LSHC9S 33-512N, LSHC9R
iC-LSHC Encoder Disc and Reticle
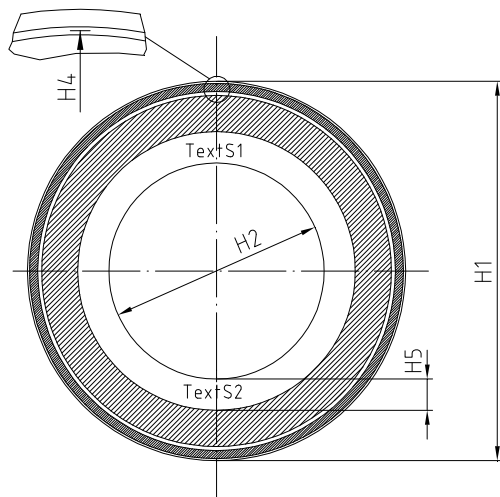
CODE DISC ORDERING INFORMATION

| Type	Order Designation	Description/Options
Encoder Disc	LSHC9S 33-512N	Nonius Code Disc 512 PPR, dia 33 mm

PHYSICAL DIMENSIONS

Design Example

Item	Parameter	Comments	[mm]	Tolerance
H1	Outer Diameter		33.0	± 100 µm
H2	Inner Diameter		18.0	+ 200 µm
H3	Thickness		1	± 100 µm
H4	Radius of Chip Center	referred to origin	14.5	
H5	Distance Pattern to Drill Hole		2.3	
H6	Code Track Eccentricity	referred to center of inner hole	± 0.2	
H7	TextS1	readable on side of pattern	LSHC9S	
H8	TextS2	readable on side of pattern	33-512	

TRACK LAYOUT
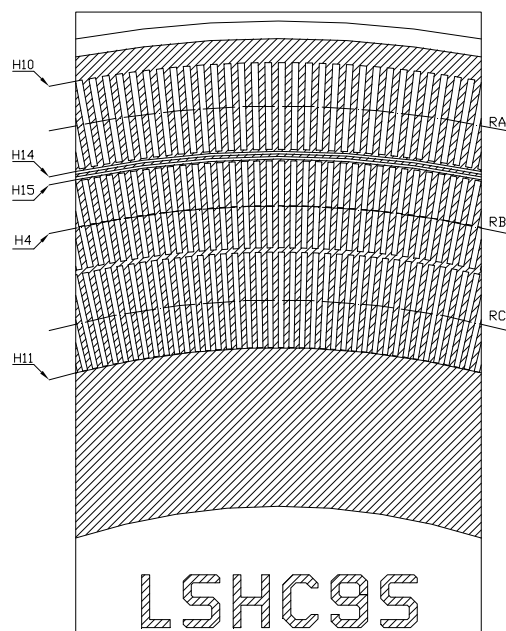
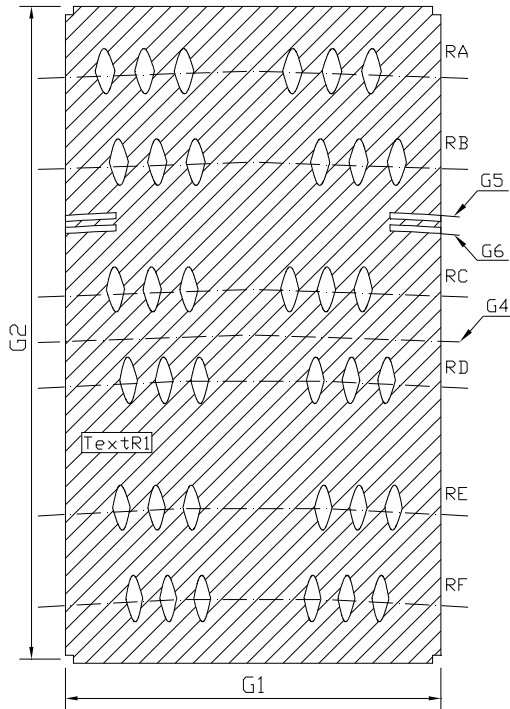| Item	Parameter	Comments	[mm]
H4	Radius of Chip Center	referred to origin	14.500
H10	Code Pattern Radius	end	16.125
H11	Code Pattern Radius	begin	12.895
H12	Recommended LED Spot Diameter	LED Spot	> 3.2
H13	Recommended LED Spot Center	radius as center of illumination	14.500
H14	Alignment Circle	end of circle	15.120
H15	Alignment Circle	begin of circle	15.030
RA	Track Radius	RA	15.805
RB	Track Radius	RB	15.355
RC	Track Radius	RC	14.725
RD	Track Radius	RD	14.275
RE	Track Radius	RE	13.645
RF	Track Radius	RF	13.195

