

# iC-OG BLCC OGC

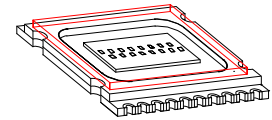
## PHOTOSENSOR PACKAGE SPECIFICATION



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### ORDERING INFORMATION

| Type  | Package  | Options   | Order Designation   |
|-------|----------|-----------|---------------------|
| iC-OG | BLCC OGC | Glass Lid | iC-OG BLCC OGC-OG1L |

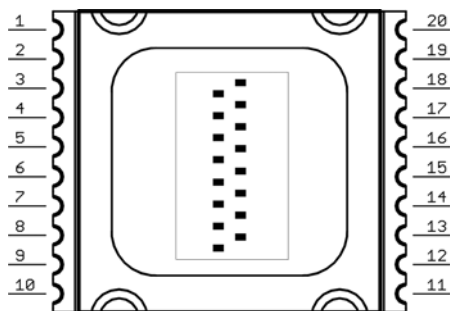


8.2 mm x 9.5 mm  
RoHS compliant

### PIN CONFIGURATION

### PIN FUNCTIONS

(top view)



| No. | Name | Function                                    |
|-----|------|---|
| 1   | CSR  | External Capacitor for LED Control          |
| 2   | NI0  | Track 0 Analog Push-Pull Output             |
| 3   | NI1  | Track 1 Analog Push-Pull Output             |
| 4   | NI2  | Track 2 Analog Push-Pull Output             |
| 5   | LED  | LED Driver Output                           |
| 6   | AGND | Reference Ground for ISET and CSR Circuitry |
| 7   | ISET | LED Current Control Setup                   |
| 8   | TIN  | Negative Test Aid Input                     |
| 9   | TIP  | Positive Test Aid Input                     |
| 10  | NER  | Error Message Output, low active            |
| 11  | GND  | Ground                                      |
| 12  | S7   | Track 7 Push-Pull Output                    |
| 13  | S6   | Track 6 Push-Pull Output                    |
| 14  | S5   | Track 5 Push-Pull Output                    |
| 15  | S4   | Track 4 Push-Pull Output                    |
| 16  | S3   | Track 3 Push-Pull Output                    |
| 17  | S2   | Track 2 Push-Pull Output                    |
| 18  | S1   | Track 1 Push-Pull Output                    |
| 19  | S0   | Track 0 Push-Pull Output                    |
| 20  | VCC  | +5V Supply Voltage                          |

### ABSOLUTE MAXIMUM RATINGS

| Item | Symbol | Parameter  | Conditions  | Fig. |      |      |      | Unit |
|------|--------|--|---|------|------|------|------|------|
|      |        |  |   |      | Min. | Typ. | Max. |      |
| TG1  | Ta     | Operating Ambient Temperature Range<br>(extended temperature range on request) |   |      | -20  |      | 90   | °C   |
| TG2  | Ts     | Storage Temperature Range  |   |      | -30  |      | 110  | °C   |
| TG3  | Tpk    | Reflow Soldering Peak Temperature  | tpk < 20 s, convection reflow<br>(vapour phase soldering<br>strictly forbidden!)<br><br>TOL (time on label) 8 h;<br>please refer to customer<br>information file No. 7 for<br>details |      |      |      | 260  | °C   |

