

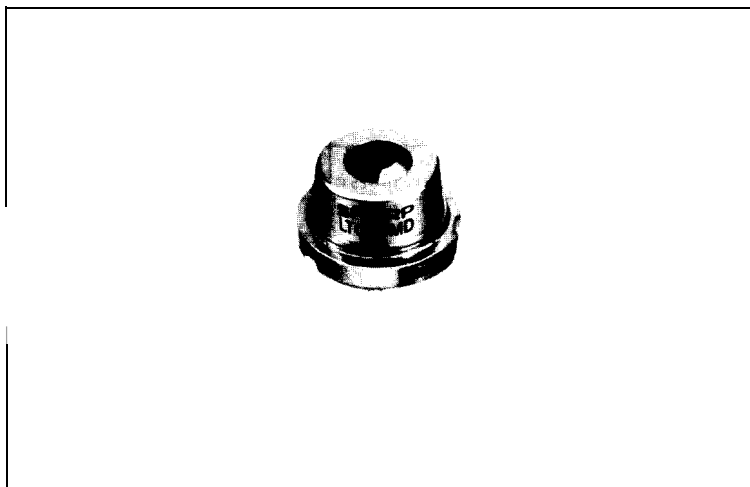
LT017MD

Features

- High power (maximum optical power output: 50 mW)
- Wavelength: 810 nm
- Single transverse mode

Applications

- YAG laser pumping
- High speed laser printers



Absolute Maximum Ratings

(T_c = 25°C)

Parameter	Symbol	Ratings	Units
Optical power output	P _o	50	mW
Reverse voltage	V _R	2	V
Operating temperature	T _{opr}	-10 to +50	°C
Storage temperature	T _{stg}	-40 to +85	°C

* 1 Case temperature

Electro-optical Characteristics

(T_c = 25°C)

Parameter	Symbol	Condition	Ratings			Units
			MIN	TYP	MAX	
Threshold current	I _{th}	—	—	65	85	mA
Operating current	I _{op}	P _o = 40mW	—	110	145	mA
Operating voltage	V _{op}	P _o = 40mW	—	1.8	2.2	V
Wavelength	λ _p	P _o = 40mW	790	810	830	nm
Monitor current	I _m	P _o = 40mW V _R = 15V	75	160	750	μA
Radiation characteristics	Angle	Parallel to junction	θ	5	8	11 deg
	Angle	Perpendicular to junction	θ _⊥	15	25	35 deg
Ripple	—	P _o = 40mW	—	—	—	±20 %
Emission point accuracy	Angle	P _o = 40mW	—	—	—	±2 deg
	Position	P _o = 40mW	—	—	—	±3 deg
Differential efficiency	η	30mW	—	—	—	—
	η	I _c (40mW) - I _c (10mW)	05	09	1.2	mW/mA

* 1 Initial value

* 3 Angle at 50% peak intensity (full width at half-maximum)

* 2 Single transverse mode

Electrical Characteristics of Photodiode

(T_c = 25°C)

Parameter	Symbol	Condition	Ratings			Units
			MIN	TYP	MAX	
Sensitivity	s	V _R = 15V	—	4	—	μA/mW
Dark current	I _D	V _R = 15V	—	—	150	nA
Terminal capacitance	C _t	V _R = 15V	—	8	20	pF

