

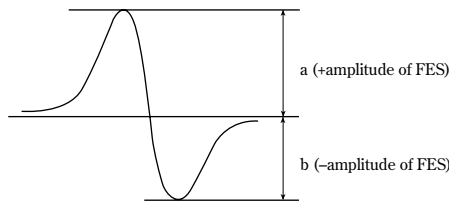
Electro-optical Characteristics

(V_{CC}=5V, V_S=1/2V_{CC}, T_C=25°C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
#1 Focal offset	DEF	V _{RF} =1.0V	-0.5	-	+0.5	μm
#2 Focal error symmetry	B _{FES}	V _{RF} =1.0V	-25	-	+25	%
#3 Radial error balance	B _{RES}	P _H =4.75mW	-25	-	+25	%
#4 RF output amplitude	V _{RF}	P _H =4.75mW	0.75	1.05	1.35	V
#5 FES output amplitude	V _{FES}	V _{RF} =1.0V	0.51	0.66	0.83	V
#6 Main spot balance	MSB	P _H =4.75mW	75	(100)	125	%
#7 Radial spot balance	RSB	P _H =4.75mW	75	(100)	125	%
Jitter	JIT	V _{RF} =1.0V	-	-	12	%
Threshold current	I _{th}	-	-	27	35	mA
Operating current	I _{op}	P _H =4.75mW	-	36	49	mA
Operating voltage	V _{op}	P _H =4.75mW	-	2.2	2.7	V
Wavelength	λ _p	P _H =4.75mW	640	654	660	nm
Output current	I _m	P _H =4.75mW, V _R =15V	0.06	(0.18)	0.3	mA
Differential efficiency	η _d	$\frac{3.8mW}{I(4.75mW)-I(0.95mW)}$	0.35	0.55	0.84	mW/mA

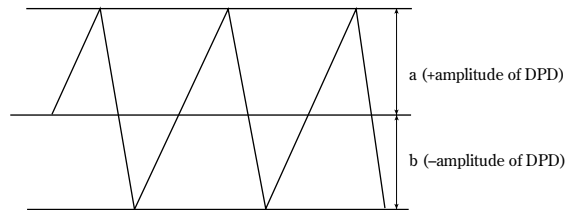
#1 Distance between FES=0 and jitter minimum point

#2 (a-b) / (a+b)



#3 DPD signal

$$\frac{a-b}{2 \times (a+b)}$$

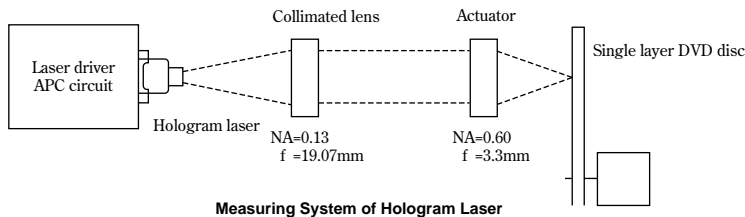


#4 Amplitude of V_A+V_B+V_C+V_D (focal servo ON, radial servo ON)

#5 V_{A+F}-V_{B+E} (Focal vibration)

#6 (V_{A+F}+V_{B+E}) / (V_C+V_D) (focal servo ON, radial servo OFF)

#7 V_C / V_D (focal servo ON, radial servo OFF)



■ Electro-optical Characteristics of Laser Diode (Design Standard*)

(T_c=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit	
Half intensity angle	Parallel	θ//	P _o =3mW	7	8.5	11	°	
	Perpendicular	θ⊥		25	30	35	°	
Emission characteristics	Deviation angle	Parallel		ø//	-2.1	0	+2.1	°
		Perpendicular		ø⊥	-3	0	+3	°
Misalignment position			Δx	-80	-	+80	μm	
			Δy	-80	-	+80	μm	
			Δz	-80	-	+80	μm	
*6 Interference pattern intensity		α	P _o =3mW	-	-	1	-	

■ Electrical Characteristics of Monitor Photodiode (Design Standard*)

(T_c=25°C)

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
*1 Sensitivity			V _R =15V	-	0.032	-	mA/mW
Dark current				-	-	1	nA
Terminal capacitance				-	8.5	-	pF

*1 For hologram output power

■ Electro-optical Characteristics of OPIC for Signal Detection (Design Standard*)

(T_c=25°C, V_{CC}=5V, V_S=2.5V)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit	*2 Segment
Supply voltage	V _{CC}	-	4.5	5.0	5.5	V	-
Reference voltage	V _S	-	2.0	2.5	2.63	V	-
Supply current	I _{CC}	-	10	17	24	mA	-
*34 Output off-set voltage	V _{OD1}	No light	-30	-	+30	mV	V _{AF} , V _{BE} , V _C , V _D , V _{GH} , V _{IJ}
	V _{OD2}		1.2	1.36	1.52	V	V _{RF}
Off-set voltage difference	ΔV _{OD1}		-25	-	+25	mV	V _{AF} -V _{BE} , V _C -V _D
	ΔV _{OD2}		-30	-	+30	mV	V _{GH} -V _{IJ}
*5 Response frequency	f _{CF1}	-3dB	1	5	-	MHz	V _{AF} , V _{BE} , V _{GH} , V _{IJ}
	f _{CF2}		60	90	-	MHz	V _C , V _D
	f _{CF3}		60	90	-	MHz	V _{RF}
Peaking level	V _{PK}	f=1 to 36MHz	-2	-	+2	dB	V _{RF}
Group delay	t _{gd}	f=1 to 36MHz	-	5	10	ns	V _C , V _D , V _{RF}
Noise level	V _{mP}	f=36MHz, BW=30kHz	-	-74	-	dBm	V _{RF}

*2 Applicable divisions correspond to output terminals

*3 Difference from V_S

*4 Difference from GND

*5 Output amplitude=0dB (input signal 1MHz)

Load resistance R_L=10kΩ, load capacitance C_L=10pF (For V_{RF}, load capacitance C_L=10pF)

*6 Noise solution against feed-back light (Radio frequency modulation circuit) is required.

G
C
H
E
A
B
F
I
D
J

Segment No.	Output
A + F	V _{AF}
B + E	V _{BE}
C	V _C
D	V _D
G + H	V _{GH}
I + J	V _{IJ}

* These parameters are not guaranteed performance, but general specifications of each optical element which makes up a hologram laser.

• Please refer to the chapter "Handling Precautions"

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