



NCM12-FA-127 is a color module with built-in ISP that complies with Quad VGA pixels.

It has 1280 horizontal and 960 vertical pixels and via 1/3.8" optical format.

The camera is equipped with a high-performance image processing engine, and its control software is coded in ROM,

The compact size is achieved by ROM-coding the control software.

## 1.Features

- MIPI CSI-2 Interface
- HDR
- Wide-angle Lens
- I2C

## 2.Specification

● Image Sensor	1/3.8-inch CMOS color sensor
● Shutter Type	Rolling shutter
● Dimension	16 × 16 [mm] ※1
● Effective Pixels	1280(H) × 960(V) ※2
● Pixel Size	2.9μm(H) × 2.9μm(V)
● Output Interface	MIPI CSI-2 serial output (2 lane)
● Output Signal Format	YCbCr422
● Frame rate (Max.)	30fps
● Function	Auto Exposure Control, Auto White Balance, Auto Gain Control, HDR, Image Inversion (up/down, left/right), Flicker correction, etc.
● Angle of View (Typ.)	(H)127°/(V)104°/(D)147°
● Optical Filter	IRCF
● F Number	F2.1
● Connection Type	FPC
● Power Consumption (Typ.)	230 [mW]

※1 : FPC part is not included

## 3. Recommended Operating Conditions

● Analog Power Supply (AVDD)	2.9 ± 0.15	[V]
● Digital Power supply (DVDD)	1.1 ± 0.1	[V]
● I/O Power supply (HVDD)	1.8 ± 0.1	[V]
● Operating Temperature	-30 ~ +80	[°C] ※3
● Storage Temperature	-40 ~ +85	[°C] ※3

※3 : No condensation

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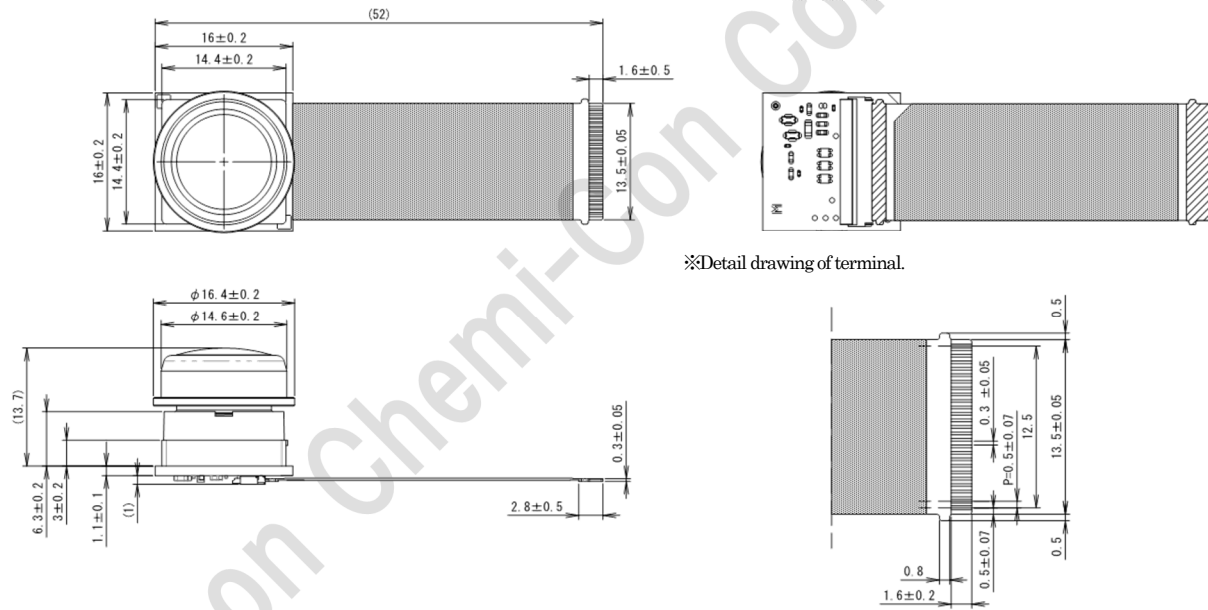
### 4. Terminal Description



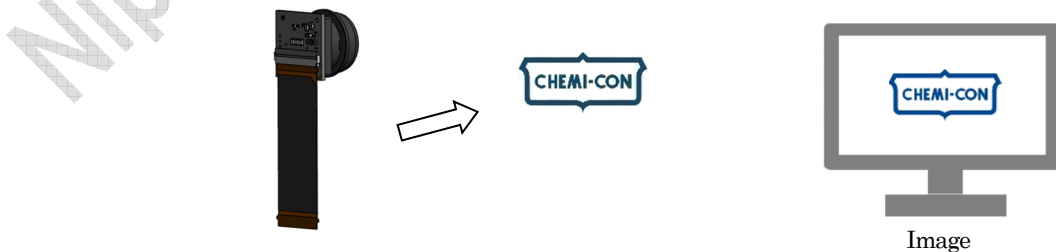
No	Symbol	I/O	Terminal Description	No.	Symbol	I/O	Terminal Description
1	AGND	-	Analog ground	14	MIPI_B_N	O	Digital data output (Lane2_N)
2	AVDD	-	Analog power supply	15	MIPI_B_P	O	Digital data output (Lane2_P)
3	AVDD	-	Analog power supply	16	DGND	-	Digital ground
4	DGND	-	Digital ground	17	MIPI_CLK_N	O	Digital clock output (Clock_N)
5	DVDD	-	Digital power supply	18	MIPI_CLK_P	O	Digital clock output (Clock_P)
6	DVDD	-	Digital power supply	19	DGND	-	Digital ground
7	HVDD	-	I/O power supply	20	MIPI_A_N	O	Digital data output (Lane1_N)
8	DGND	-	Digital ground	21	MIPI_A_P	O	Digital data output (Lane1_P)
9	DGND	-	Digital ground	22	DGND	-	Digital ground
10	MCLK	I	System clock	23	SDA	I/O	Serial bus data
11	DGND	-	Digital ground	24	DGND	-	Digital ground
12	RESET	I	System reset	25	SCL	I	Serial bus clock
13	DGND	-	Digital ground	26	DGND	-	Digital ground

### 5. External Dimensions

[Unit : mm]



### 6. Image Capture Polarity



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