
HL1326GN

1.3 μm InGaAsP Laser Diode

HITACHI

ADE-208-464 (Z)

1st. Edition

November 1996

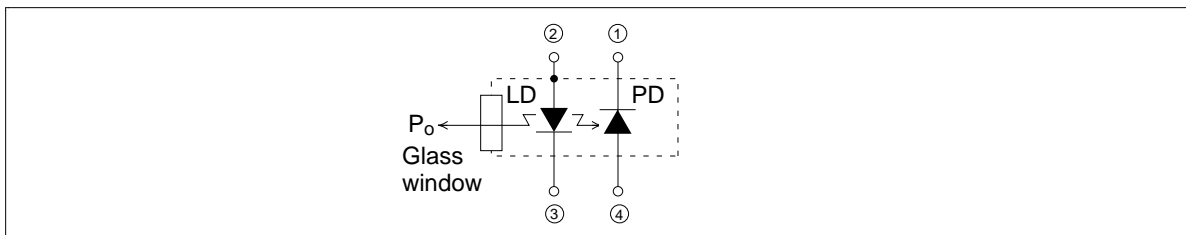
Description

The HL1326GN 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 short and medium range fiberoptic communication systems and other types of optical equipment. It has high optical power with low drive current and wide operating temperature range (-40 to $+85^\circ\text{C}$). The compact package is suitable for module assembly.

Features

- Wide operating temperature range: $T_{\text{opr}} = -40$ to $+85^\circ\text{C}$
High output power: 10 mW(Pulse)
5 mW(CW)
- Low operating current : $I_{\text{op}}(P_{\text{O}} = 5\text{mW}) = 20$ mA (typ. @ $T_{\text{c}} = 25^\circ\text{C}$)
 $I_{\text{op}}(P_{\text{O}} = 5\text{mW}) = 40$ mA (typ. @ $T_{\text{c}} = 85^\circ\text{C}$)

Internal Circuit



HL1326GN

Absolute Maximum Ratings

Item	Symbol	Value	Unit
Optical output power	P_O	10(Pulse) ^{*1}	mW
		5(CW)	mW
LD reverse voltage	$V_{R(LD)}$	2	V
PD reverse voltage	$V_{R(PD)}$	15	V
PD forward current	$I_{F(PD)}$	1	mA
Operating temperature	T_{opr}	-40 to +85	°C
Storage temperature	T_{stg}	-40 to +100	°C

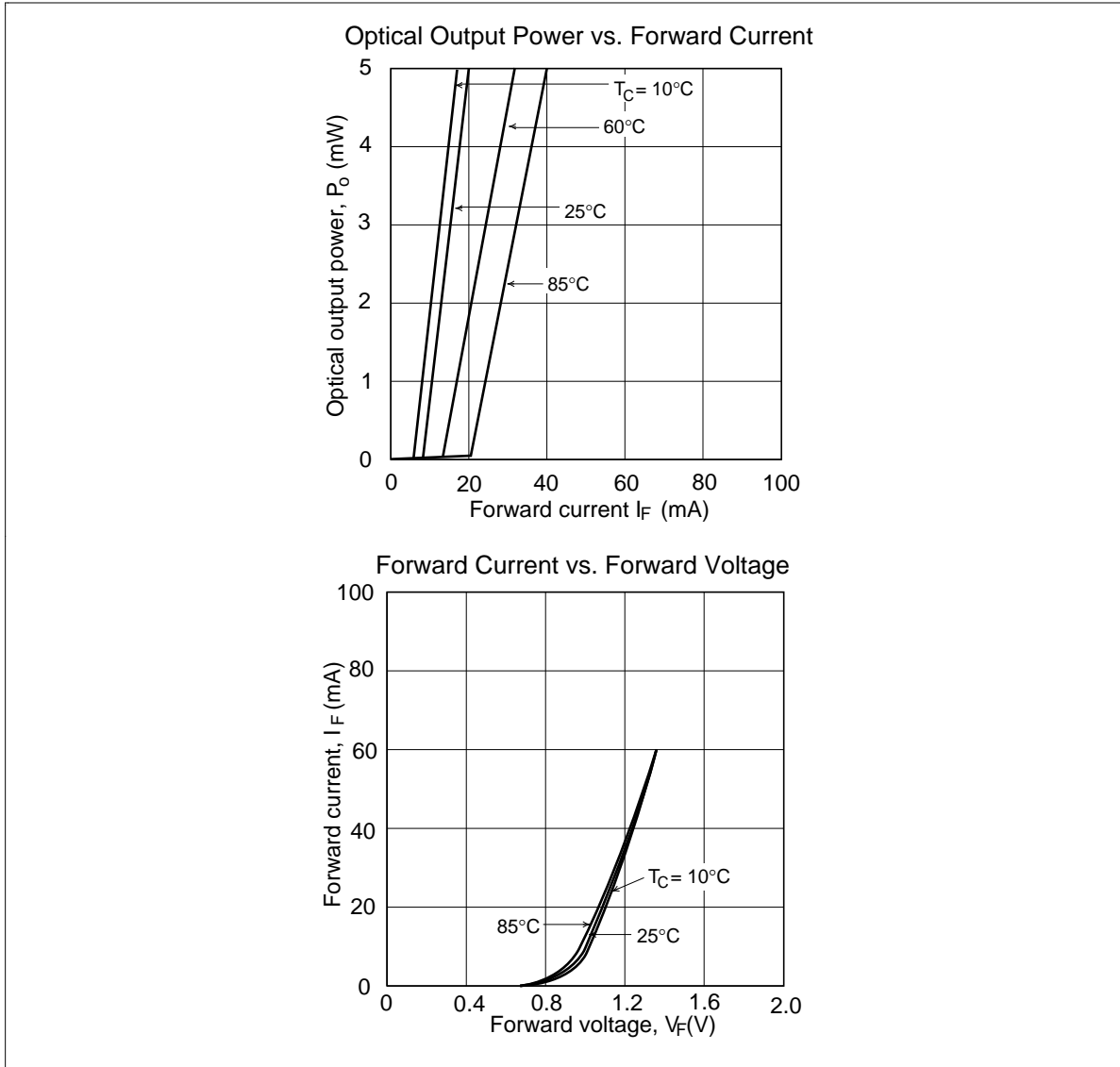
Note 1: Maximum 50% duty cycle, maximum 1μs pulse width.

