

HUH7285/HUH7286

For CD-R/RW Drivers Hologram Unit

For optical information processing
(Recordable × 24 speed + readable × 48 speed)

■ Features

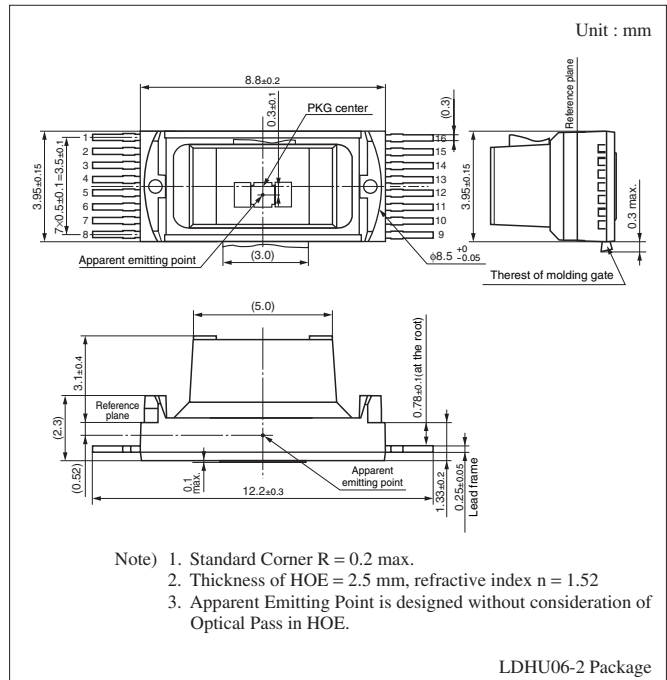
- It is developed real with window structured high power laser diode, and realized high speed recording
- 24 × writing/48 × reading of CD-R/RW possible
- Thin (4.0 mm) package realizes thin and simple pick-up

■ Applications

- CD-R/RW

■ Tracking error signal output pin count

- HUH7285: 4 pins
- HUH7286: 2 pins

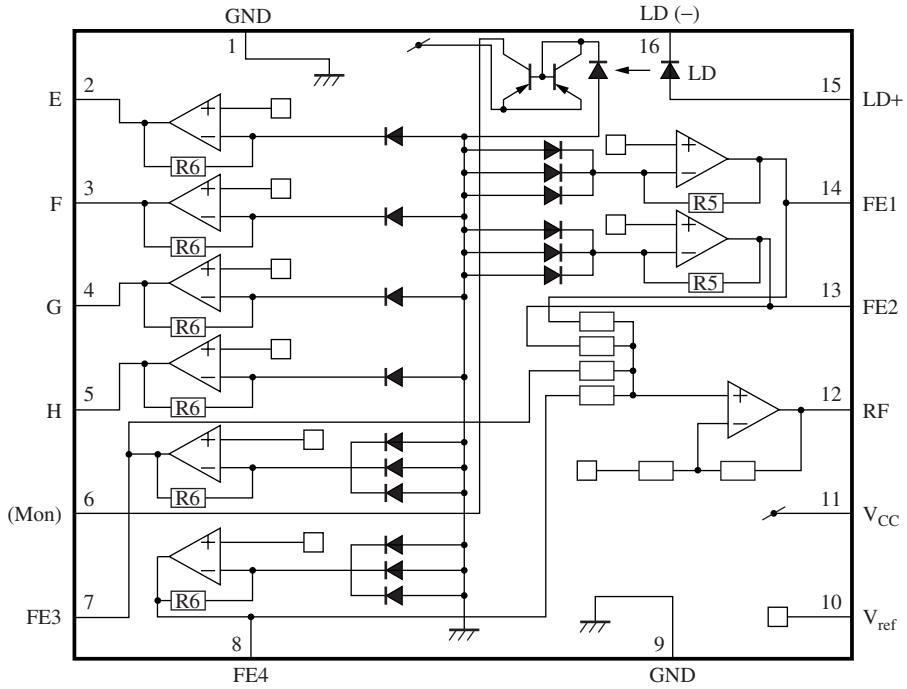


■ Absolute Maximum Ratings

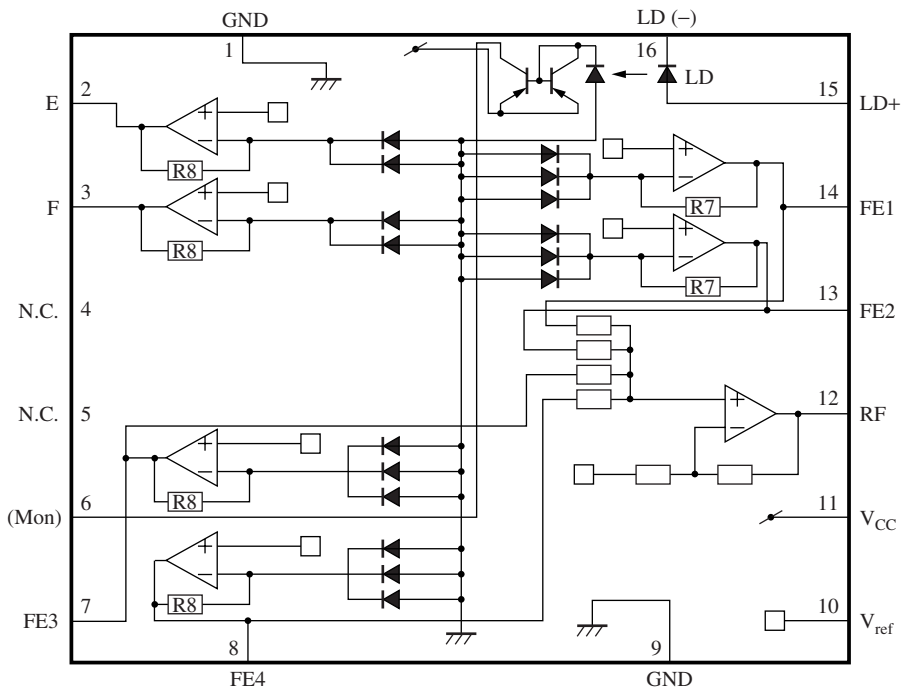
Parameter	Symbol	Rating	Unit
Radiant power	P_O	90 (CW), 162 (pulse)	mW
Reverse voltage	$V_{R(LD)}$	1.5	V
Supply voltage	V_{CC}	6	V
Reference voltage	V_{ref}	+1.5 to +2.3	V
Operating ambient temperature	T_{opr}	-10 to +60	°C
Storage temperature	T_{stg}	-40 to +85	°C

