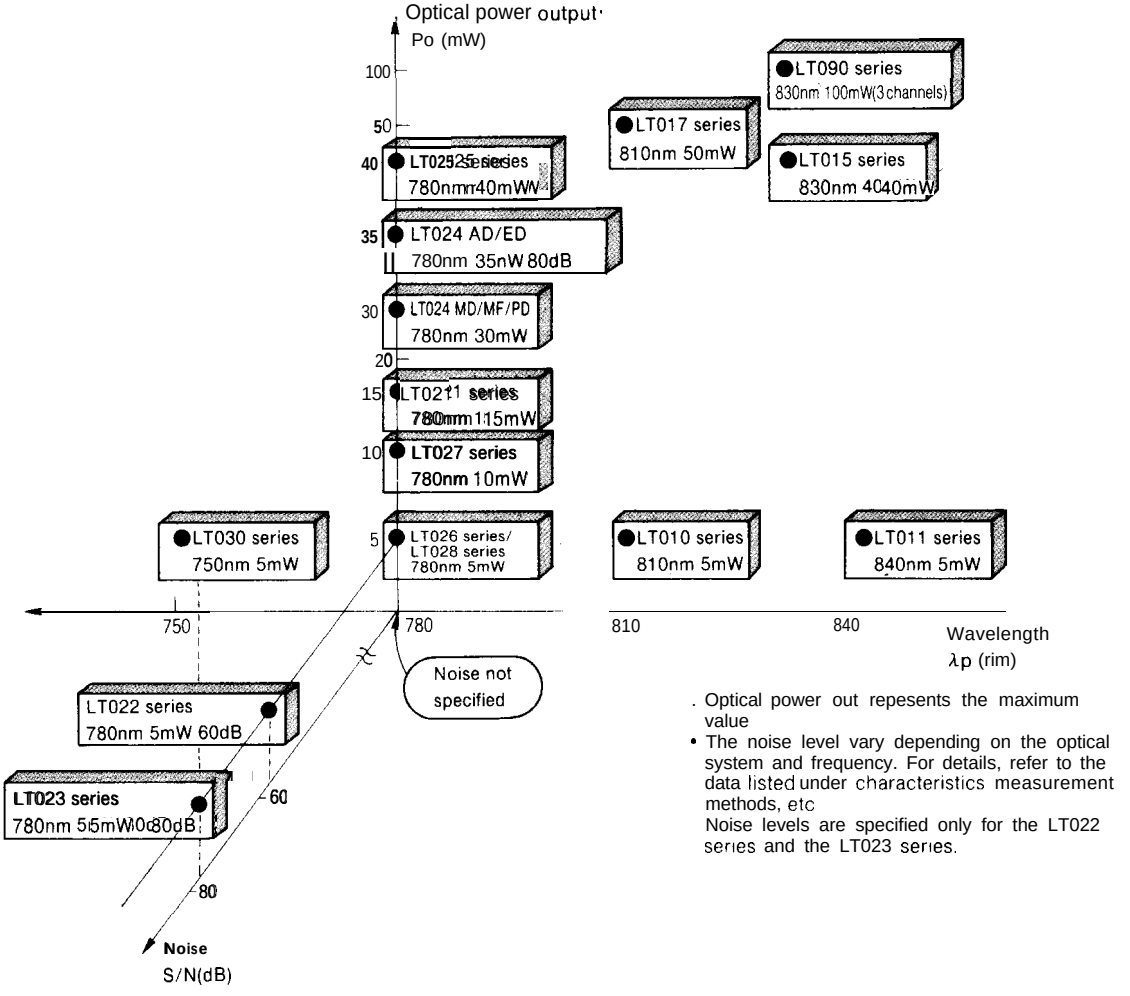
Laser Diode Quick Guides/Typical Characteristics

Quick Guide I

Conformable to No.842008/0 FDA (U.S.A)

Model No.	Wavelength (rim)	Optical power output (mW) TYP	MAX	Featurea	Applications	Page Number
LT030 series	750	3	5	Short wavelength	High-speed laser printers, Bar code reades	42
LT021 series		10	15	High power	High-seed laser printers, Bar code readers	70
LT022 series		3	"5	Low noise	CD players, CD-ROMs	44
LT023 series		3	5	Low noise (multi-mode)	Video disc players, Fiber optic communications	54
LT024 MD/MF/PD		20	30	High power	Optical disk memories (magneto-optical disk systems DRAW)	72
LT024 AD/ED	780	30	35	High power, Low noise	Optical disk memories (magneto-optical disk systems DRAW)	75
LT025 series		30	40	High power	High-speed laser printers Optical disk memories	79
LT026 series		3	5	Small astigmatism	General use laser beam printers	62
LT027 series		7	10	General use	Medium speed laser printers	68
LT028 series		3	5	Small astigmatism	General use laser beam printers	65
LT010 series	810	3	5	General use	Short-range communications, Measurement and control instruments	82
LT017 series		30	High	High power	YAG laser pumping, High-speed laser printers	84
LT015 series	830	30	40	High power	Optical disk memories	86
LT090 series		80	100	High power (3 channels)	Medical apparatus, Fiber optic communications, measurement and control instruments	89
LTO1 1 series	840	3	5	General use	Measurement and control instruments	91

Fig. 6-1 Relationship Wavelength, Optical Power Output, and Noise



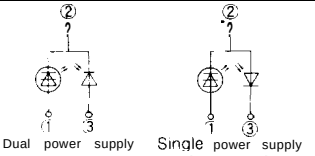
. Optical power out repesents the maximum value

• The noise level vary depending on the optical system and frequency. For details, refer to the data listed under characteristics measurement methods, etc
Noise levels are specified only for the LT022 series and the LT023 series.

