
HL1328DJS

1.3 μm InGaAsP Laser Diode

HITACHI

Description

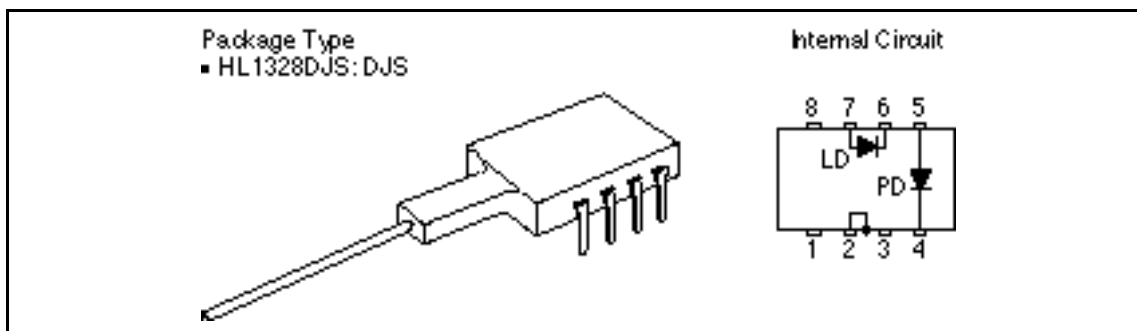
The HL1328DJS is a 1.3 μm InGaAsP Fabry-Perot laser diode with a multi-quantum well (MQW) structure. It is suitable as a light source in 155 Mb/s or 622 Mb/s short haul fiberoptic communication systems and other types of optical equipment. Laser output is delivered from the non-hermetic miniature DIL package through SC optical connector attached at the end of fiber pigtail. A built-in photodiode provides monitor current output.

Features

- Wide operating temperature range: $T_{opr} = -40$ to $+85^{\circ}\text{C}$
- Optical output power: 0.4 mW
- Miniature plastic DIL package

Fiber Specifications

- Mode field diameter: $9.5 \pm 1.0 \mu\text{m}$
- Cutoff wavelength: 1.10 to 1.27 μm
- Outer diameter: 125 μm nominal
- Jacket diameter: 900 μm nominal
- Fiber minimum bend radius: 30 mm



Absolute Maximum Ratings (Ta = 25 °C)

Item	Symbol	Value	Unit	Condition
LD forward current	$I_{F(LD)}$	$I_{th} + 50$	mA	
LD reverse voltage	$V_{R(LD)}$	2	V	
PD forward current	$I_{F(PD)}$	10	mA	
PD reverse voltage	$V_{R(PD)}$	15	V	
Operating temperature	T_{opr}	-40 to +85	°C	
Storage temperature	T_{stg}	-40 to +85	°C	

Optical and Electrical Characteristics (Ta = -40 to 85°C)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	I_{th}	—	—	5	mA	Ta = 25°C
		—	—	10		Ta = 85°C
Optical output power	P_o	0.4	—	—	mW	Kink free
Slope efficiency	s	0.021	0.03	0.06	mW/mA	Ta = 25°C
		0.013	0.02	0.04		Ta = 85°C
Temp. dependency of slope efficiency relative to 25°C	s	-2	—	1	dB	
Operating voltage	V_{OP}	—	—	1.2	V	Pf = 0.4 mW
Lasing wavelength	c	1265	1310	1350	nm	Pf = 0.4 mW, RMS
Spectral width		—	—	2.5	nm	Pf = 0.4 mW, RMS
Rise time	t_r	—	—	0.5	ns	Pf = 0.4 mW, $I_b = I_{th}$, 10 to 90 %
Fall time	t_r	—	—	0.5	ns	Pf = 0.4 mW, $I_b = I_{th}$, 90 to 10 %
Monitor current	I_s	200	—	—	μA	Pf = 0.4 mW, $V_{R(PD)} = 2$ V
Temp dependency of tracking error relative to 25°C	Pf	-1	—	1	dB	Pf = 0.4 mW, $V_{R(PD)} = 2$ V $I_s = \text{const.}$
PD dark current	$I_{(DARK)}$	—	—	100	nA	$V_{R(PD)} = 2$ V