

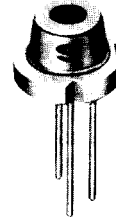
LT022WS

Features

- Wide temperature range (-30°C to $+85^{\circ}\text{C}$)
- Compact (diameter: 5.6mm)
- Low noise S/ N: -60 dB
(according to measurement method Fig.27-2)
- Wavelength: 780nm
- Single transverse mode

Applications

- CD-ROMs
- CD players
- Information processing equipment



Absolute Maximum Ratings

($T_c = 25^{\circ}\text{C}$)

Parameter	Symbol	Ratings	Units
Optical power output		5	mW
Reverse voltage	Laser	2	V
	PIN	30	
Operating temperature **	T_{opr}	-30 to $+85$	$^{\circ}\text{C}$
Storage temperature *	T_s	-40 to $+100$	$^{\circ}\text{C}$

* 1 Case temperature

Electro-optical Characteristics **

($T_c = 25^{\circ}\text{C}$)

Parameter	Symbol	Condition	Ratings			Units	
			MIN	TYP	MAX		
Threshold current	I_{th}			45	60	mA	
Operating current	I_{op}	$P_o = 3\text{mW}$		55	75	mA	
Operating voltage	V_{op}	$P_o = 3\text{mW}$		175	200	V	
Wavelength *2	λ_p	$P_o = 3\text{mW}$	770	780	795	nm	
Monitor current	I_m	$P_o = 3\text{mW}$ $V_B = 15\text{V}$	0.08	0.20	0.42	mA	
Radiation characteristics	Angle *3	Parallel to junction	$\theta_{//}$	8.5	11	16	deg
		Perpendicular to junction	θ_{\perp}	29	35	48	deg
	Ripple	$P_o = 3\text{mW}$			± 20	%	
Emission point accuracy	Angle		$\Delta\phi_{//}$			± 2	deg
			$\Delta\phi_{\perp}$			± 3	deg
Differential efficiency	Position		$\Delta x, \Delta y, \Delta z$			± 80	μm
			η	2mW $I_F(3\text{mW}) - I_F(1\text{mW})$	0.15	0.3	0.5

* 1 Initial value

* 3 Angle at 500% peak intensity (full width at half-maximum)

* 2 Single transverse mode

Electrical Characteristics of Photodiode

($T_c = 25^{\circ}\text{C}$)

Parameter	Symbol	Condition	Ratings			Units
			MIN	TYP	MAX	
Sensitivity	S	$V_R = 15\text{V}$		0.07		mA/mW
Dark current	I_D	$V_R = 15\text{V}$			150	nA
Terminal capacitance	C_t	$V_R = 15\text{V}$		9		pF