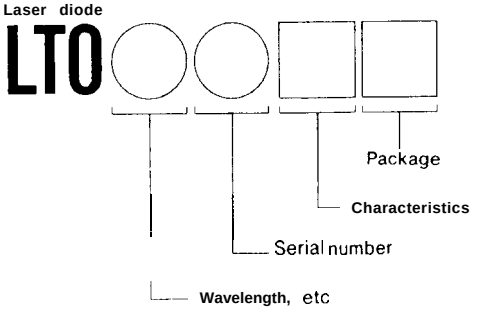
Quick Guide Ⅱ

Wavelength(nm)	Maximum optical power output(mW)	Features	C Dual power supply	D Dual power supply	D Single power supply	F Dual power supply	S Dual power supply	S Single power supply
750	5	Short wavelength		LT030MD	—	LT030MF	—	—
		Low noise	LT022MC	LT022MD	LT022PD	LT022MF	LT022MS	LT022PS
		Wide temperature range	LT022HC	—	LT022WD	—	LT022HS	LT022WS
		Low noise (multi-mode)	LT023MC	LT023MD	—	LT023MF	LT023MS	LT023PS
		Wide temperature range	LT023HC	—	—	—	LT023HS	LT023WS
		Small astigmatism	—	LT026MD	—	LT026MF	LT026MS	—
780	7			—	—	—	—	LT028PS/GS
	10	General use		LT027MD	—	LT027MF	—	—
	15	High power	LT021MC	LT021MD	—	LT021MF	—	—
	30	High power	—	LT024MD	LT024PD	LT024MF	—	—
	35	High power, Low noise	—	LT024AD	LT024ED	—	—	—
	40	High power	—	LT025MD	LT025PD	LT025MF	—	—
810	5	General use	LT010MC	LT010MD	—	—	—	—
	50	High power	—	LT017MD	—	—	—	—
830	40	High power	—	LTO15MD	LTO15PD	LT015MF	—	—
	100	High power, 3 channels	—	LT090MD	—	LT090MF	—	—
840	5	General use	—	—	—	—	LT011MS	LT011PS

Terminal connection



● **Numbering System**



Wavelength, etc.

Symbol	Wavelength
1	800 nm band
2	780 nm band
3	750 nm band
9	Multi-channel

Characteristics

Symbol	Feature
M	Dual power supply
H	Wide temperature
A	Low nise
P	Single power supply
W	Wide temperature
E	Low noise
G	Large monitor current

Package

Symbol	Stem	Feature
C	9.0mmφ	Standard cap
D		Low cap
F		Low cap, with fin
S	5.6mmφ	Small

Typical Characteristics

Absolute Maximum Ratings (Tc=25℃)

Model No.	Optical power output Po(mW)	Reverse voltage V_R(V)	Operating temperature Topr(℃)	Storage temperature Tstg(℃)
LT030 series	5	2	−10 to +60	−40 to +85
LT021 series	15			
LT022 series*	5			
LT023 series*	5			
LT024 MD/MF/PD	30		−10 to +50	
LT024 AD/ED	35		−10 to +60	
LT025 series	40		−10 to +50	
LT026 series	5		−10 to +60	
LT027 series	10			
LT028 series	5			
LTO1 O series	5			
LTO17 series	50		−10 to +50	
LT015 series	40			
LT090 series	100			
LT011 series	5		−10 to +60	

*In case of wide temperature type: Topr −30 to + 85℃, Tstg −40 to +100℃

Electro-optical Characteristics (Tc=25℃)

Model No.	Wavelengh λp(nm)			Radiation angles						Condition
				Parallel to junction plane θ//(deg)			Perpendicular to junction plane θ⊥(deg)			
	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	
LT030 series	740	750	760	7	10	16	20	38	48	Po=3mW
LT021 series	770	780	790	8	11	16	20	33	45	Po=10mW
LT022 series	770	780	790 (795)	8.5	11	16	20 (25)	33 (35)	45 (48)	Po=3mW
LT023 series	770	780	795	9	11	16	20	37	48	Po=3mW
LT024 MD/MF/PD	765	780	795	8	10	14	20	29	38	Po=20mW
LT024 AD/ED	770	780	795	8	9.5	13	20	26	32	Po=20mW
LT025 series	770	780	795	8	9.5	13	20	26	32	Po=30mW
LT026 series	770	780	790	8	11	16	20	29	36	Po=3mW
LT027 series	770	780	790	8	10	14	20	29	38	Po=7mW
LT028 series	770	780	795	8	11	14	20	29	36	Po=3mW
LTO1 O series	800	810	820	8	11	16	20	33	45	Po=3mW
LTOI 7 series	790	810	830	—	8	—	—	25	—	Po=40mW
LTO15 series	815	830	845	8	9.5	14	20	27	38	Po=30mW
LT090 series	810	830	850	7	10	14	20	28	38	Po=80mW
LT011 series	825	840	855	8.5	12	16	25	40	48	Po=3mW

Ratings in parenthesis are for LT022MS/LT022PD