

Under development	
New product	●

LT022LS/TS

Compact Laser Diode

Low current operation, compact $\phi 5.6$ Laser Diode

Model Name

- **LT022LS** **** Single power supply
- **LT022TS** **** Double power supply

Features

- (1) Low current operation (operating current: 36mA)
- (2) Compact $\phi 5.6$ mm package
- (3) Wavelength: 780nm

Applications

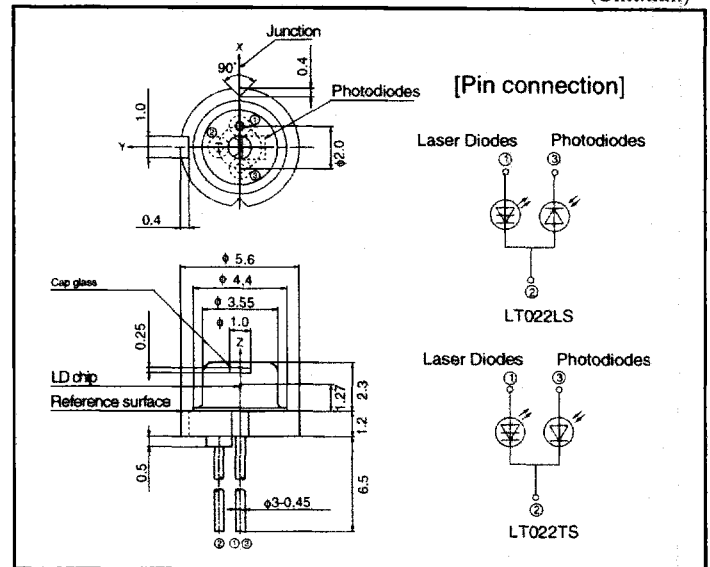
- (1) CD players
- (2) CD-ROM Drives

Absolute Maximum Ratings

Parameter	Symbol	Ratings	Units
Optical power output	P_o	5	mW
Reverse voltage	Laser	2	V
	PIN	30	
Operating temperature *1	T_{opr}	-10 to +60	°C
Storage temperature *1	T_{stg}	-40 to +85	
Soldering temperature *2	T_{sol}	260(5s or less)	

Outline Dimensions

(Unit:mm)



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

- *1 Case temperature
- *2 At the point 1.6mm below root of lead
- *3 Single transvers mode
- *4 Angle at 50% peak intensity (full width at half-maximum)
- *5 $\Delta x, y$ indicate a displacement of the light emitting point from the center of a stem periphery

Electro-optical Characteristics

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

Parameter	Symbol	Condition	MIN	TYP	MAX	Units		
Threshold current	I_{th}	-	-	27	37	mA		
Operating current	I_{op1}	$P_o=3\text{mW}$	-	36	45	mA		
Operating current	I_{op2}	$P_o=3\text{mW}, T_c=60^\circ\text{C}$	-	-	65	mA		
Operating voltage	V_{op}	$P_o=3\text{mW}$	-	1.85	2.2	V		
Wavelength *1	λ_p	$P_o=3\text{mW}$	770	780	795	nm		
Monitor current	I_m	$P_o=3\text{mW}, V_R=15\text{V}$	LT022LS 0.08	0.2	0.42	mA		
			LT022TS 0.12	0.4	0.85			
Laser diodes	Radiation characteristics	Angle *3	Parallel	$\theta_{ }$	8.5	11	16	°
		Perpendicular		θ_{\perp}	29	35	48	°
		Ripple		-20	-	20	%	
	Emission Point accuracy	Angle *4	$\Delta\phi_{ }$	-2	-	2	°	
$\Delta\phi_{\perp}$			-3	-	3	°		
Position *5		Δxyz	-80	-	80	μm		
Differential efficiency	η	$\frac{2\text{mW}}{I_{op}(3\text{mW}) - I_{op}(1\text{mW})}$	0.17	0.27	0.55	mW/mA		
Photo diodes	Sensitivity	S	-	0.07	-	mA/mW		
	Dark current	I_D	-	-	150	nA		
	Terminal capacitance	C_t	-	9	-	pF		

NOTICE

In the absence of device specification sheets, SHARP takes no responsibility for any defects that may occur in equipment using any SHARP devices shown in catalogs, data books, etc. Contact SHARP in order to obtain the latest device specification sheets before using any SHARP device.