

iC-LO oBGA LO1C

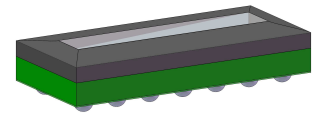
TRIANGULATION SENSOR PACKAGE SPECIFICATION



Rev B1, Page 1/4

ORDERING INFORMATION

Type	Package	Options	Order Designation
iC-LO	oBGA LO1C	Glas	iC-LO oBGA LO1C Glas
iC-LO	oBGA LO1C	IR-Filter	iC-LO oBGA LO1C IR-Filter



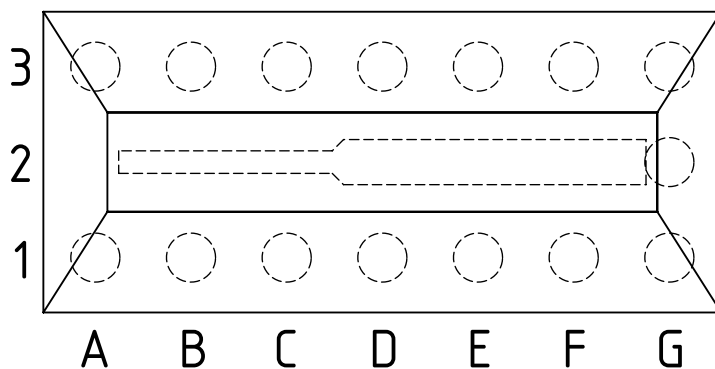
dra_lo1c_pack_1, 4:1

9 mm x 4 mm
RoHS compliant

PIN CONFIGURATION

PIN FUNCTIONS

(top view)



dra_lo1c_pack_2, 10:1

No.	Name	Function
A1	MOSI	Master Output Slave Input
A3	NSO	Antivalent Switching Output
B1	SCK	SPI Clock
B3	SO	Switching Output
C1	MISO	Master Input Slave Output
C3	WARN	Warning Output
D1	NCS	SPI Chip Select
D3	NRES	Power-Down Reset
E1	GNDA	Analog Ground
E3	VDD	Digital Supply
F1	VCC	Analog Supply
F3	GND	Digital Ground
G1	VCCL	LED Driver Supply
G2	LED	LED Driver Output
G3	GNDL	LED Driver Ground

ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Parameter	Conditions				Unit
				Min.	Typ.	Max.	
TG1	Ta	Operating Ambient Temperature Range (extended temperature range on request)		-25		85	°C
TG2	Ts	Storage Temperature Range	Repetitive or excessive baking may reduce the solderability and shall be avoided.	-25		110	°C
TG3	Tpk	Reflow Soldering Peak Temperature	tpk < 20 s, convection reflow tpk < 20 s, vapour phase Floor life: 8h; TOL (time on label). For details please refer to iC-Haus customer information No. 7.			245 230	°C °C