LSHC9S 33-512N, LSHC9R
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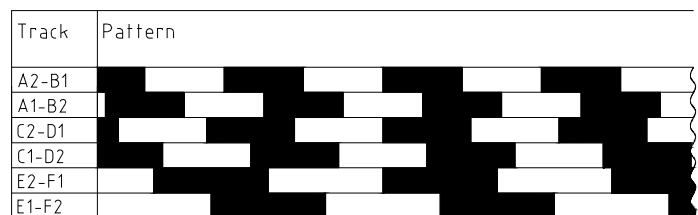**PHYSICAL DIMENSIONS: Reticle**

Item	Parameter	Comments	[mm]	Tolerance
G1	Width		1.90	
G2	Height		3.30	
G3	Thickness		0.50	± 10%
G4	Radius of Chip Center	referred to origin	14.500	
G5	Alignment Circle	end of circle	15.120	
G6	Alignment Circle	begin of circle	15.030	
G7	TextR1	readable on side of pattern	LSHC9R	
RA	Track Radius Nonius	RA	15.805	
RB	Radius Track Nonius	RB	15.355	
RC	Track Radius Master	RC	14.725	
RD	Track Radius Master	RD	14.275	
RE	Track Radius Segment	RE	13.645	
RF	Track Radius Segment	RF	13.195	

TRACK ASSIGNMENT: Reticle

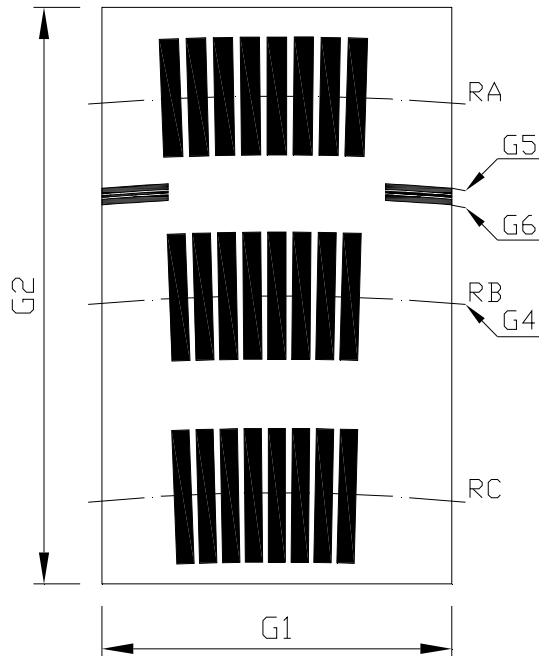| Output	Signal	Signal	Output
A1	511 PPR PSINN	511 PPR PCOSN	A2
B1	511 PPR NCOSN	511 PPR NSINN	B2
C1	512 PPR PSINM	512 PPR PCOSM	C2
D1	512 PPR NCOSM	512 PPR NSINM	D2
E1	496 PPR PSINS	496 PPR PCOSS	E2
F1	496 PPR NCOSS	496 PPR NSINS	F2

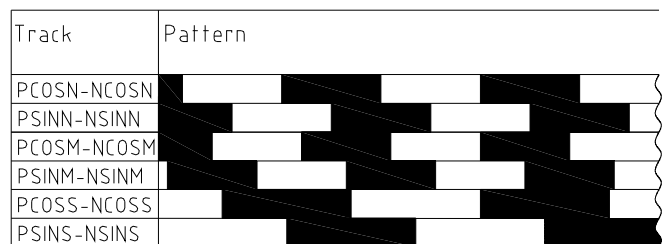# LSHC9S 33-512N, LSHC9R
iC-LSHC Encoder Disc and Reticle

PHYSICAL DIMENSIONS: Photosensor Array

Item	Parameter	Comments	[mm]
G0	Name and Design Release	iC-PN3312	
G1	Window Width		1.90
G2	Window Height		3.24
G4	Radius of Chip Center	referred to origin	14.500
G5	Reflective Alignment Aid	end of circle	15.120
G6	Reflective Alignment Aid	begin of circle	15.030
RA	Track Radius Nonius		15.580
RB	Track Radius Master		14.500
RC	Track Radius Segment		13.420

TRACK ASSIGNMENT: Photosensor Array

Radius	Signal			
RA	511 PPR PSINN	511 PPR PCOSN	511 PPR NSINN	511 PPR NCOSN
RB	512 PPR PSINM	512 PPR PCOSM	512 PPR NSINM	512 PPR NCOSM
RC	496 PPR PSINS	496 PPR PCOSS	496 PPR NSINS	496 PPR NCOSS

Track	Pattern
PCOSN-NCOSN	
PSINN-NSINN	
PCOSM-NCOSM	
PSINM-NSINM	
PCOSS-NCOSS	
PSINS-NSINS	