

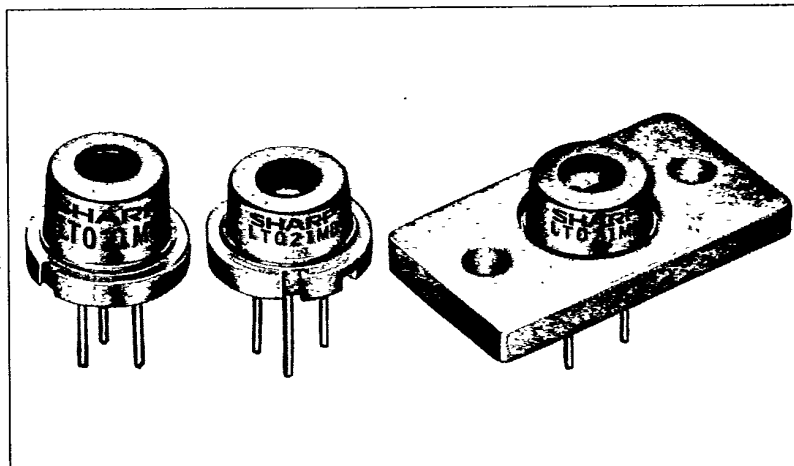
LT021MC/MD/MF

Features

- High power (maximum optical power output: 15 mW)
- Wavelength: 780nm
- Single transverse mode

Applications

- High speed laser printers
- Bar code readers
- Information processing equipment



Absolute Maximum Ratings

(T_c=25°C)

Parameter	Symbol	Ratings	Units
Optical power output	P _o	15	mW
Reverse voltage	V _R	Laser	2
		PIN	30
Operating temperature* ¹	T _{opr}	-10 ~ +60	°C
Storage temperature* ¹	T _{stg}	-40 ~ +85	°C
Soldering temperature* ²	T _{sol}	260 (less than 5 seconds)	°C

*1 Case temperature *2 At point 1.6 mm from lead base

Electro-optical Characteristics*¹

(T_c=25°C)

Parameter	Symbol	Condition	Ratings			Units	
			MIN	TYP	MAX		
Threshold current	I _{th}	—	—	45	80	mA	
Operating current	I _{op}	P _o =10mW	—	75	110	mA	
Operating voltage	V _{op}	P _o =10mW	—	1.8	2.5	V	
Wavelength* ²	λ _p	P _o =10mW	770	780	790	nm	
Monitor current	I _m	P _o =10mW V _R =15V	1.0	3.0	5.0	mA	
Radiation angles* ³	Parallel to junction	θ	P _o =10mW	8	11	16	deg
	Perpendicular to junction	θ _⊥	P _o =10mW	20	33	45	deg
Emission point accuracy	Angle	Δφ	P _o =10mW	—	—	±2	deg
		Δφ _⊥	P _o =10mW	—	—	±3	deg
	Position* ⁴	Δx, Δy, Δz	—	—	—	±80	μm

*1 Initial value

*2 Single transverse mode

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

*4 Not specified for LT021MF

Electrical Characteristics of Photodiode

(T_c=25°C)

Parameter	Symbol	Condition	Ratings			Units
			MIN	TYP	MAX	
Sensitivity	S	V _R =15V	—	0.3	—	mA/mW
Dark current	I _D	V _R =15V	—	—	150	nA
Terminal capacitance	C _t	V _R =15V	—	8	—	pF

