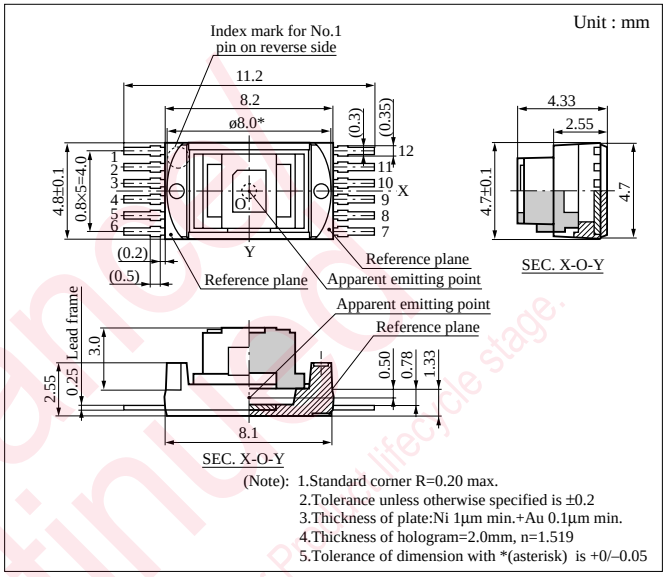
HUL7281

Hologram Unit

For optical information processing



(Note): 1.Standard corner R=0.20 max.
2.Tolerance unless otherwise specified is ±0.2
3.Thickness of plate:Ni 1µm min.+Au 0.1µm min.
4.Thickness of hologram=2.0mm, n=1.519
5.Tolerance of dimension with *(asterisk) is +0/–0.05

■ Features

- Smaller package size achieved through micro-mirror integration
  (4.8 × 8.2 × 4.3 mm)
- Fast response (f_C = 24 MHz)
- Focus error signal detection : SSD method
- Tracking error signal detection
  : 3 beam method
- Low-power semiconductor laser included

■ Application

- CD-ROM drives
  (supports 8- to 16-time speed CD-ROM drives)

■ Absolute Maximum Ratings (Ta = 25˚C)

Parameter		Symbol	Ratings	Unit
Laser beam output*1		P_O	0.3	mW
Reverse voltage	Laser	$V_{R(LD)}$	2	V
	Monitor	$V_{R(mon)}$	6	V
Supply voltage		V_R	6	V
Operating ambient temperature		T_{opr}	– 10 to +60	˚C
Storage temperature		T_{stg}	– 40 to +85	˚C

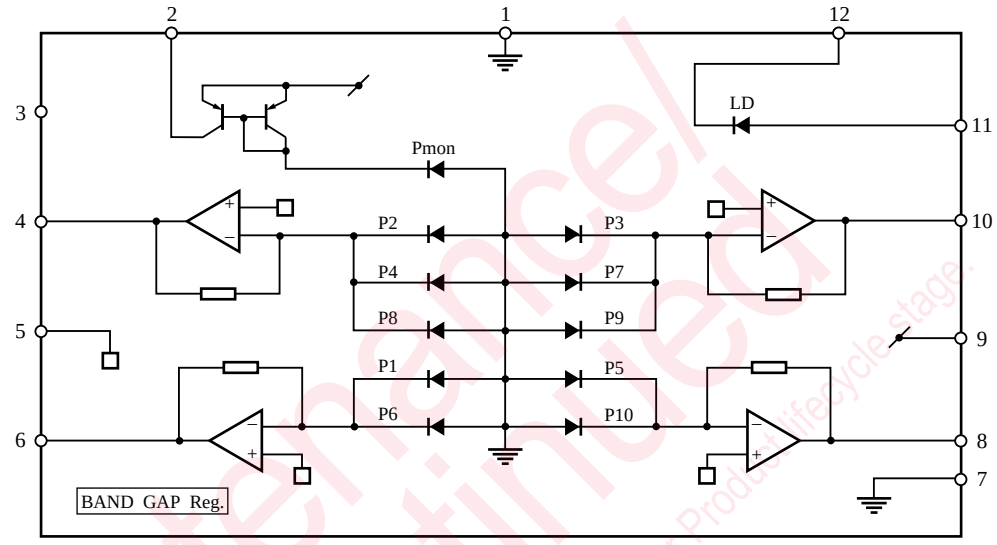
*1 Light emitting output through objective lens

■ Electro-Optical Characteristics (Ta = 25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Laser beam output*1	P_O	CW		0.18	0.25	mW
Operating current	I_{OP}	CW V_{RF} = 420mV, V_{CC} = 5V	25	35	45	mA
Operating voltage	V_{OP}	CW V_{RF} = 420mV, V_{CC} = 5V		1.9	2.4	V
Oscillating wavelength	λ_L	CW V_{RF} = 420mV, V_{CC} = 5V	775	795	815	nm
Focus error signal amplitude	V_{FE}	CW V_{RF} = 420mV, V_{CC} = 5V	180	300	420	mV
Tracking error signal amplitude	V_{TE}	CW V_{RF} = 420mV, V_{CC} = 5V	170	280	400	mV
Focus error signal pull-in range	D_{FE}	CW V_{RF} = 420mV, V_{CC} = 5V	9	12	16	µm
Frequency characteristics (–3 dB)	f_C		16	24		MHz

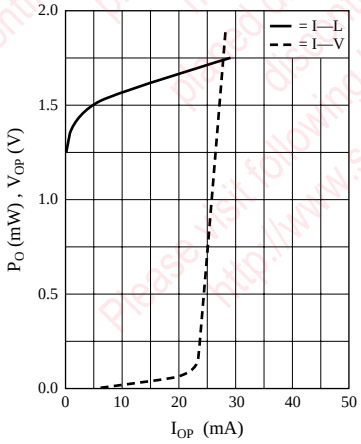
*1 Light emitting output through objective lens

■ Block Diagram of Circuit Functions



1: GND
2: Mon. out
3: N.C.
4: (P2+P4+P8) out
5: V_C
6: (P1+P6) out
7: GND
8: (P5+P10) out
9: V_{CC}
10: (P3+P7+P9) out
11: LD (+)
12: LD (–)

I — L , I — V



⚠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.

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