ML4XX19 SERIES

FOR OPTICAL COMMUNICATION SYSTEMS

TYPE NAME

ML44119N, ML44119R

DESCRIPTION

ML4XX19 is an AlGaAs semiconductor laser which provides a stable, single transverse mode oscillation with emission wavelength of 780nm and standard light output of 5mW.

It is produced by the MOCVD crystal growth method which is excellent in mass production and characteristics uniformity. This is a high-performance, highly reliable, and long-life semiconductor laser.

FEATURES

- Low droop
- Short astigmatic distance
- Low threshold current
- Single longitudinal mode
- Built-in photodiode

APPLICATION

Laser beam printer and digital copy

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Conditions	Ratings	Unit
P_O	Light output power	CW	8	mW
V_{RL}	Reverse voltage (Laser diode)	–	2	V
V_{RD}	Reverse voltage (Photodiode)	–	15	V
I_{FD}	Forward current (Photodiode)	–	10	mA
T_C	Case temperature	–	−40~+60	℃
T_{stg}	Storage temperature	–	−55~+100	℃

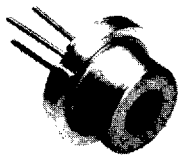
ELECTRICAL/OPTICAL CHARACTERISTICS (T_C = 25℃)

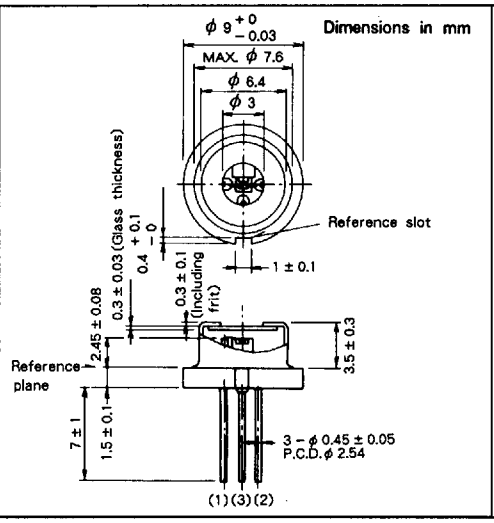
Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
I_{th}	Threshold current	CW	–	30	50	mA
I_{OP}	Operating current	CW, P_O = 5mW	–	45	70	mA
V_{OP}	Operating voltage	CW, P_O = 5mW	–	2.0	2.5	V
η	Slope efficiency	CW, P_O = 5mW	–	0.35	–	mW/mA
λ_P	Peak wavelength	CW, P_O = 5mW	765	780	795	nm
$\theta_{//}$	Beam divergence angle (parallel)	CW, P_O = 5mW	9	11	15	deg.
$\theta_{\perp}$	Beam divergence angle (perpendicular)	CW, P_O = 5mW	26	33	40	deg.
I_m	Monitoring output current (Photodiode)	CW, P_O = 5mW, V_{RD} = 1V, R_L * = 10 Ω	0.3	0.7	1.7	mA
I_D	Dark current (Photodiode)	V_{RD} = 10V	–	–	0.5	μA
C_t	Total capacitance (Photodiode)	V_{RD} = 0V, f = 1MHz	–	7	–	pF

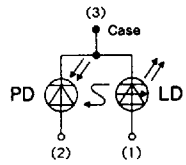
* R_L = The load resistance of photodiode.

OUTLINE DRAWINGS

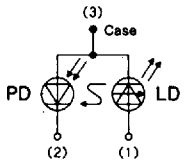
ML44119N/ ML44119R







ML44119N



ML44119R