NCM03-DV is a color module with built-in ISP that complies with VGA pixels. It has 640 horizontal and 480 vertical pixels and via 1/4" optical format. Features included low power consumption, on-chip primary colors color filter, and small size by adjusting signal processing.

1.Features

- Small all-in package
- I2C
- Low Power consumption

2.Specification

- Image Sensor　　　　　　　1/4-inch CMOS color sensor
- Shutter Type　　　　　　　Rolling shutter
- Dimension　　　　　　　　8.4 × 11.8 [mm] ※1
- Effective Pixels　　　　　640(H) × 480(V)
- Pixel Size　　　　　　　　5.6μm(H) × 5.6μm(V)
- Output Interface　　　　　Digital 8bit parallel
- Output Signal Format　　　YUV422, RGB565, RGB444
- Frame rate (Max.)　　　　30fps
- Function　　　　　　　　Auto Exposure Control, Auto White Balance, Auto Gain Control, Image Inversion (up/down, left/right), Flicker correction, etc.
- Angle of View (Typ.)　　　(H)55°/(V)43°/(D)66°:640(H)x480(V)
- Optical filter　　　　　　IRCF
- F Number　　　　　　　　F2.8
- Connection Type　　　　　FPC
- Power Consumption (Typ.)　130 [mW]
  ※1 : FPC/FFC part is not included

3. Recommended Operating Conditions

- Analog Power Supply　　　3.3 ± 0.33　　　[V]
- I/O Supply (HVDD)　　　　3.3 ± 0.33　　　[V]　※2
- Operating Temperature　　-20 ～ +60　　　[℃] ※3
- Storage Temperature　　　-30 ～ +70　　　[℃] ※3
  ※2 : I/O and digital power supplies are common.
  ※3 : No condensation
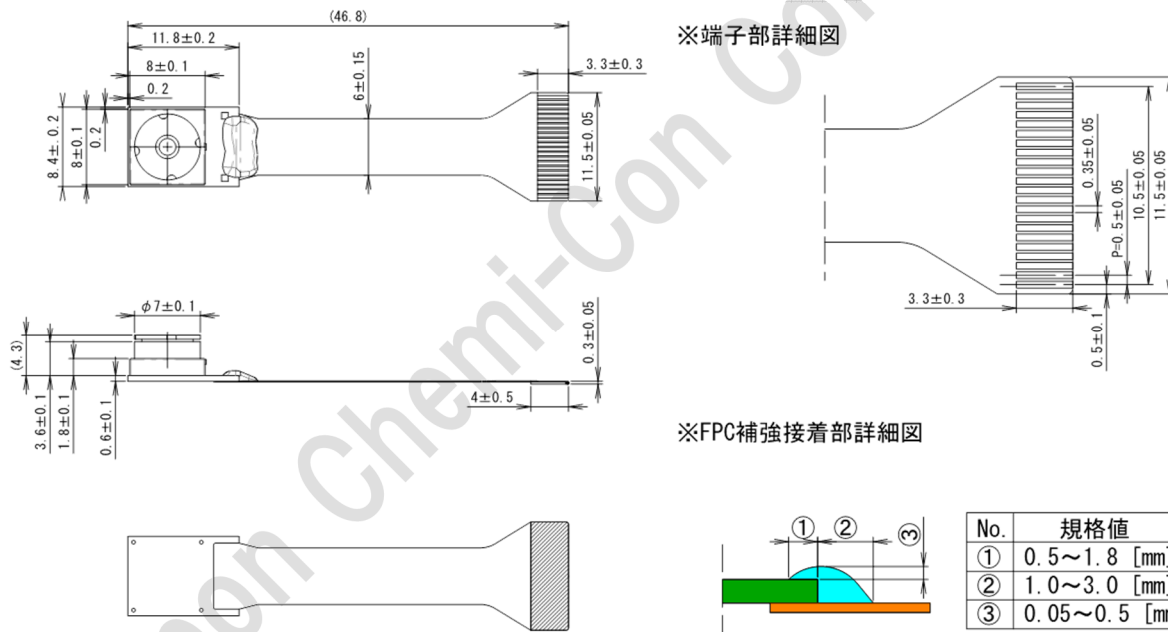
4. Terminal Description

1pin

No	Symbol	I/O	Terminal Description	No.	Symbol	I/O	Terminal Description
1	N.C.	-	Not connected	12	DATA6	O	Digital data output (Data6)
2	DGND	-	Digital ground	13	DATA5	O	Digital data output (Data5)
3	PCLK	O	Data clock	14	DATA4	O	Digital data output (Data4)
4	DGND	-	Digital ground	15	DATA3	O	Digital data output (Data3)
5	HSYNC	O	Horizontal synchronous signal	16	DATA2	O	Digital data output (Data2)
6	VSYNC	O	Vertical synchronous signal	17	DATA1	O	Digital data output (Data1)
7	HVDD	-	I/O power supply (common for digital power supply)	18	DATA0	O	Digital data output (Data0)
8	SDA	I/O	I2C Serial data	19	STDBY	I	Standby mode
9	SCL	I	I2C Serial Clock	20	MCLK	I	System clock
10	RESET	I	System reset	21	AGND	-	Analog ground
11	DATA7	O	Digital data output (Data7)	22	AVDD	-	Analog power supply

5. External Dimensions

[Unit: mm]

※端子部詳細図

※FPC補強接着部詳細図

No.	規格値
①	0.5～1.8 [mm]
②	1.0～3.0 [mm]
③	0.05～0.5 [mm]

※端子部群詳細図：Detail drawing of terminal
※FPC 補強接着部詳細図：Detail drawing of FPC reinforcement adhesive part
規格値：Standard Value

6. Image Capture Polarity

Image