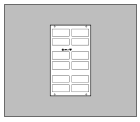
# iC-LSHC optoBGA LSH2C

OPTO ENCODER PACKAGE SPECIFICATION



## ORDERING INFORMATION

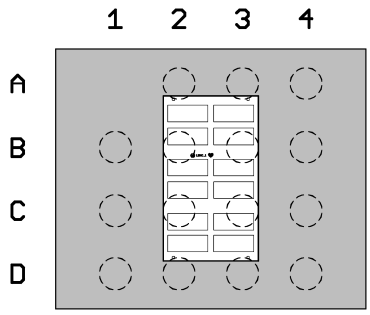
| Type | Package | Options | Order Designation |
|---|---|---|---|
| iC-LSHC | oBGA LSH2C | reticle | iC-LSHC oBGA LSH2C -xxR |



6.2 mm x 5.2 mm
RoHS compliant

## PIN CONFIGURATION

(top view)



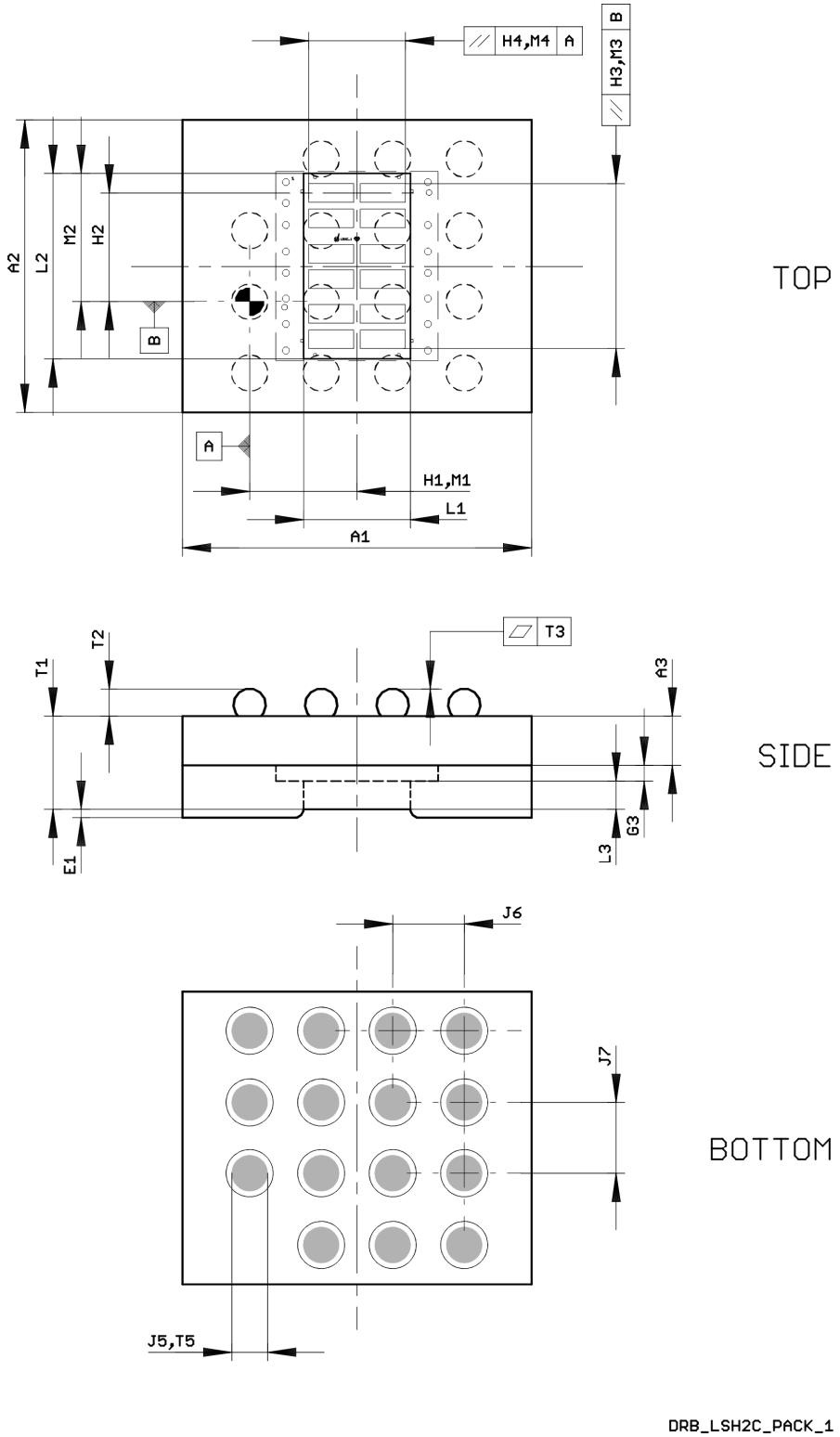

## PIN FUNCTIONS

| No. | Name | Function |
|---|---|---|
| | | For pinout information please refer to the relevant IC data sheets. |
| A2 | | |
| A3 | | |
| A4 | | |
| B1 | | |
| B2 | | |
| B3 | | |
| B4 | | |
| C1 | | |
| C2 | | |
| C3 | | |
| C4 | | |
| D1 | | |
| D2 | | |
| D3 | | |
| D4 | | |

## ABSOLUTE MAXIMUM RATINGS

| Item | Symbol | Parameter | Conditions | Fig. | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|---|
| TG1 | Ta | Operating Ambient Temperature Range (extended temperature range on request) | | | - 40 | | 110 | °C |
| TG2 | Ts | Storage Temperature Range | | | - 40 | | 110 | °C |
| TG3 | Tpk | Reflow Soldering Peak Temperature | tpk < 20 s, convection reflow<br>tpk < 20 s, vapour phase<br><br>TOL (time on label) 8 h; please refer to customer information file No. 7 for details | | | | 245<br>230 | °C<br>°C |

## PHYSICAL DIMENSIONS



## DIMENSION TABLE

| Item | Parameter | Conditions | Min. | Typ. | Max. | Tolerance | Unit |
|---|---|---|---|---|---|---|---|
| | **Substrate** | | | | | | |
| A1 | Outline X | | | 6.2 | | ±0.1 | mm |
| A2 | Outline Y | | | 5.2 | | ±0.1 | mm |
| A3 | Substrate Thickness | bottom package to bottom die | | 0.87 | | | mm |
| | **Chip Placement** | | | | | | |
| G3 | Chip Thickness | | | 0.30 | | | mm |
| H1 | Sensor Array Position vs. Bottom Metal X | center of array | | 1.905 | | ±0.15 | mm |
