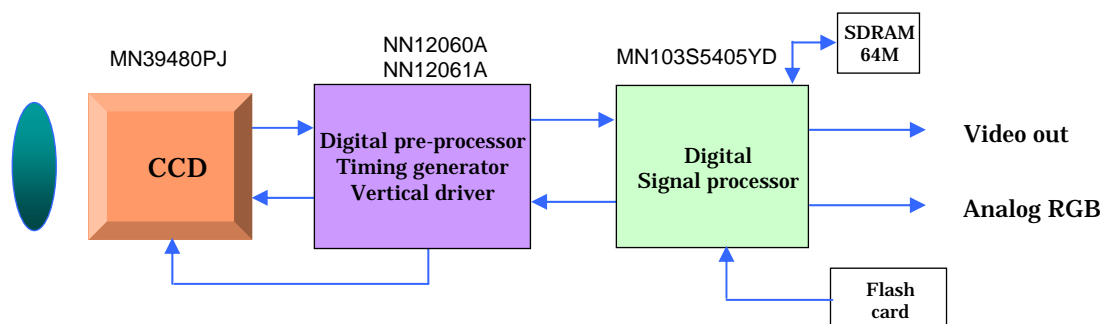
- High sensitivity
- Low smear
- low noise amp
- Horizontal CCD at 3.3V for low power consumption
- Highly reliable packaging



