

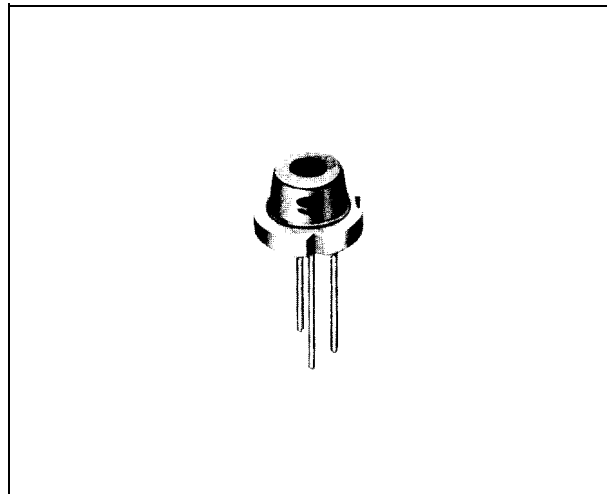
LT022HS

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	P_o	5	mW
Reverse voltage	Laser	2	V
	PIN	30	
Operating temperature* 1	T_{opr}	-30 to $+85$	$^{\circ}\text{C}$
Storage temperature* 1	T_{stg}	-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	70	mA		
Operating current	I_{op}	$P_o = 3\text{mW}$		55	85	mA		
Operating voltage	V_{op}	$P_o = 3\text{mW}$		1.75	2.0	V		
Wavelength**	λ_p	$P_o = 3\text{mW}$	770	780	795	nm		
Monitor current	I_m	$P_o = 3\text{mW}$ $V_R = 15\text{V}$	012	04	085	mA		
Radiation characteristics	Angle* 3	Parallel to junction	$\theta_{//}$	$P_o = 3\text{mW}$	8.5	11	16	deg
		Perpendicular to junction	θ_{\perp}	$P_o = 3\text{mW}$	25	35	48	deg
Ripple		$P_o = 3\text{mW}$				± 20	%	
Emissionpoint accuracy	Angle		$\Delta\phi_{//}$	$P_o = 3\text{mW}$			± 2	deg
			$\Delta\phi_{\perp}$	$P_o = 3\text{mW}$			± 3	deg
Position			$A_x, \Delta y, \Delta z$				± 80	μm
Differential efficiency				$\frac{2\text{mW}}{I_F(3\text{mW}) - I_F(1\text{mW})}$	0.5	0.3	0.6	mW/mA

* 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	$V_R = 15\text{V}$		0.13		mA/mW
Dark current	I_D	$V_R = 15\text{V}$			150	nA
Terminal capacitance	C_t	$V_R = 15\text{V}$		3.5	10	pF