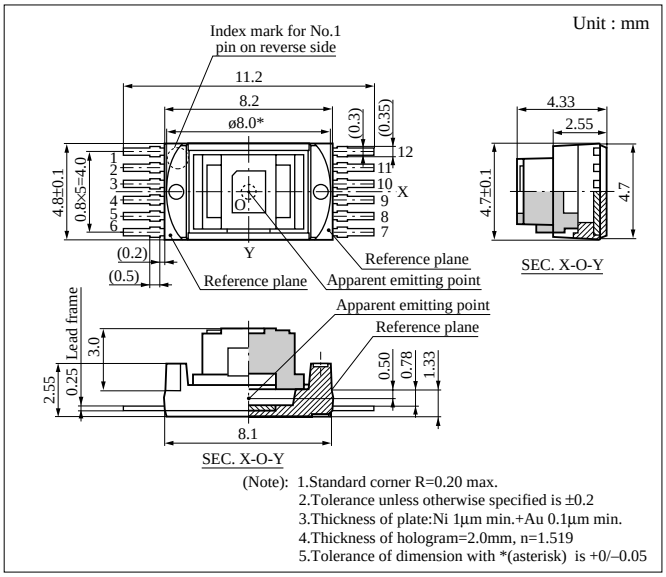
HUL7203

Hologram Unit

For optical information processing



■ Features

- Smaller package size achieved through micro-mirror integration ($4.8 \times 8.2 \times 4.3$ mm)
- Fast response (f_C = 35 MHz)
- Focus error signal detection : SSD method
- Tracking error signal detection : 3 beam method
- Low-power semiconductor laser included

■ Applications

- CD-ROM drives (supports 20- to 24-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

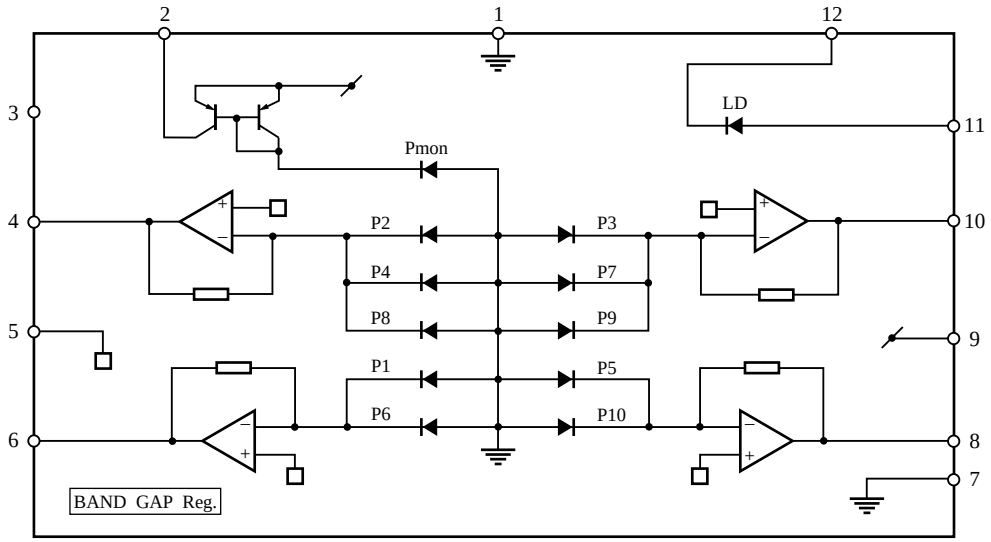
*1 Light emitting output through objective lens

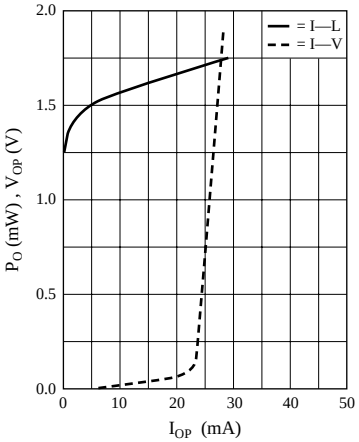
■ Electro-Optical Characteristics (Ta = 25˚C)

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} = 570mV, V_{CC} = 5V	25	35	40	mA
Operating voltage	V_{OP}	CW V_{RF} = 570mV, V_{CC} = 5V		1.9	2.4	V
Oscillating wavelength	λ_L	CW V_{RF} = 570mV, V_{CC} = 5V	775	795	815	nm
Focus error signal amplitude	V_{FE}	CW V_{RF} = 570mV, V_{CC} = 5V	340	480	620	mV
Tracking error signal amplitude	V_{TE}	CW V_{RF} = 570mV, V_{CC} = 5V	190	310	430	mV
Focus error signal pull-in range	D_{FE}	CW V_{RF} = 570mV, V_{CC} = 5V	9	12	16	µm
Frequency characteristics (–3 dB)	f_C		30	35		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 (–)

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