| H2 | Sensor Array Position vs. Bottom Metal Y | center of outermost photodiodes | | 1.94 | | ±0.15 | mm |
| H3 H4 | Parallelism Sensor Array vs. Bottom Metal | | | | 0.1 | | 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 |
| | **Glass/Reticle Cover** | | | | | | |
| L1 | Glass / Reticle Size X | | | 1.9 | | | mm |
| L2 | Glass / Reticle Size Y | | | 3.24 | | | mm |
| L3 | Glass / Reticle Thickness | | | 0.40 | | | mm |
| M1 | Glass / Reticle Position vs. Bottom Metal X | | | 1.905 | | | mm |
| M2 | Glass / Reticle Position vs. Bottom Metal Y | | | 2.285 | | | mm |
| M3 M4 | Parallelism Reticle Pattern vs. Bottom Metal | | | | 0.15 | | mm |
| | **Encapsulation** | | | | | | |
| E1 | Coating Excess | surface glass to surface coating | | | 0.05 | | mm |
| | **Thickness Specifications** | | | | | | |
| T1 | Overall Thickness | bottom substrate to top of glass / reticle | 1.50 | | 1.85 | | mm |
| T2 | Solder Ball Height | drawing not to scale | 0.40 | | 0.54 | | mm |
| T3 | Solder Ball Coplanarity | | | | | ±0.05 | mm |
| T5 | Solder Ball Diameter | | | 0.635 | | | mm |

## REVISION HISTORY

| Rev | Notes | Pages affected |
|---|---|---|
| A1 | Initial version | |
| A2 | Ordering Information and Pin Functions revised | 1 |
| B1 | Ordering Information changed;<br>Absolute Maximum Ratings: Operating Ambient Temperature Range Min. extended,<br>Storage Temperature Range adapted;<br>TG3: Conditions: convection reflow changed from 260°C to 245°C;<br>Disclaimer updated | 1, 3, 4 |
| C2 | Dimension Table: items L2, L3, T1, T2 changed;<br>Disclaimer update | 3, 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).

Samples
Samples may not be subject for dry pack delivery, and, in that case, are not intended for reflow soldering.