■ Block Diagrams

• HUH7285



• HUH7286



■ Pin Descriptions

• HUH7285

Pin No.	Description	Pin No.	Description
1	GND	9	GND
2	E Signal out (V_E)	10	V_{ref}
3	F Signal out (V_F)	11	V_{CC}
4	G Signal out (V_G)	12	RF
5	H Signal out (V_H)	13	FE2 Signal out (V_{FE2})
6 *	(Mon. out) value not guaranteed	14	FE1 Signal out (V_{FE1})
7	FE3 Signal out (V_{FE3})	15	LD(+)
8	FE4 Signal out (V_{FE4})	16	LD(-)

Note) *: The pin 6 must be connected to GND level.

• HUH7286

Pin No.	Description	Pin No.	Description
1	GND	9	GND
2	E Signal out (V_E)	10	V_{ref}
3	F Signal out (V_F)	11	V_{CC}
4	N.C.	12	RF
5	N.C.	13	FE2 Signal out (V_{FE2})
6 *	(Mon. out) value not guaranteed	14	FE1 Signal out (V_{FE1})
7	FE3 Signal out (V_{FE3})	15	LD(+)
8	FE4 Signal out (V_{FE4})	16	LD(-)

Note) *: The pin 6 must be connected to GND level.

■ Electro-Optical Characteristics

• Unit characteristic specifications $T_C = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Threshold current	I_{th}	CW	15	26	40	mA
Operating current	I_{OP}	CW, $P_O = 80\text{ mW}$	85	105	125	mA
Operating voltage	V_{OP}		1.6	1.9	2.5	V
Oscillation wavelength	λ		779	785	791	nm
Focus error signal amplitude	V_{FE}	$P_{LO} = 0.8\text{ mW}$, $V_{CC} = 5\text{ V}$, $V_{ref} = 1.65\text{ V}$	80	135	190	mV
Focus error signal balance	B_{FE}		-20	0	+20	%
Main beam signal amount	V_{TE}		105	175	245	mV
Main beam signal balance	B_{TE}		-30	0	+30	%
Sub beam signal amount	V_{TC}		70	120	170	mV
RF signal amount	V_{RF}		240	400	560	mV

Caution for Safety

 **DANGER**

■ **This product contains Gallium Arsenide (GaAs).**

GaAs powder and vapor are hazardous to human health if inhaled or ingested. Do not burn, destroy, cut, cleave off, or chemically dissolve the product. Follow related laws and ordinances for disposal. The product should be excluded from general industrial waste or household garbage.

■ **Do not touch or look into the laser beam directly.**

The laser beam may cause injury to the eye or skin, or loss of eyesight.

Request for your special attention and precautions in using the technical information and semiconductors described in this material

- (1) An export permit needs to be obtained from the competent authorities of the Japanese Government if any of the products or technical information described in this material and controlled under the "Foreign Exchange and Foreign Trade Law" is to be exported or taken out of Japan.
- (2) The technical information described in this material is limited to showing representative characteristics and applied circuits examples of the products. It neither warrants non-infringement of intellectual property right or any other rights owned by our company or a third party, nor grants any license.
- (3) We are not liable for the infringement of rights owned by a third party arising out of the use of the technical information as described in this material.
- (4) The products described in this material are intended to be used for standard applications or general electronic equipment (such as office equipment, communications equipment, measuring instruments and household appliances).
Consult our sales staff in advance for information on the following applications:
 - Special applications (such as for airplanes, aerospace, automobiles, traffic control equipment, combustion equipment, life support systems and safety devices) in which exceptional quality and reliability are required, or if the failure or malfunction of the products may directly jeopardize life or harm the human body.
 - Any applications other than the standard applications intended.
- (5) The products and product specifications described in this material are subject to change without notice for modification and/or improvement. At the final stage of your design, purchasing, or use of the products, therefore, ask for the most up-to-date Product Standards in advance to make sure that the latest specifications satisfy your requirements.
- (6) When designing your equipment, comply with the guaranteed values, in particular those of maximum rating, the range of operating power supply voltage, and heat radiation characteristics. Otherwise, we will not be liable for any defect which may arise later in your equipment.
Even when the products are used within the guaranteed values, take into the consideration of incidence of break down and failure mode, possible to occur to semiconductor products. Measures on the systems such as redundant design, arresting the spread of fire or preventing glitch are recommended in order to prevent physical injury, fire, social damages, for example, by using the products.
- (7) When using products for which damp-proof packing is required, observe the conditions (including shelf life and amount of time let standing of unsealed items) agreed upon when specification sheets are individually exchanged.
- (8) This material may be not reprinted or reproduced whether wholly or partially, without the prior written permission of Matsushita Electric Industrial Co., Ltd.