

## Macro Lenses for Line CCDs

# ML-L Series



**Features** Best for high-speed processing of large field of view.

- Low TV distortion, all models less than 0.1%
- Low marginal rays difference
- High resolution, high contrast
- Suitable for long WD applications

**Applications**

- Defective wafer inspection
- Lead frame inspection
- Printed substrate inspection
- Defective film inspection



Macro Lenses for Line CCDs

**ML-L05**

**ML-L07**

**ML-L09**

**ML-L14**

**ML-L047-200** Made to order

**MMT**

**FDMT**

**FMT**

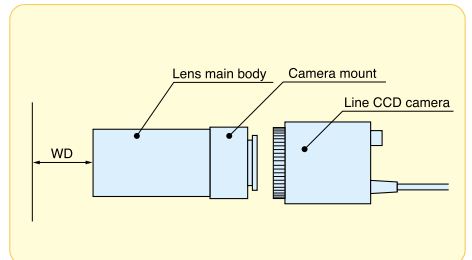
**CMT**

A super high resolution lens for resolution of camera elements ( $4.7\mu\text{m}$ ) in large field of view. You can observe areas **twice** as large as our conventional lenses allow at equal resolution.



**Line CCD camera element list**

Product name
$14\mu\text{m}$ x 1024 bit
$11\mu\text{m}$ x 2048 bit
$11\mu\text{m}$ x 2592 bit
$7\mu\text{m}$ x 5000 bit
$4.7\mu\text{m}$ x 5000 bit
$4.7\mu\text{m}$ x 7500 bit



**ML-L series**

Product name	Magnification	Effective FNO	O/I	WD	Depth of field	Resolution	TV distortion	Weight	Monitor size	Mount
<b>ML-L05</b>	x 0.5	5.9 to 28	433	250.5mm	$470\mu\text{m}$	$20\mu\text{m}$	0.1% or less	700g	φ 35	Sold separately
<b>ML-L07</b>	x 0.7	6.7 to 32	399	194mm	$270\mu\text{m}$	$14\mu\text{m}$	0.1% or less	800g	φ 35	Sold separately
<b>ML-L09</b>	x 0.933	7.7 to 37	389.5	158.5mm	$160\mu\text{m}$	$10\mu\text{m}$	0.1% or less	800g	φ 35	Sold separately
<b>ML-L14</b>	x 1.4	9.5 to 45	397.8	100mm	$95\mu\text{m}$	$7\mu\text{m}$	0.1% or less	800g	φ 35	Sold separately
<b>ML-L047-200</b>	x 0.47	5.9 to 32	377.6	200mm	$300\mu\text{m}$	$12\mu\text{m}$	0.01% or less	720g	φ 35	Sold separately

\* Depth of field is calculated based on resolution.