

# LSHB4S 42-4096, LSHB4R

## iC-LSHB Encoder Disc and Reticle Description

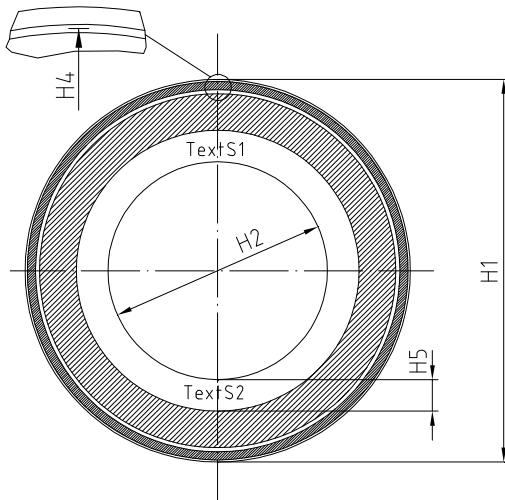


Rev A3, Page 1/3

### ORDERING INFORMATION

Type	Order Designation	Description/Options
Encoder Disc	LSHB4S 42-4096	Incremental Code Disc A/B/Z 4096 PPR, dia 42 mm

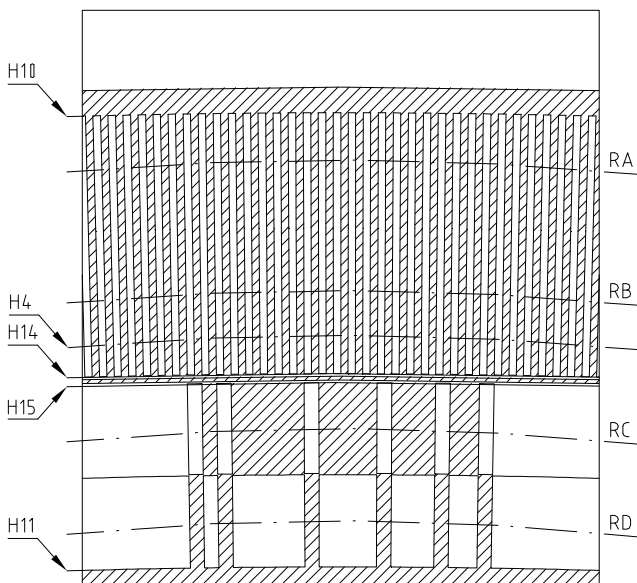
### PHYSICAL DIMENSIONS



Design Example

Item	Parameter	Comments	[mm]	Tolerance
H1	Outer Diameter		42.0	$\pm 100 \mu\text{m}$
H2	Inner Diameter		18.0	$+ 200 \mu\text{m}$
H3	Thickness		1.0	$\pm 100 \mu\text{m}$
H4	Radius of Chip Center	referred to origin	19.71	
H5	Distance Pattern to Drill Hole		5.0	
H6	Code Track Eccentricity	referred to center of inner hole	$\pm 0.2$	
H7	TextS1	readable on side of pattern		LSHB4S
H8	TextS2	readable on side of pattern		42-4096

### TRACK LAYOUT



Item	Parameter	Comments	[mm]
H4	Radius of Chip Center	referred to origin	19.71
H10	Code Pattern Radius	end	20.625
H11	Code Pattern Radius	begin	18.810
H12	Recommended LED Spot Diameter		$> 3.2$
H13	Recommended LED Spot Center	radius for center of illumination	19.71
H14	Alignment Circle	end of circle	19.171
H15	Alignment Circle	begin of circle	19.159
RA	Radius Track A/B		20.350
RB	Track Radius NA/NB		19.900
RC	Radius Track PZ		19.352
Rd	Radius Track NZ		18.987