Fig. 85-1 Forward Current vs. Forward Voltage

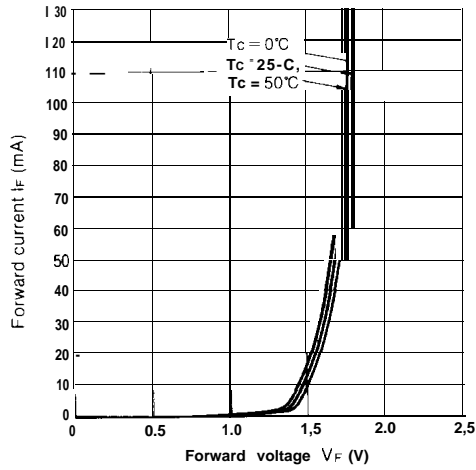


Fig. 85-4 Wavelength vs. Temperature

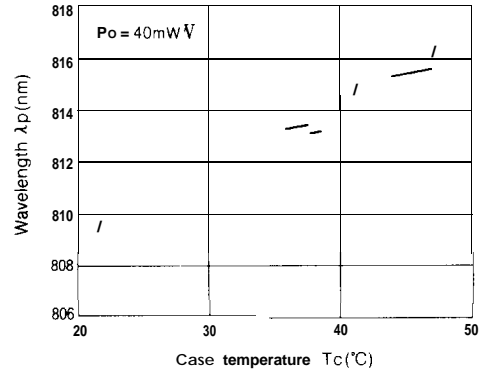


Fig. 85-2 Optical Power Output vs. Forward Current and Monitor Current

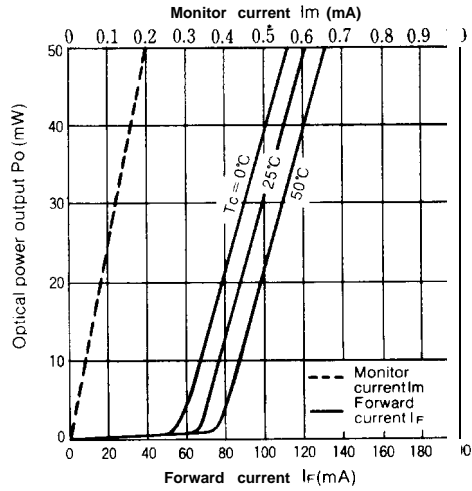


Fig. 85-5 Optical Power Output Dependence of Wavelength

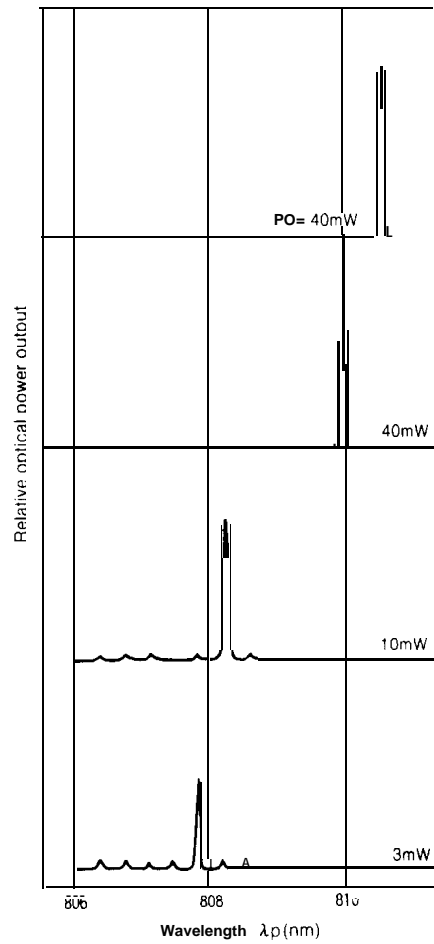
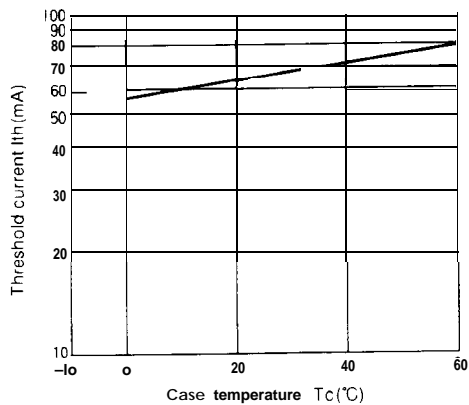


Fig. 85-3 Threshold Current vs. Temperature



Note: All data on this page is typical only, and is not intended as a specification. The shapes of these curves can be used as a general reference, but the actual characteristics will vary from device to device.