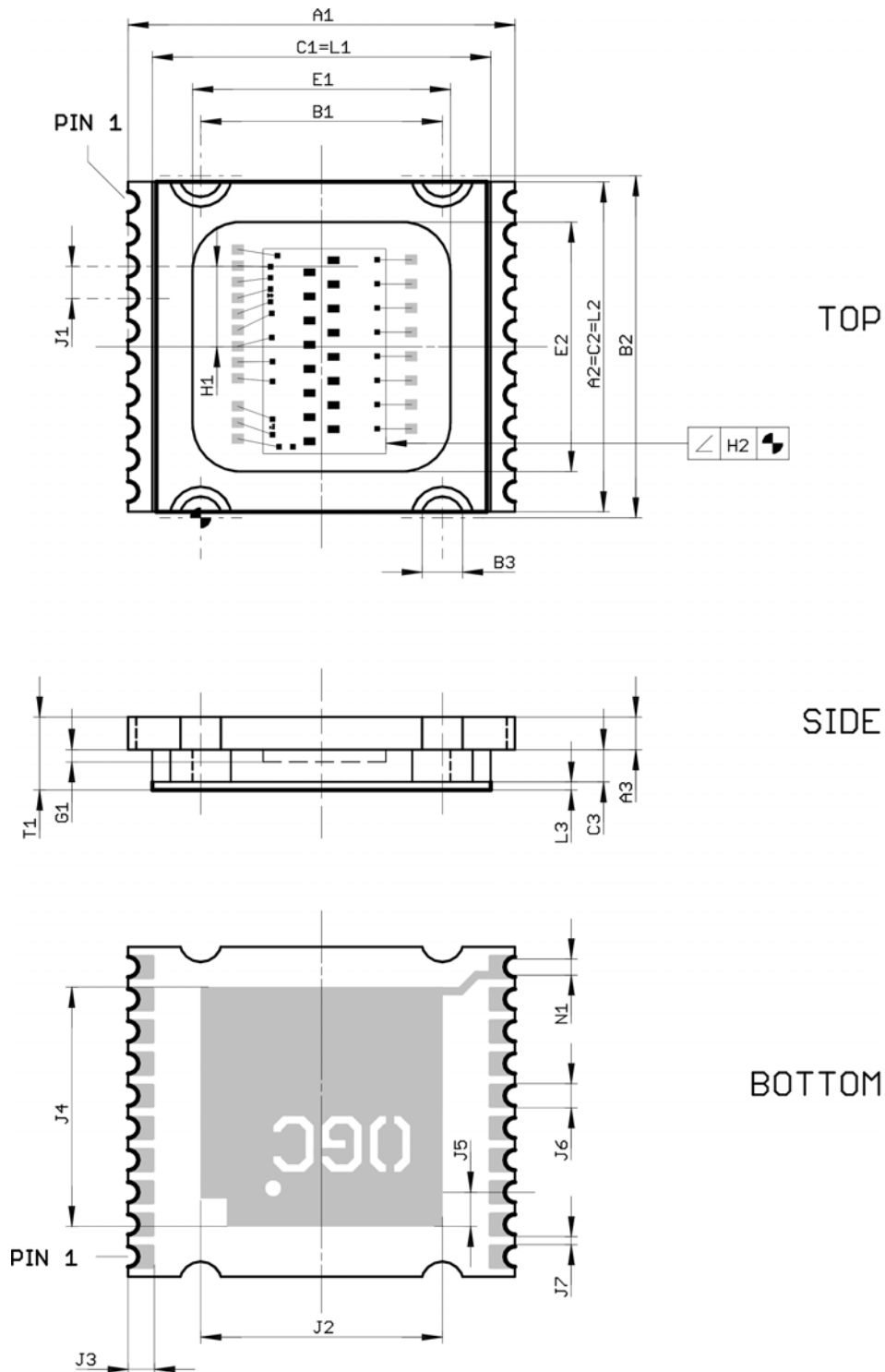
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### PHYSICAL DIMENSIONS



