NEC

OD - S559

1310nm DFB-LD Module

with built-in optical isolator

FEATURES

- Operating frequency range — f=5MHz to 200MHz
- Distortion — IMD2≦-45dBc
  IMD3≦-65dBc
- Noise — RIN≦-145dB/Hz
- Optical output power — Pf=2.0mW
- Wavelength — λ=1310nm
- Operation over wide temperature — Tc=-20 to 85℃
- Built-in optical isolator
- Singlemode fiber pigtail with SC/APC connector

APPLICATIONS

- CATV return link

1. ABSOLUTE MAXIMUM RATINGS (Tc=25℃ unless noted)

Parameter	Sym.	Min.	Max.	Unit
Fiber Output Power	Pf	–	4	mW
Laser Forward Current	I_F(LD)	–	100	mA
Laser Reverse Voltage	V_R(LD)	–	2	V
Monitor Forward Current	I_F(PD)	–	1	mA
Monitor Reverse Voltage	V_R(PD)	–	10	V
Operation Temperature	Top	-20	85	℃
Storage Temperature	Tstg	-40	85	℃

2. PERFORMANCE SPECIFICATIONS (Tc=-20 to +85℃ unless noted)

Parameter	Sym.	Conditions	Min.	Typ.	Max.	Unit
Fiber Output Power	Pf	CW	2.0	–	–	mW
Threshold Current	Ith	CW, Tc=+25℃	–	10	30	mA
		CW	–	30	50	
Slope Efficiency	DQE	CW, Pf=2.0mW, Tc=+25℃	0.1	–	0.30	W/A
		CW, Pf=2.0mW	0.05	–	0.35	
Operating Current	Iop	CW, Pf=2.0mW	–	–	90	mA
Center Wavelength	λc	CW, Pf=2.0mW, Tc=+25℃	1290	–	1330	nm
		CW, Pf=2.0mW	1285	–	1335	
Side Mode Suppression Ratio (SMSR)	SMSR	CW, Pf=2.0mW	30	–	–	nm
Forward Voltage	V_F	CW, Pf=2.0mW	–	1	1.6	V
Monitor Photocurrent	Im	CW, Pf=2.0mW	100	300	1000	μA
Monitor Dark Current	Id	V_R=10V,	–	–	500	nA
Tracking Error	⊿Pf	Tc=-20℃, 85℃ Pf=2mW	–	±0.5	±1.5	dB
Isolation	–		–	30	–	dB
Modulation Bandwidth	B	1dB down, Pf=2.0mW	500	–	–	MHz
2nd Order Inter-modulation Distortion	IMD2	Note 1	–	–	-45	dBc
3rd Order Inter-modulation Distortion	IMD3	Note 1	–	–	-65	dBc
Relative Intensity Noise	RIN	Note 2	–	–	-145	dB/Hz

Note 1 Pf=2.0mW, Tc=25℃,
2-Tone Test: f1=13MHz, f2=19MHz, 10%/tone Optical Modulation Index,
Measurement Frequency(IMD2): f=6MHz, 32NHz
Measurement Frequency(IMD3): f=7MHz, 25MHz

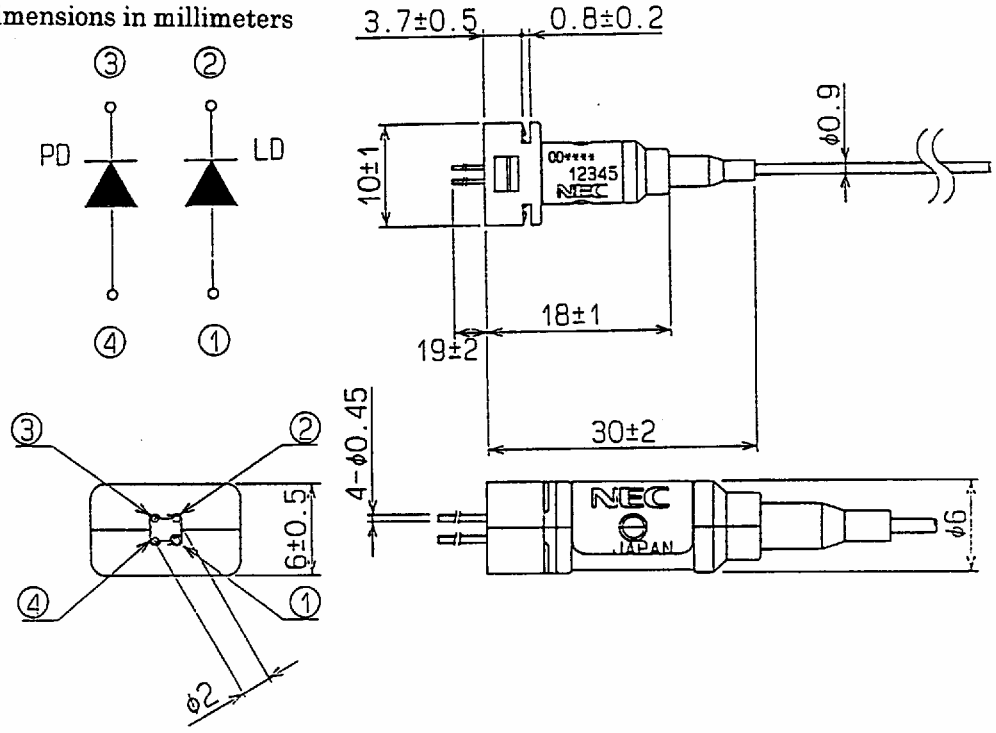
Note 2 CW, Pf=2.0mW, Tc=25℃,
f=5MHz to 200MHz

3. MECHANICAL SPECIFICATIONS

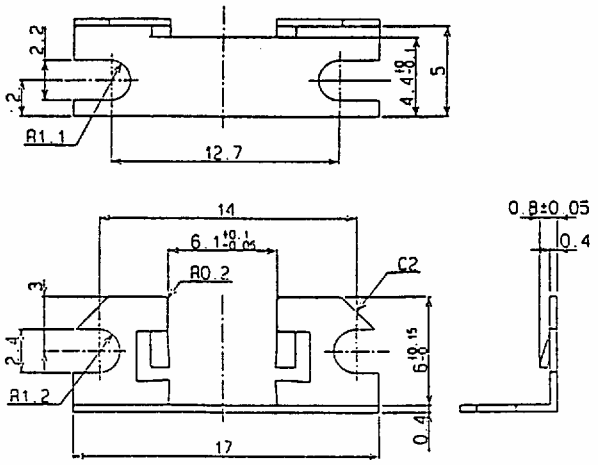
Fiber Type:	SMF
Buffer Diameter:	0.9±0.1 mm
Fiber Length:	1±0.1m
Connector:	SC/APC (optical Return Loss≧60dB)

4. OUTLINE DRAWING

Dimensions in millimeters



The bracket for mounting the OD-S559 to a PWB is available optionally. Part number of the bracket is OD-S328B.



Dimension of the bracket (OD-S328B)