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AOD155AA:

1550 nm DFB Laser Diode for 2.5 Gb/s

DESCRIPTION

AOD155AA is an uncooled 1550 nm DFB (distributed feedback) laser diode packaged in TO-56 with an aspheric lens and an output power monitoring photo diode. The excellent high temperature performance makes it suitable for low-cost uncooled short and intermediate reach applications in access and enterprise networks with modulation rate up to 2.5 Gb/s.

FEATURES

- Low threshold current and low operating current
- Wide temperature range operation (-20 to 85 °C)
- Stable single transverse and longitudinal mode emission

APPLICATIONS

- 2x Fiber Channel
- SONET OC-48 / SDH STM-16

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Rating	Unit
Optical output power	P_o	15	mW
LD forward current	I_{fl}	150	mA
LD reverse voltage	V_{rl}	2	V
PD reverse voltage	V_{rp}	20	V
PD forward current	I_{fp}	10	mA
Operating temperature	T_o	-20 to 85	°C
Storage temperature	T_s	-40 to 100	°C

OPTICAL AND ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Threshold current	I_{th}	—	10	13	mA	—
Slope efficiency	η	0.25	0.4	—	W/A	P_o = 5 mW
Operating current	I_{op}	—	—	40	mA	P_o = 5 mW
Operating voltage	V_{op}	—	1.1	1.6	V	P_o = 5 mW
Lasing Wavelength	λ	1520	1550	1580	nm	P_o = 5 mW
Side mode suppression ratio	SMSR	30	40	—	dB	P_o = 5 mW
Spectral Width (-20dB)	$\Delta\lambda$	—	—	0.5	nm	P_o = 5 mW
Rise time	t_r	—	100	150	psec	10% - 90%
Fall time	t_f	—	100	150	psec	90% - 10%
Monitor current	I_m	50	200	600	μA	P_o = 5 mW
Dark current	I_d	—	—	20	μA	V_{rp} = 5 V
Capacitance	C_t	—	10	20	pF	V_{rp} = 5 V, f = 1MHz

TYPICAL CHARACTERISTICS

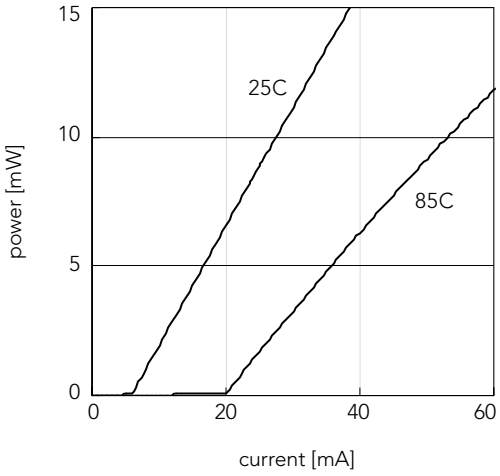

Fig. 1 Power vs. current

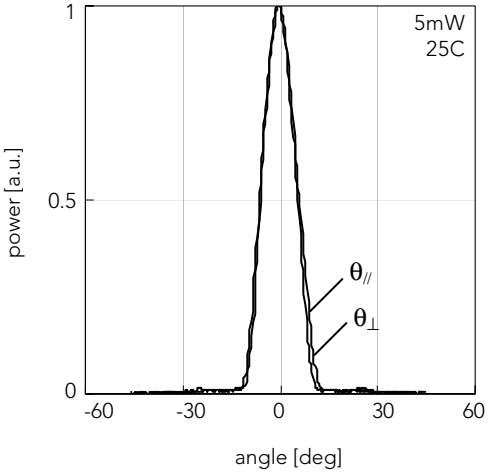

Fig. 2 Far field pattern

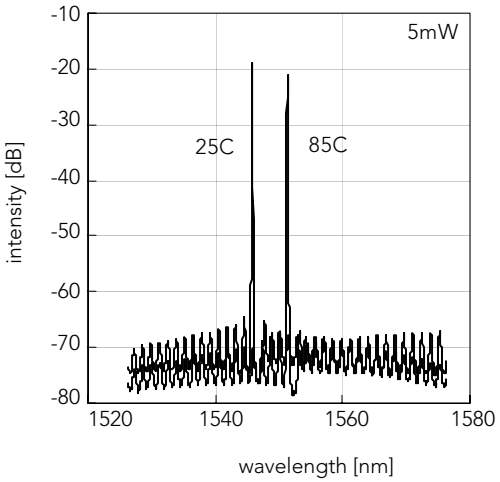

Fig. 3 Lasing spectrum