DRA\_OGC1\_PACK\_1

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| Item | Parameter                       | Comments                             |       |      |       |           | Unit |
|------|---------------------------------|--------------------------------------|-------|------|-------|-----------|------|
|      |                                 |                                      | Min.  | Typ. | Max.  | Tolerance |      |
|      | <b>Substrate and Holes</b>      |                                      |       |      |       |           |      |
| A1   | Outline X                       |                                      |       | 9.5  |       | ±0.1      | mm   |
| A2   | Outline Y                       |                                      |       | 8.2  |       | ±0.1      | mm   |
| A3   | Substrate Thickness             | bottom package to bottom die         | 0.710 | 0.8  | 0.971 |           | mm   |
| B1   | Hole Distance X                 |                                      |       | 6.0  |       | ±0.05     | mm   |
| B2   | Hole Distance Y                 |                                      |       | 8.5  |       | ±0.05     | mm   |
| B3   | Thruhole Diameter               |                                      |       | 1.0  |       | +0.05     | mm   |
|      | <b>Frame Size and Shape</b>     |                                      |       |      |       |           |      |
| C1   | Frame Outline X                 | equivalent to L1                     |       | 8.4  |       | ±0.25     | mm   |
| C2   | Frame Outline Y                 | equivalent to A2                     |       | 8.2  |       | ±0.25     | mm   |
| C3   | Frame Thickness                 |                                      | 0.707 | 0.8  | 0.979 |           | mm   |
|      | <b>Window Size an Shape</b>     |                                      |       |      |       |           |      |
|      | Window Edge Radius              |                                      |       | 1.2  |       |           | mm   |
| E1   | Window Cavity X                 |                                      |       | 6.4  |       | ±0.25     | mm   |
| E2   | Window Cavity Y                 |                                      |       | 6.2  |       | ±0.25     | mm   |
|      | <b>Chip Placement</b>           |                                      |       |      |       |           |      |
| G1   | Chip Thickness                  |                                      |       | 0.3  |       |           | mm   |
| H1   | Chip Position Y                 | center of package vs. mid of sensors |       | 2.0  |       | ±0.15     | mm   |
| H2   | Chip Tilt Angle vs. Paddle      |                                      |       |      |       | ±1.6      | DEG  |
|      | <b>Bottom Metal Pattern</b>     |                                      |       |      |       |           |      |
| J1   | Lead Pitch                      |                                      |       | 0.8  |       | ±0.05     | mm   |
| J2   | Shield Size X                   |                                      |       | 6.0  |       | ±0.03     | mm   |
| J3   | Lead Size                       |                                      |       | 0.65 |       | ±0.03     | mm   |
| J4   | Shield Size Y                   |                                      |       | 5.95 |       | ±0.03     | mm   |
| J5   | Shield Position vs. Lead        |                                      |       | 0.85 |       | ±0.075    | mm   |
| J6   | Lead Size                       |                                      |       | 0.6  |       | ±0.03     | mm   |
| J7   | Lead-Lead Spacing               |                                      |       | 0.2  |       | ±0.03     | mm   |
| N1   | Lead PTH                        | remaining inner diameter             |       | 0.4  |       | +0.1      | mm   |
|      | <b>Glass/Reticle Cover</b>      |                                      |       |      |       |           |      |
| L1   | Glass/Reticle Size X            |                                      |       | 8.2  |       | ±0.1      | mm   |
| L2   | Glass/Reticle Size Y            |                                      |       | 8.2  |       | ±0.1      | mm   |
| L3   | Glass/Reticle Thickness         | glass lid OG1L                       |       | 0.20 |       |           | mm   |
|      | Position Glass Lid vs. Chip     |                                      |       |      |       | ±0.3      | mm   |
|      | <b>Thickness Specifications</b> |                                      |       |      |       |           |      |
| T1   | Overall Thickness               | bottom substrate to top of glass     | 1.61  |      | 2.18  |           | mm   |

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### REVISION HISTORY

| Rev | Notes  | Pages affected |
|-----|--|----------------|
| A1  | Initial version  |                |
| B1  | Complete Revision, particularly with regard to revision of Absolute Maximum Ratings (TG3) Reflow Soldering | all            |
|     |  |                |
|     |  |                |

### ASSEMBLY PART LIST

| Pos | Name | Device  | Type/Value | Tolerance | Comments       | Package                    | Placement |
|-----|------|---|------------|-----------|----------------|----------------------------|-----------|
| 01  |      | PCB Base Material                             | FR4/0.8mm  |           |                | iC-OGC                     |           |
| 02  |      | Glass Lid                                     |            |           | item # 311 192 |                            | FRAME     |
| 03  | U1   | 8-Bit Differential Scanning Opto Encoder Chip | iC-OG      |           |                | 3.05 x 5.1 mm <sup>2</sup> | TOP       |
|     |      |   |            |           |                |                            |           |

### 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.

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