



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	Single chip MLX75027
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)	
Distance framerate	up to 192fps	up to 230 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

