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AR0544

Table 1. KEY PERFORMANCE PARAMETERS

Parameter		Value
Optical format		1/4.2-inch 5 MP (4:3)
Active pixels		2592 x 1944
Pixel size		1.4 μm Back Side Illuminated (BSI)
Chief ray angle (CRA)		11°
Color Filter Array		RGB, Monochrome
Input clock frequency		6–48 MHz
Interface		2-lane MIPI using D-PHY @; Max data rate: 1.72 Gbps/lane
ADC resolution		10-bits, on die
Gain Control: Gain Table		Linear Mode: 0– 51.3 dB (Analog gain range: 0 ~ 27.3 dB, Digital gain range: 0 ~ 24 dB)
Subsampling		Subsampling: Skipping (RGB, Mono), Binning (RGB), Summing (Mono)
Temperature sensor		10-bit, controlled by two-wire serial I/F
Frame Rate	Full Size, Linear Mode	60 fps
Compression		DPCM: 10–8
3D support		Frame rate and exposure synchronization
Supply voltage	Analog, Pixel	2.8 V (2.7 V < V_{supply} < 2.9 V)
	I/O	1.8 V (1.7 V < V_{supply} < 1.9 V)
	PLL, MIPIphy	1.05 V (1 V < V_{supply} < 1.1 V)
Power Consumption		158 mW at 5 MP 60 fps
Responsivity		8.7 ke-/lux-sec (Green in RGB) 17.3 ke-/lux-sec (Clear in Mono)
SNR _{MAX}		39.9 dB
Dynamic Range		73 dB (eDR 1-exp) 100 dB (LI-HDR Mode)
Operating Temperature Range (at junction) – T _J		–30°C to +85°C
Optimal Performance Temperature Range (at junction) – T _J		0°C to +60°C
Package Options:		CSP-47 (4.67 x 3.68) Bare Die
θ_{JA}		46°C/W (Note 1)

Table 2. 10 bit MODES OF OPERATION3

AR0544

ODCSP47 4.67x3.68x0.63, 0.50P
CASE 570DD
ISSUE O

DATE 04 JAN 2024

NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2018.
2. CONTROLLING DIMENSION: MILLIMETERS [mm].
3. SOLDER BALL DIAMETER IS MEASURED AT THE MAXIMUM SOLDER BALL DIAMETER PARALLEL TO DATUM C.
4. COPLANARITY APPLIES TO THE SPHERICAL CROWNS OF THE SOLDER BALLS.
5. DATUM C, THE SEATING PLANE IS DEFINED BY THE SPHERICAL CROWNS OF THE SOLDER BALLS.
6. GLASS: 0.400 THICKNESS; REFRACTIVE INDEX = 1.52.
7. AIR GAP BETWEEN GLASS AND P

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