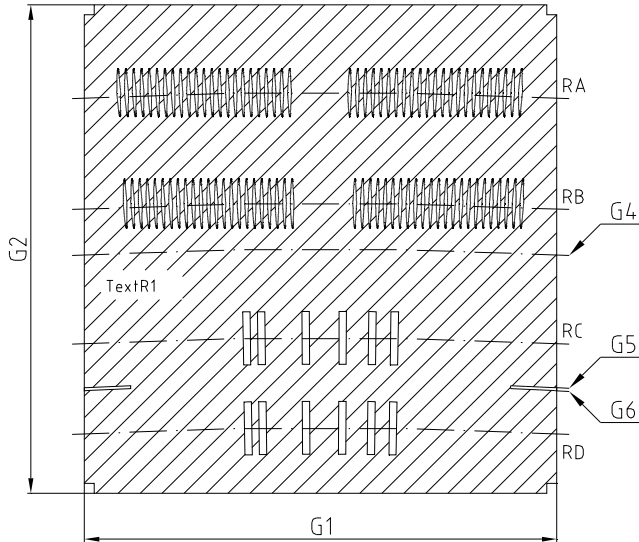
# LSHB4S 42-4096, LSHB4R

## iC-LSHB Encoder Disc and Reticle Description



Rev A3, Page 2/3

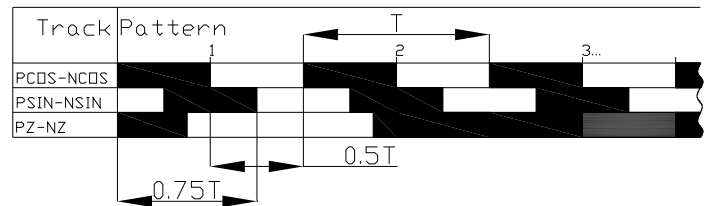
### PHYSICAL DIMENSIONS: Reticle



Item	Parameter	Comments	[mm]
G0	Name and Design Release	LSHB4R	
G1	Width		1.90
G2	Height		1.98
G3	Thickness		0.50 ± 10%
G4	Radius of Chip Center	referred to origin	19.71
G5	Alignment Circle	end of circle	19.171
G6	Alignment Circle	begin of circle	19.159
G7	TextR1	readable on side of pattern	LSHB4R

### TRACK ASSIGNMENT: Reticle

Radius	Signal	
RA	4096 PPR PSIN	4096 PPR PCOS
RB	4096 PPR NCOS	4096 PPR NSIN
RC	1 PPR PZ	
RD	1 PPR NZ	



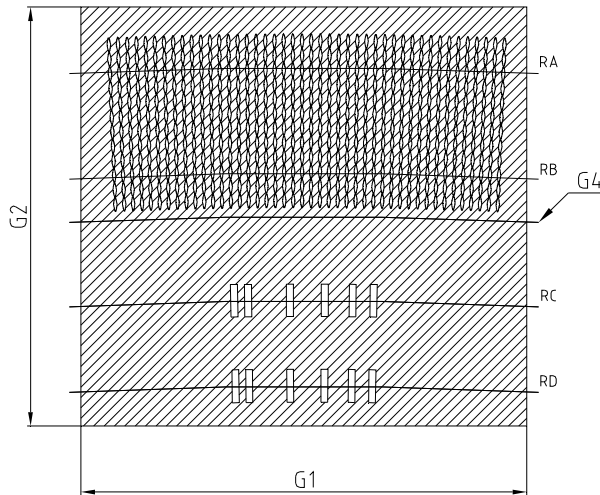
# LSHB4S 42-4096, LSHB4R

## iC-LSHB Encoder Disc and Reticle Description



Rev A3, Page 3/3

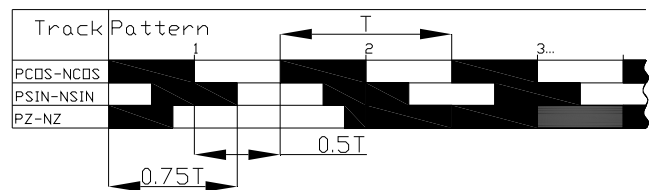
### PHYSICAL DIMENSIONS: Photosensor Array



Item	Parameter	Comments	[mm]
G0	Name and Design Release	iC-PA4296	
G1	Window Width		1.90
G2	Window Height		1.79
G3	Thickness		
G4	Radius of Chip Center	referred to origin	19.71
G5	Alignment Circle	end of circle	
G6	Alignment Circle	begin of circle	
G7	TextR1	readable on side of pattern	
RA	Radius Track A/B		20.35
RB	Radius Track A/B		19.90
RC	Radius Track PZ		19.352
RD	Radius Track NZ		18.987

### TRACK ASSIGNMENT: Photosensor Array

Radius	Signal			
RA	4096 PPR NSIN	4096 PPR PCOS	4096 PPR PSIN	4096 PPR NCOS
RB	4096 PPR NSIN	4096 PPR PCOS	4096 PPR PSIN	4096 PPR NCOS
RC	1 PPR PZ			
RD	1 PPR NZ			



iC-Haus expressly reserves the right to change its products and/or specifications. An info letter gives details as to any amendments and additions made to the relevant current specifications on our internet website [www.ichaus.com/infoletter](http://www.ichaus.com/infoletter); this letter is generated automatically and shall be sent to registered users by email. Copying – even as an excerpt – is only permitted with iC-Haus approval in writing and precise reference to source. iC-Haus does not warrant the accuracy, completeness or timeliness of the specification on this site and does not assume liability for any errors or omissions in the materials. The data specified is intended solely for the purpose of product description. No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information/specification or the products to which information refers and no guarantee with respect to compliance to the intended use is given. In particular, this also applies to the stated possible applications or areas of applications of the product. iC-Haus conveys no patent, copyright, mask work right or other trade mark right to this product. iC-Haus assumes no liability for any patent and/or other trade mark rights of a third party resulting from processing or handling of the product and/or any other use of the product. As a general rule our developments, IPs, principle circuitry and range of Integrated Circuits are suitable and specifically designed for appropriate use in technical applications, such as in devices, systems and any kind of technical equipment, in so far as they do not infringe existing patent rights. In principle the range of use is limitless in a technical sense and refers to the products listed in the inventory of goods compiled for the 2008 and following export trade statistics issued annually by the Bureau of Statistics in Wiesbaden, for example, or to any product in the product catalogue published for the 2007 and following exhibitions in Hanover (Hannover-Messe). We understand suitable application of our published designs to be state-of-the-art technology which can no longer be classed as inventive under the stipulations of patent law. Our explicit application notes are to be treated only as mere examples of the many possible and extremely advantageous uses our products can be put to.