HUH7279

Hologram unit for CD-R/RW drivers

For optical information processing
(Recordable × 12 speed + readable × 32 speed)

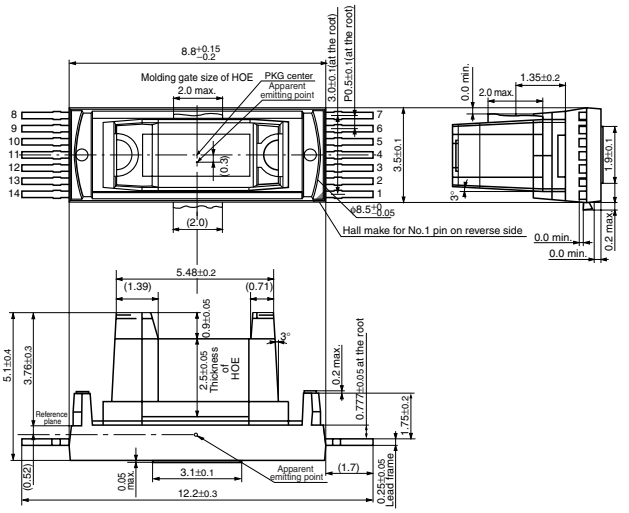
■ Features

- Thin smaller package size is achieved through micro-mirror integration
- Focus error signal detection: SSD method
- Tracking error signal detection: 3-beam method
- Fast response (f_C = 65 MHz typ.)
- Able to read and write CD-R/RW disks
- Low-power semiconductor laser included
- Built-in I-V conversion amp.

■ Applications

- CD-R/RW drives (write/read)

Unit: mm



Note) 1. Standard corner R = 0.20 max.
2. Thickness of plate: Ni 0.5 µm min. + Pd 0.02 µm min.
3. Optical pass of HOE: Thickness = 2.5 mm, n = 1.519
4. Apparent emitting point in figure is designed without consideration of optical pass in HOE.

■ Absolute Maximum Rating

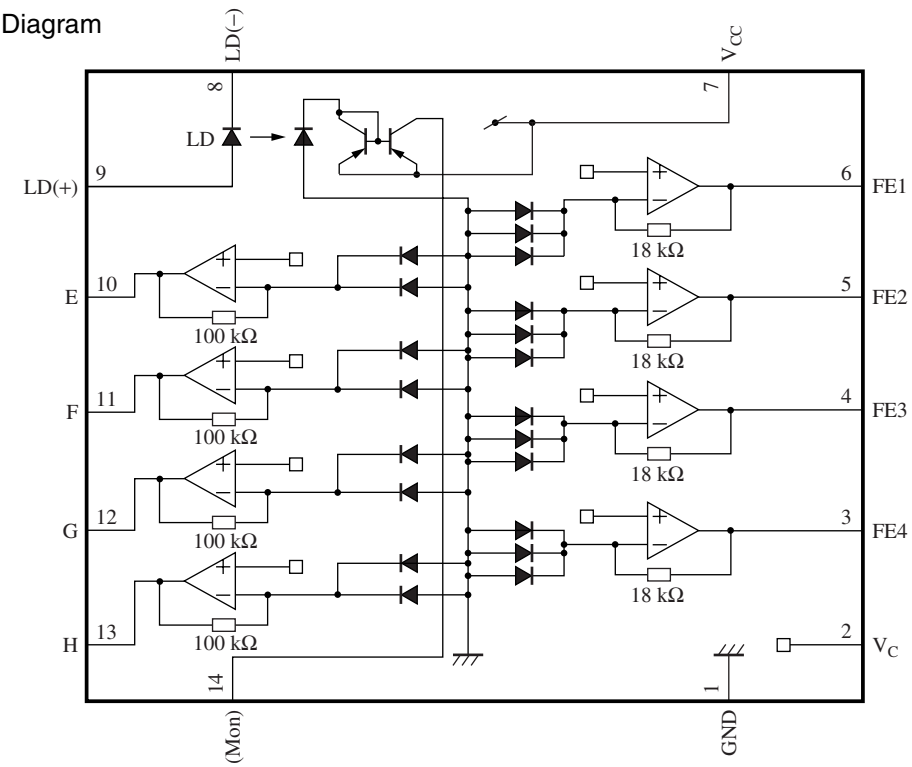
Parameter	Symbol	Rating	Unit
Laser beam output *1, 2	P_O	65 (CW), 110 (pulse)	mW
Laser reverse voltage	$V_{R(LD)}$	1.5	V
Supply voltage	V_{CC}	6	V
Operating supply voltage range	V_{CC}	+3.0 to +5.5	V
Reference voltage	V_C	+1.5 to +2.1	V
Operating ambient temperature *2, 3	T_{opr}	−10 to +65	°C
Storage temperature	T_{stg}	−40 to +85	°C

Note) ∗1: Measured without HOE.

∗2: Relation between P_O and T_{opr} is defined in figure 2. Absolute maximum ratings of the P_O under the pulse operation (pulse width = 0.5 µs, duty 50%, without bias current) is P_O = 110 mW, T_{opr} = 60°C.

∗3: Operating ambient temperature is defined under the condition of $R_{th} \leq 150°C/W$. (R_{th}: Thermal resistence of the LDHU which is set into the pickup)

■ Block Diagram



■ Pin Descriptions

Pin No.	Description	Pin No.	Description
1	GND	8	LD(–)
2	V_C	9	LD(+)
3	FE4 signal out	10	E signal out
4	FE3 signal out	11	F signal out
5	FE2 signal out	12	G signal out
6	FE1 signal out	13	H signal out
7	V_{CC}	14	Mon. out

■ Electro-Optical Characteristics

• Unit characteristic specifications $T_C = 25°C \pm 3°C$, $V_{CC} = 5.0$ V, $V_C = 2.5$ V

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Threshold current	I_{th}	CW $P_O = 50$ mW	10	23	35	mA
Operating current	I_{OP}	CW $P_O = 50$ mW	65	85	105	mA
Operating voltage	V_{OP}	CW $P_O = 50$ mW	1.6	1.9	2.5	V
Oscillating wavelength	λ	CW $P_O = 50$ mW	779	785	791	nm
Focus error signal amplitude	V_{FE}	$P_{LO} = 0.8$ mW	195	285	375	mV
Focus error signal offset	B_{FE}	$P_{LO} = 0.8$ mW	–10	0	+10	%
Main beam signal level	V_{TE}	$P_{LO} = 0.8$ mW	250	370	490	mV
Main beam signal offset	B_{TE}	$P_{LO} = 0.8$ mW	–15	0	+15	%
Sub beam signal level	V_{TC}	$P_{LO} = 0.8$ mW	120	180	240	mV
Sub beam signal offset	B_{TC}	$P_{LO} = 0.8$ mW	–18	0	+18	%

⚠ Caution for Safety

⚠ DANGER

■ Gallium arsenide material (GaAs) is used in this product.

Therefore, do not burn, destroy, cut, crush, or chemically decompose the product, since gallium arsenide material in powder or vapor form is harmful to human health.

Observe the relevant laws and regulations when disposing of the products. Do not mix them with ordinary industrial waste or household refuse when disposing of GaAs-containing products.

■ Do not touch or look at a laser beam directly.

It is in danger of a injury to eyesight or outer skin in the worst case.

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