Melexis

INSPIRED ENGINEERING

SELECTION GUIDE

MELEXIS TIME-OF-FLIGHT

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.

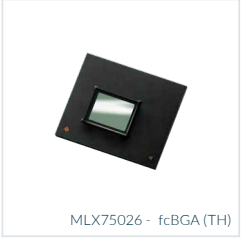
Microbats generate ultrasound via the larynx and emit the sound through the nose or open mouth: from 14,000 to over 100,000 hertz, well beyond the range of the human ear. The emitted vocalizations form a broad beam of sound used to probe the environment as well as communicate with other bats.

V4/06-2023

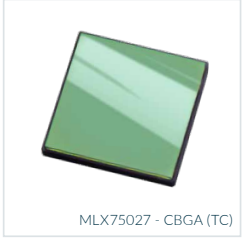
TOF 3D BY Melexis

Time-of-flight 3D camera IC portfolio				
Feature	**Gen 3 QVGA**		**Gen 3 VGA**	
	Single chip MLX75026		Single chip MLX75027	
Ordering code*	MLX75026RTH-110 MLX75026STH-110	MLX75026RTH-210 MLX75026STH-210	MLX75027RTC-210	MLX75027RTI-210 MLX75027STI-210
Physical pixel resolution	QVGA 320 x 240 pixels		VGA 640 x 480 pixels	
Pixel size	10 x 10 µm²			
Optical format	1/4”		1/2”	
Illumination	VCSEL			
Depth precision	Typ. <1 cm @ 1 m distance			
Sunlight robustness	>120 klux (with optical BP filter)			
Distance framerate	up to 180 fps		up to 120 fps	
Modulation frequency	4 to 100 MHz			
Compatibility	Same optical performances and drivers			
max. CRA	30°			15°
Built-in temperature sensor	yes			
Communication interface	CSI-2 v1.2 (2 or 4-Lane @960mbps) and I²C			
ARC or integrated optical filter	940 ± 20 nm IRBP	Broadband ARC		Broadband ARC (IRBP on request)
Supply domains	1.2, 1.8 and 2.7 V			
Power consumption	typ. 115 mW @ 30 fps		typ. 221 mW @ 30 fps	
Operating temperature (Ta)	-40 ... +105 °C (automotive) -20 ... +85 °C (industrial)		-40 ... +105 °C (automotive)	-40 ... +105 °C (automotive) -20 ... +85 °C (industrial)
Package	fcBGA (TH) 9.2 x 7.8 mm²		CBGA (TC) 14 x 14 mm²	iBGA (TI) 11 x 9.5 mm²
AEC-Q100	Grade 2 (automotive)			
ISO26262 ASIL	Not applicable			ASIL B capable

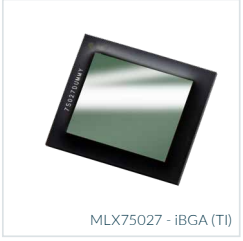
*See datasheets for all the options.



MLX75026 - fcBGA (TH)



MLX75027 - CBGA (TC)



MLX75027 - iBGA (TI)

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