



Melexis

INSPIRED ENGINEERING

SELECTION GUIDE

MELEXIS TIME-OF-FLIGHT

Microbats generate ultrasound via the larynx and emit the sound through the nose or open mouth: from 14,000 to over 100,000 hertz, well beyond the range of the human ear. The emitted vocalizations form a broad beam of sound used to probe the environment as well as communicate with other bats.

Enabling high accuracy, high resolution, robust and wide field-of-view 3D detection, classification and anti-spoof authentication of persons and objects for automotive, industrial, AGVs (automated guided vehicles), robotics, security (smart entry, smart cities), etc.



Time-of-Flight 3D camera IC portfolio			
Feature	Gen 2 QVGA	Gen 3 QVGA	Gen 3 VGA
		Chipset MLX75024 + MLX75123BA	Single chip MLX75026
Ordering code*	-	MLX75026RTH-ABA-210	MLX75027RTC-ABA-210
Resolution	QVGA 320 x 240 pixels	QVGA 320 x 240 pixels	VGA 640 x 480 pixels
Pixel size	15 x 15 μm	10 x 10 μm	
Optical format	1/3"	1/4"	1/2"
Illumination	LED or VCSEL	VCSEL	VCSEL
Depth precision	Typ. <2 cm @ 1 m distance	Typ. <1 cm @ 1 m distance	
Sunlight robustness	>120 klux (with optical BP filter)	>120 klux (with optical BP filter)	
Option with Integrated IRBP filter	No	Yes	No
Distance framerate	up to 192fps	up to 180 fps	up to 135 fps
Modulation frequency	up to 40 MHz	up to 100 MHz	
Compatibility	-	Same optical performances and drivers	
Built-in temperature sensor	Yes		
Data interface	Parallel Video port	MIPI CSI-2 D-Phy 2 or 4-Lane	
ARC or integrated optical filter	Double-sided ARC, optional integrated BP filter	Double-sided ARC, optional integrated BP filter	Double-sided ARC
Supply domains	-3.3, 1.8, 2 and 3.3 V	1.2, 1.8 and 2.7 V	
Power consumption	typ. 384 mW @ 30 fps	typ. 115 mW @ 30 fps	typ. 221 mW @ 30 fps
Operating temperature (Ta)	Ta = -40 ... +105 °C		
AEC-Q100	Grade 2		
Package size	MLX75024: 6.6 x 5.5 mm MLX75123BA: 7 x 7 mm	MLX75026: 9.2 x 7.8 mm	MLX75027: 14 x 14 mm

*See datasheets for all the options.