LT021 Series Characteristics Diagrams

Fig. 51-1 Forward Current vs. Forward Voltage

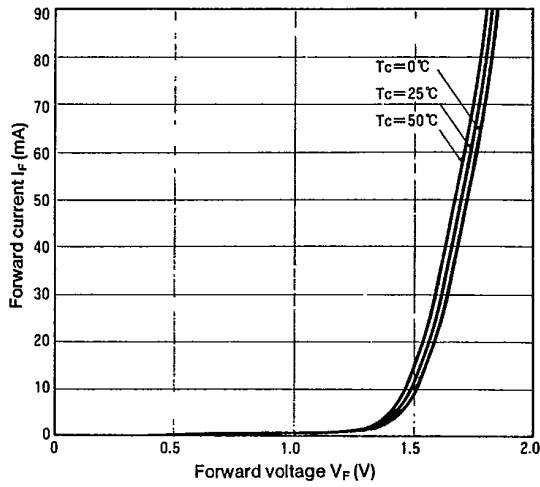


Fig. 51-4 Wavelength vs. Temperature

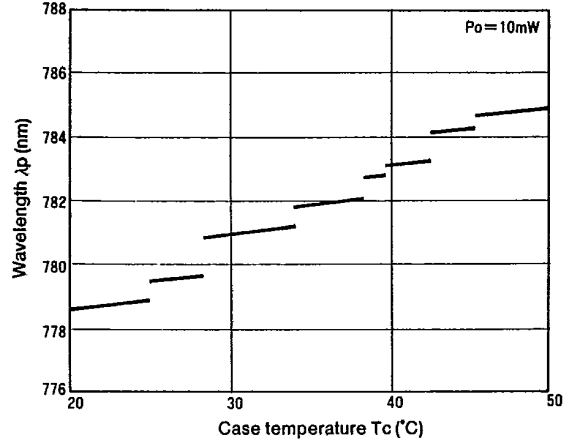


Fig. 51-2 Optical Power Output vs. Forward Current and Monitor Current

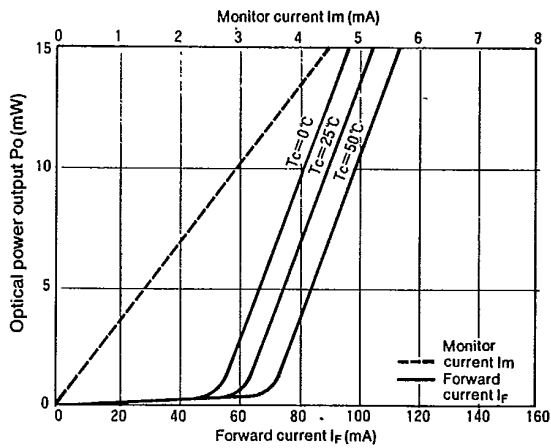


Fig. 51-5 Optical Power Output Dependence of Wavelength

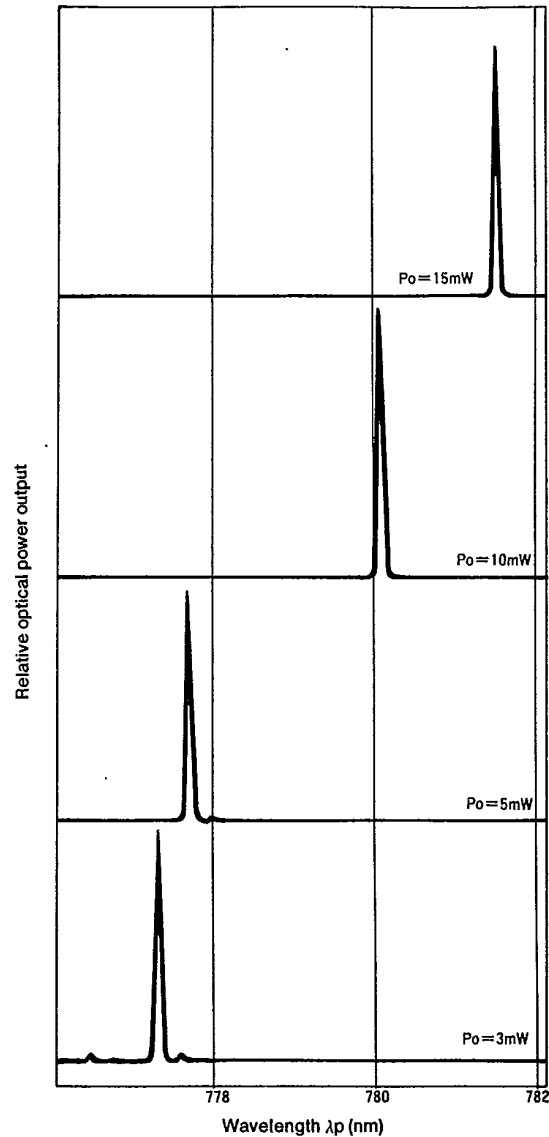
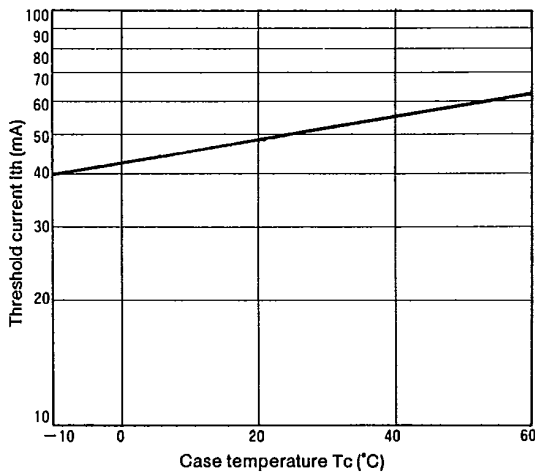


Fig. 51-3 Threshold Current vs. Temperature



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.