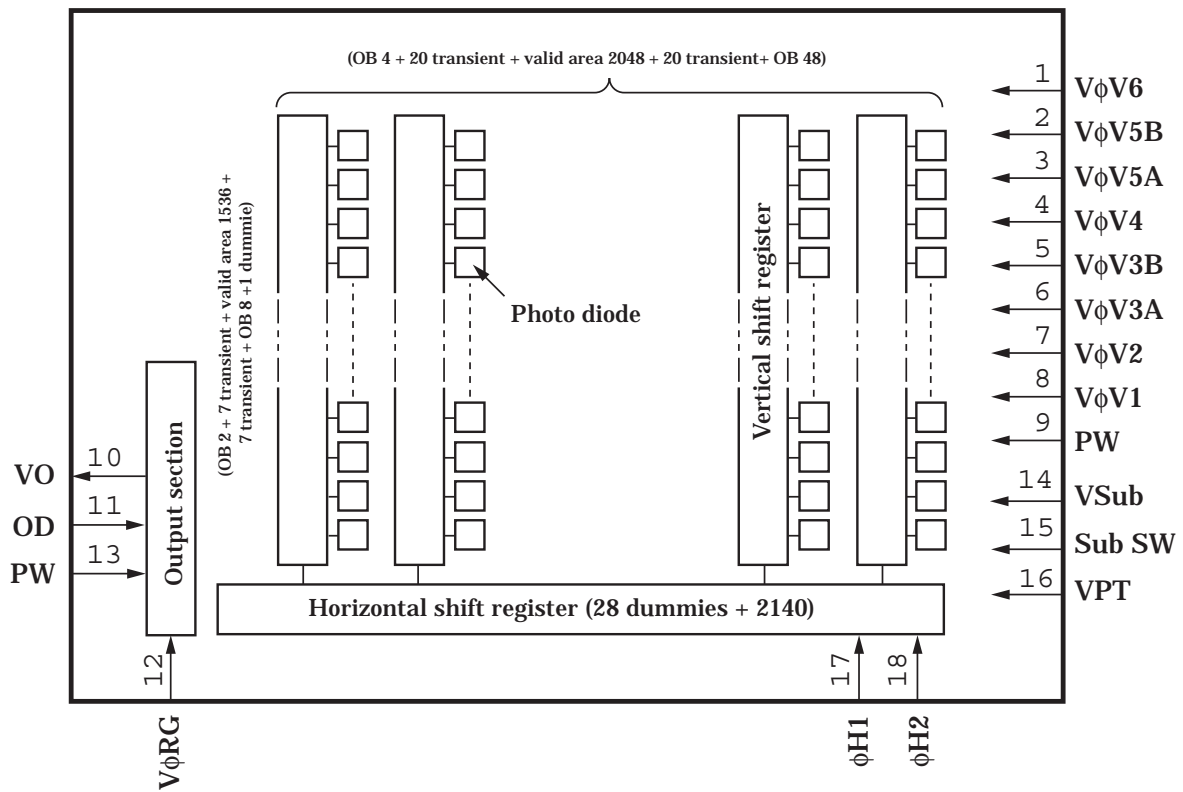
■ Applications

Digital still cameras

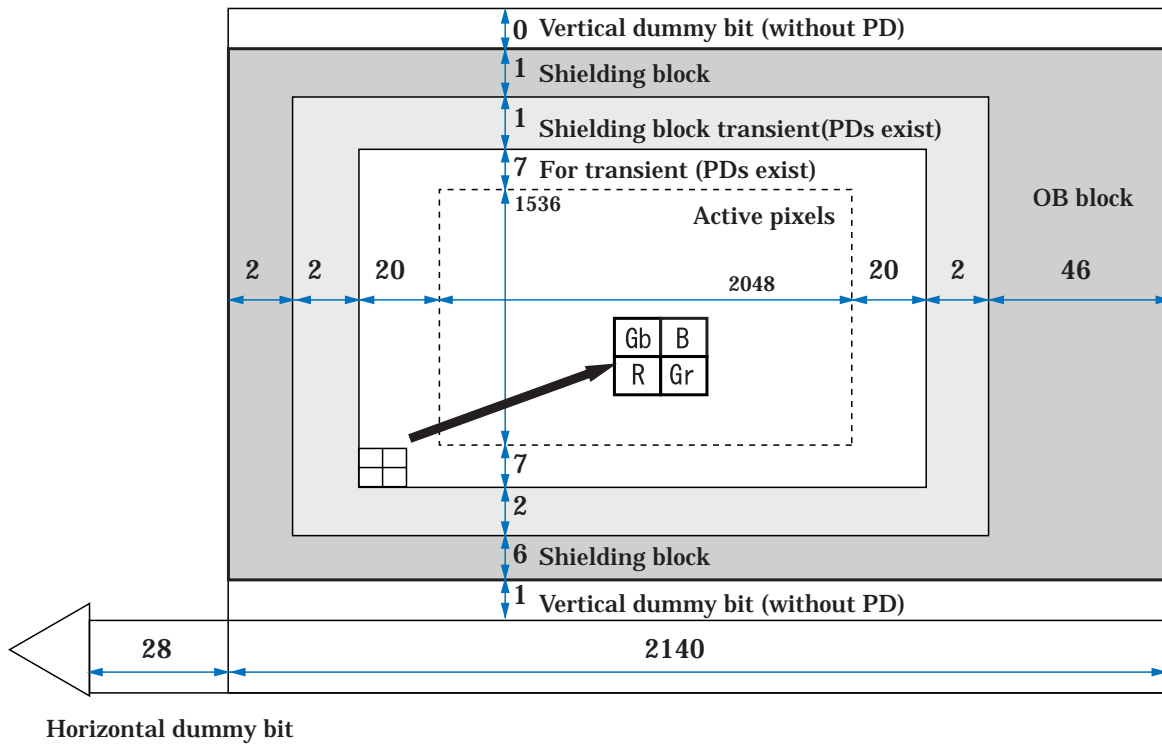
■ System Block Diagram



■ Block Diagram



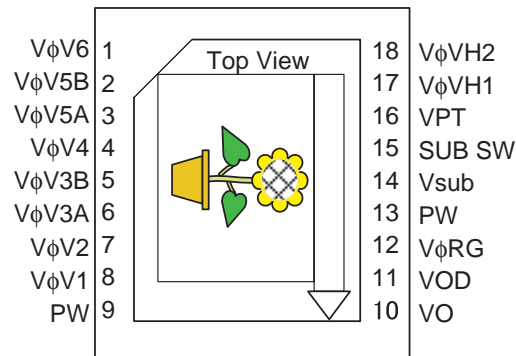
■ Element Construction



■ Pin Description

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

■ Pin Arrays



■ Device Parameter

Parameter	Value	Unit
Total pixel number	2,140(H) × 1,560(V) = 3,338,400	pixel
Effective pixel number (Transient exist)	2,088(H) × 1,550(V) = 3,236,400	pixel
Active pixel number	2,048(H) × 1,536(V) = 3,145,728	pixel
Pixel dimension	2.575 × 2.575	μm ²
Image sensing block dimension	5.2736(H) × 3.9552(V)	mm ²

■ Optical Characteristics

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Saturation output	Vsat	–	–	600	–	mV
Sensitivity	SoG	–	–	210	–	mV
Smear	Sm	–	–	-86	–	dB

Matsushita tester value