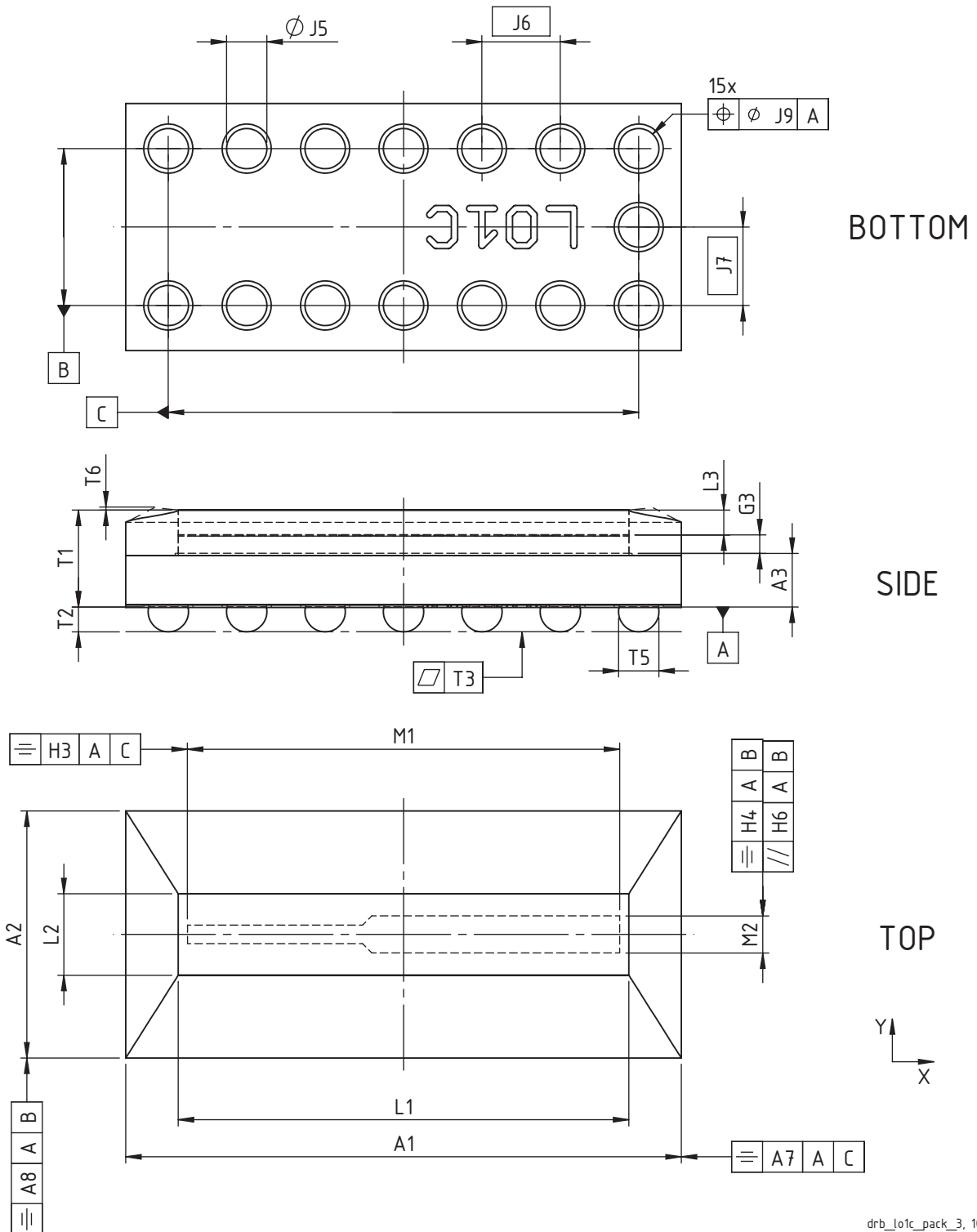
iC-LO oBGA LO1C

TRIANGULATION SENSOR PACKAGE SPECIFICATION



Rev B1, Page 2/4

PHYSICAL DIMENSIONS



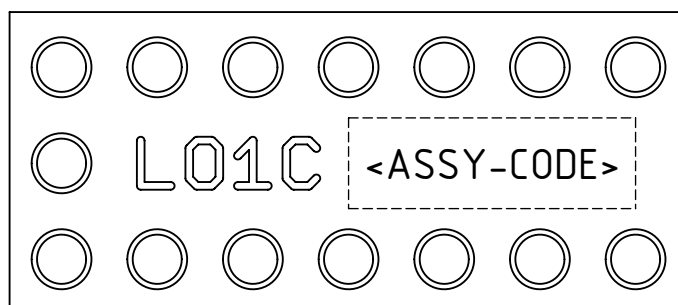
DIMENSION TABLE

Item	Parameter	Comments/Conditions					Unit
			Min.	Typ.	Max.	Tolerance	
Substrate							
A1	Outline X			9.00		±0.10	mm
A2	Outline Y			4.00		±0.10	mm
A3	Substrate Thickness	bottom substrate to bottom die		0.87			mm
A7	Outline Symmetry X	vs. bottom metal pattern			0.20		mm
A8	Outline Symmetry Y	vs. bottom metal pattern			0.20		mm
Chip Placement							
G3	Chip Thickness			0.30			mm
M1	Sensor Array Size X			7.00			mm
M2	Sensor Array Size Y			0.60			mm
H3	Sensor Array Symmetry X	vs. bottom metal pattern			0.35		mm
H4	Sensor Array Symmetry Y	vs. bottom metal pattern			0.35		mm
H6	Sensor Array Parallelism Y	vs. bottom metal pattern			0.15		mm
Bottom Metal Pattern							
J5	Lead Diameter			0.635		±0.03	mm
J6	Lead Pitch X (or Lead-Lead Distance X)			1.27			mm
J7	Lead Pitch Y (or Lead-Lead Distance Y)			1.27			mm
J9	Positional Tolerance Leads	any lead vs. any lead			0.10		mm
Glass Cover							
L1	Glass Size X	sensor array not obstructed		7.30			mm
L2	Glass Size Y	sensor array not obstructed		1.32			mm
L3	Glass Thickness			0.4			mm
Thickness Specifications							
T1	Overall Thickness	bottom substrate to top of glass	1.40		1.75		mm
T2	Solder Ball Height	drawing not to scale	0.40		0.54		mm
T3	Solder Ball Planarity				0.10		mm
T5	Solder Ball Diameter			0.635			mm
T6	Coating Excess (Encapsulation)	surface glass to surface coating			0.05		mm

DEVICE MARKING

Lot-Code Position and Orientation

<ASSY-CODE>: Lot-Code



iC-LO oBGA LO1C

TRIANGULATION SENSOR PACKAGE SPECIFICATION



Rev B1, Page 4/4

REVISION HISTORY

Rev	Notes	Pages affected
A1	Initial version	
B1	Operating Ambient Temperature corrected to max. 85 °C	1
	Update Disclaimer	4

GENERAL HANDLING INSTRUCTIONS

After opening the dry pack, devices must be mounted within 8 hours (in factory conditions of maximum 30°C / 60% RH) or must be stored at <10% RH. Devices require baking before mounting if the Humidity Indicator Card shows >10% when read at 23°C ±5°C or if the conditions mentioned above are not met. Devices may be baked for 72 hours at 100°C using high-temperature device containers (trays).

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