

USB3 Machine Vision Camera

BU505MNG



See Beyond Visible Light.

NIR-Enhanced CMOS Sensor



- High NIR Sensitivity
- Inspection Beyond Visible Light
- A New Choice for NIR Imaging
- Compact and Cost-Effective
- Ideal for Internal Structure, Foreign Object and Quality Inspection

* USB3 Vision is a trademark or registered trademark of A3 (Association for Advancing Automation) in each country.

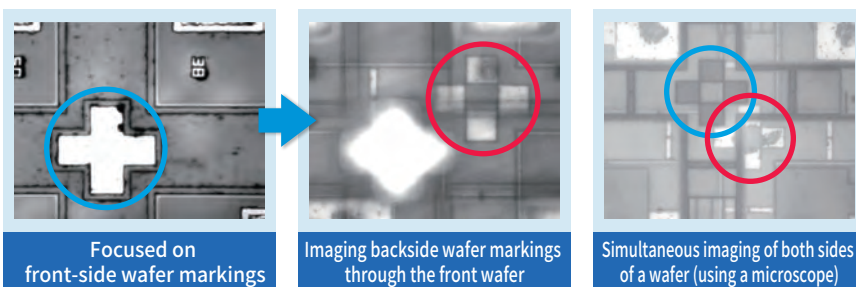
Toshiba Teli Corporation

<https://www.toshiba-teli.co.jp/en/>

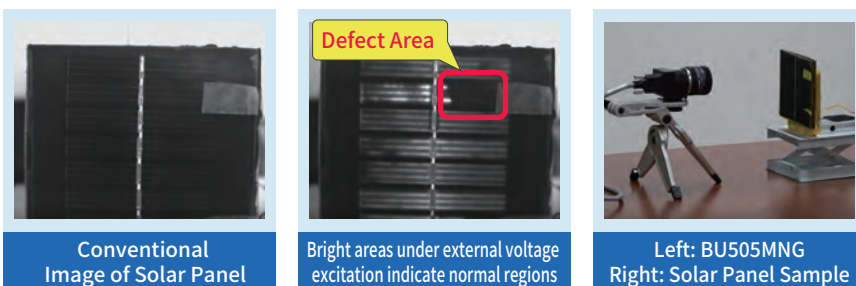


Sample Images

Example of imaging two stacked silicon wafers



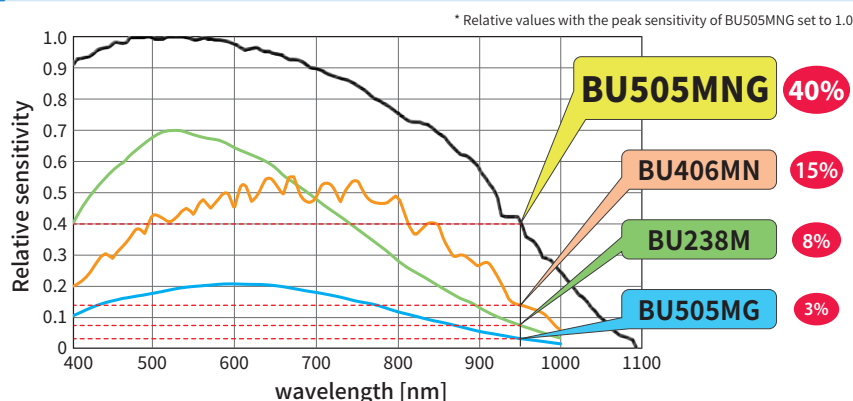
Example of defect inspection by verifying the excitation state of a solar panel



Additional imaging examples using NIR light



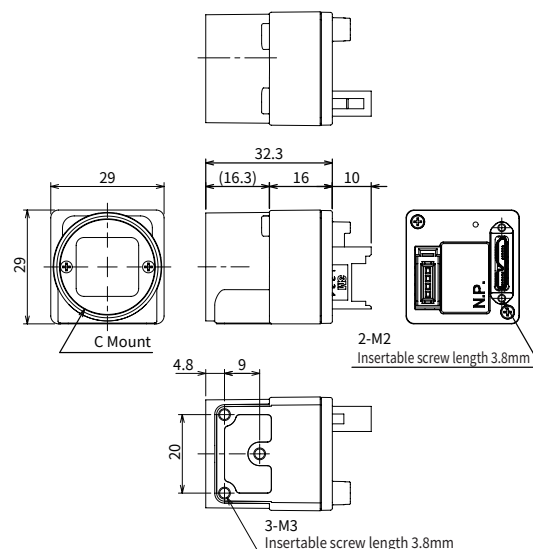
Relative Spectral Sensitivity at 950 nm



Specifications

B/W or COLOR	B/W (NIR)
Pixels	5MP
Model	BU505MNG
Interface	USB 5Gbps (SuperSpeed)
Imager	CMOS image sensor
Resolution	2,448(H) x 2,048(V)
Frame rate	75 fps (Mono8) / 39 fps (Mono10, Mono12)
Pixel size	3.45 μm x 3.45 μm
Scanning area	8.45 mm(H) x 7.07 mm(V)
Image size	2/3 Type
Aspect ratio	4 : 3
Scanning	Progressive
Electronic shutter method	Global shutter
Random Trigger Shutter Type	External Trigger / Software Trigger
Random Trigger Shutter Mode	Edge / Level / Bulk (255 times)
Sequential shutter	Max. 16 entry
Exposure Time	MANUAL : 8 μs to 1 s, AE : 8 μs to 1 s Random Trigger Shutter : 8 μs to 1 s (Edge or Bulk mode), 50 μs to Trigger width (Level mode)
Synchronization System	Internal
Optical glass / filter	Dust-proof glass
Sensitivity	1,780 lx (F1.4, 13 ms)
Minimum illuminance	0.1 lx (F1.4, Gain : x256, Level : 50%)
Gain	Manual : Analog x1 to x16, Digital x1 to x15.999 AGC : x1 to x16 (Analog gain)
Black Level	-25% to +25%
Gamma / LUT	γ=4.0 to 0.45 / In 12 bit, Out 12 bit
Image Output Format	Mono12, Mono10, Mono8
Readout Mode	All pixel, ROI, Binning, Decimation, Mirroring, Flip
External trigger input	Low: 0 to 0.5 V, High: 2 to 24.0 V High active / Low active, Pulse width: 50 μs (minimum)
Power supply	DC5V ±5%
Power consumption	2.9 W (Maximum)
Lens mount	C-Mount
External dimension	29(W) x 29(H) x 16(D) mm (Not including protruding parts)
Mass	Approx. 33g
Operation temperature	0 °C to 40 °C (below 60 °C on cabinet surface)
Operation humidity	10% to 90% (no condensation)
Conformity	CE, FCC, RoHS, WEEE, USB3 Vision, GenICam, IIDC2

Drawing



Notes on Safety

- Before using this product, please read "Operation Manual" carefully in order to use this product safely and correctly.
- If this product should be used in the extraordinary conditions or environments, or if you have any questions or problems, please contact our sales division.

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teli camera