

Description

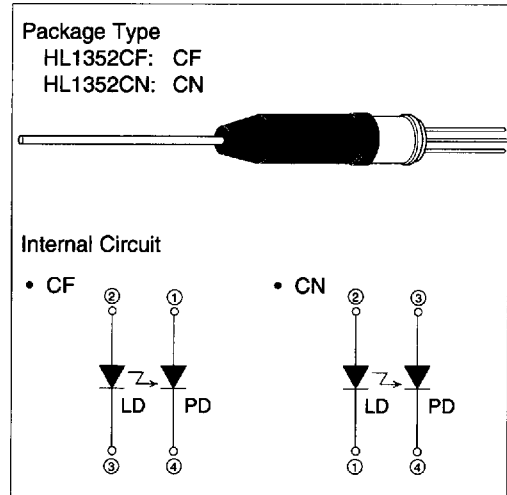
The HL1352CF/CN are 1.3 μm InGaAsP DFB laser diodes with a multi-quantum well (MQW) structure. They are suitable as light sources for short and medium - range fiberoptic communication systems. Laser output is delivered from the coaxial package through an attached single mode fiber. A built-in photodiode provides monitor current output.

Features

- Wide operating temperature range:
 $T_{\text{opr}} = -20$ to $+85^{\circ}\text{C}$
- High output power: 3 mW (Pulse)
 2 mW (CW)
- Low operating current:
 $I_{\text{op}} (P_f = 1.5 \text{ mW}) = 30 \text{ mA}$ (Typ. @ $T_C = 25^{\circ}\text{C}$)
 $I_{\text{op}} (P_f = 1.5 \text{ mW}) = 80 \text{ mA}$ (Typ. @ $T_C = 85^{\circ}\text{C}$)

Fiber Specifications

Mode field diameter: $10.0 \pm 1.0 \mu\text{m}$
 Cutoff wavelength: 1.10 to $1.20 \mu\text{m}$
 Core diameter: $10 \mu\text{m}$
 External diameter: $125 \mu\text{m}$
 Jacket diameter: $900 \mu\text{m}$
 Fiber length: More than 500 mm



Absolute Maximum Ratings ($T_C = 25^{\circ}\text{C}$)

Item	Symbol	Rated Value	Unit
Fiber optical output power	P_f	3 (pulse) 2 (CW)	mW
LD reverse voltage	$V_R (\text{LD})$	2	V
PD reverse voltage	$V_R (\text{PD})$	15	V
PD forward current	$I_F (\text{PD})$	1	mA
Operating temperature	T_{opr}	-20 to +85	$^{\circ}\text{C}$
Storage temperature	T_{stg}	-40 to +85	$^{\circ}\text{C}$

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Optical and Electrical Characteristics ($T_C = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	I_{th}	—	15	30	mA	
Fiber optical output power	P_f	2	—	—	mW	Kink free
Slope efficiency	η	0.08	0.17	—	mW/mA	$T_C = 25^\circ\text{C}$
		0.04	0.7	—		$T_C = 85^\circ\text{C}$
Lasing wavelength	λ_p	1290	1310	1330	nm	$P_f = 1.5 \text{ mW}$
Side-mode suppression ratio	S_r	30	—	—	nm	$P_f = 1.5 \text{ mW}$
Rise time	t_r	—	—	0.5	ns	10 to 90%
Fall time	t_f	—	—	0.5	ns	90 to 10%
Monitor current	I_S	100	—	—	μA	$P_f = 1.5 \text{ mW}, V_{R(PD)} = 5 \text{ V}$
PD dark current	I_{DARK}	—	—	350	nA	$V_{R(PD)} = 5 \text{ V}$
PD capacitance	C_t	—	15	20	pF	$V_{R(PD)} = 5 \text{ V}, f = 1 \text{ MHz}$
Photosensitivity saturation voltage $V_{R(S)}$		—	—	2	V	



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