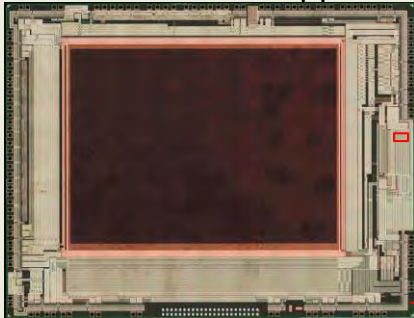


SONY IMX224LQR CMOS IMAGE SENSOR DETAILED STRUCTURE ANALYSIS REPORT

This 49 page report reveals details of the pixel structure and the layout of the IMX224LQR ultra-high sensitivity industrial CMOS image sensor that is expected to be used in automotive applications.



IMX224LQR die image



Package back side

Key Performance Parameters

Parameter	IMX224	IMX238
Image Size	1/3 type	1/3 type
Number of effective pixels	1305 (H) x 977 (W) 1.27M pixels	1305 (H) x 1049 (W) 1.37M pixels
Unit cell size	3.75µm x 3.75µm	3.75µm x 3.75µm
Sensitivity (F5.6)	2350mV	1300mV
Saturation signal (min.)	1210mV	1440mV
Minimum Illumination	0.005lx	0.01lx

- 1) 1/3-inch optical format; 1,305 (H) x 977 (W) active pixels; 1.27M color CMOS image sensor. Pixel size 3.75µm x 3.75µm
- 2) High focusing efficiency FSI (front-side Illumination) structure with inner lens
- 3) New pixel circuit design to achieve minimum illumination 0.005lx and wide dynamic range without ghost or image distortion
- 4) Low-damage process to suppress dark noise

In this report, the analysis results of pixel layout and an equivalent circuit are compared to those of a conventional IMX238L device.

Priced to sell at \$6,000

Note:

The listed report price may not be accurate as it decreases over time.

Please contact us for current report pricing info@ltecusa.com

15G-0003-1-1

Table of Contents

Introduction	3
Device summary	4
1. Package	
1-1. Package image	8
1-2. Package X-ray	9
2. Die photograph at the top layer	
2-1. Package removal	10
2-2. Die size and die corner	11
2-3. Die marking	14
2-4. Micro-lens layout and arrangement	15
3. Pixel plane analysis	
3-1. Pixel (M4, M3, M2, M1, Poly, Diffusion)	18
3-2. Pixel design and schematic diagram	27
4. Pixel cross-section analysis	
4-1. Pixel array cross-section	40
4-2. Micro-lens cross-section, center, edge	43
4-3. Peripheral portion of the pixel area	44
5. Logic area analysis	
5-1. Standard cell pattern	46

15G-0003-1-1

