

**PRELIMINARY**

Notice: This is not a final specification.  
Some parametric limits are subject to change.

MITSUBISHI LASER DIODES  
**ML7XX12 SERIES**

InGaAsP —MQW—FP LASER DIODE ARRAYS

TYPE  
NAME

**ML785B12**

**DESCRIPTION**

ML7XX12 series are InGaAsP laser diode arrays which provides 12beams with stable, single transverse mode oscillation of emission wavelength of 1310nm and standard continuous light output of 5mW.

This has excellent low threshold and high efficiency characteristics, and is suitable for such applications as the light sources for short-distance optical communication systems like optical interconnection.

**FEATURES**

- 1310nm typical emission wavelength
- 12 beams/chip
- 250  $\mu$ m spacing between beams
- Stable fundamental transverse mode oscillation
- Low threshold current ,low operating current
- High reliability, long operation life
- MQW\* active layer

\* : Multiple Quantum Well

**APPLICATION**

Optical interconnection system

**ABSOLUTE MAXIMUM RATINGS**

(for each beam)

Symbol	Parameter	Conditions	Ratings	Unit
P <sub>o</sub>	Light output power	CW	6	mW
V <sub>RL</sub>	Reverse Voltage (Laser diode)	—	2	V
T <sub>c</sub>	Case temperature	—	0~+85	°C
T <sub>stg</sub>	Storage temperature	—	-40~+100	°C

**ELECTRICAL/OPTICAL CHARACTERISTICS (T<sub>c</sub> = 25°C)**

(for each beam)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
I <sub>th</sub>	Threshold current	CW	—	2	5	mA
I <sub>OP</sub>	Operating current	CW, P <sub>o</sub> = 5mW	—	20	30	mA
V <sub>OP</sub>	Operating voltage	CW, P <sub>o</sub> = 5mW	—	1.1	1.5	V
$\eta$	Slope efficiency	CW, P <sub>o</sub> = 5mW	0.2	0.3	—	mW/mA
$\lambda_c$	Center wavelength	CW, P <sub>o</sub> = 5mW	1280	1310	1340	nm
$\Delta \lambda$	Spectral width (RMS)	CW, P <sub>o</sub> = 5mW	—	1	—	nm
$\theta_{//}$	Beam divergence angle (parallel)	CW, P <sub>o</sub> = 5mW	—	25	—	deg.
$\theta_{\perp}$	Beam divergence angle (perpendicular)	CW, P <sub>o</sub> = 5mW	—	30	—	deg.
t <sub>r</sub> , t <sub>f</sub>	Rise and fall time	I <sub>F</sub> = I <sub>th</sub> , P <sub>o</sub> = 5mW, 10~90%	—	0.3	0.5	ns

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**OUTLINE DRAWINGS**