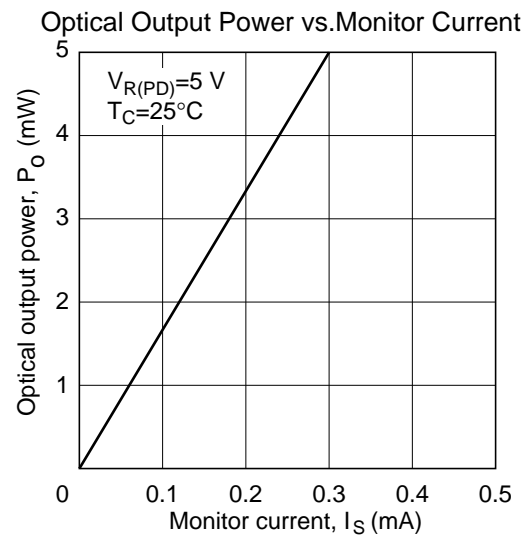
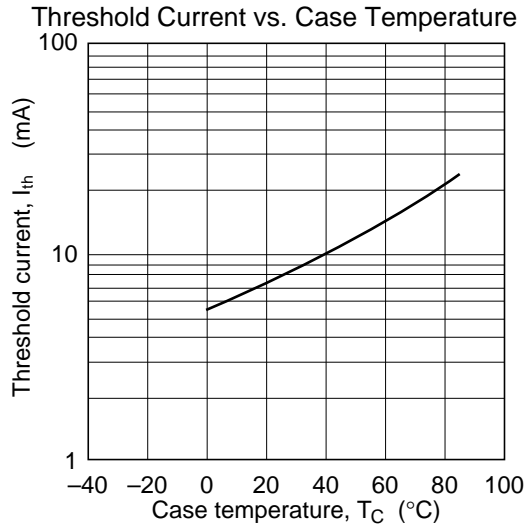
Optical and Electrical Characteristics ($T_C = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Threshold current	I_{th}	—	8	20	mA	
Optical output power	P_O	5	—	—	mW	Kink free ^{*2}
Slope efficiency	η_s	0.3	0.4	—	mW/mA	$T_C = 25^\circ\text{C}$
		0.15	0.25	—		$T_C = 85^\circ\text{C}$
Lasing wavelength	λ_c	1280	1310	1340	nm	$P_O = 5 \text{ mW, RMS}$
Spectral width	σ	—	2	—	nm	$P_O = 5 \text{ mW, RMS}$
Beam divergence (parallel)	$\theta_{//}$	—	30	—	deg.	$P_O = 5 \text{ mW, FWHM}$
Beam divergence(perpendicular)	θ_{\perp}	—	40	—	deg.	$P_O = 5 \text{ mW, FWHM}$
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	$P_O = 5 \text{ mW, } V_{R(PD)} = 5 \text{ V}$
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	

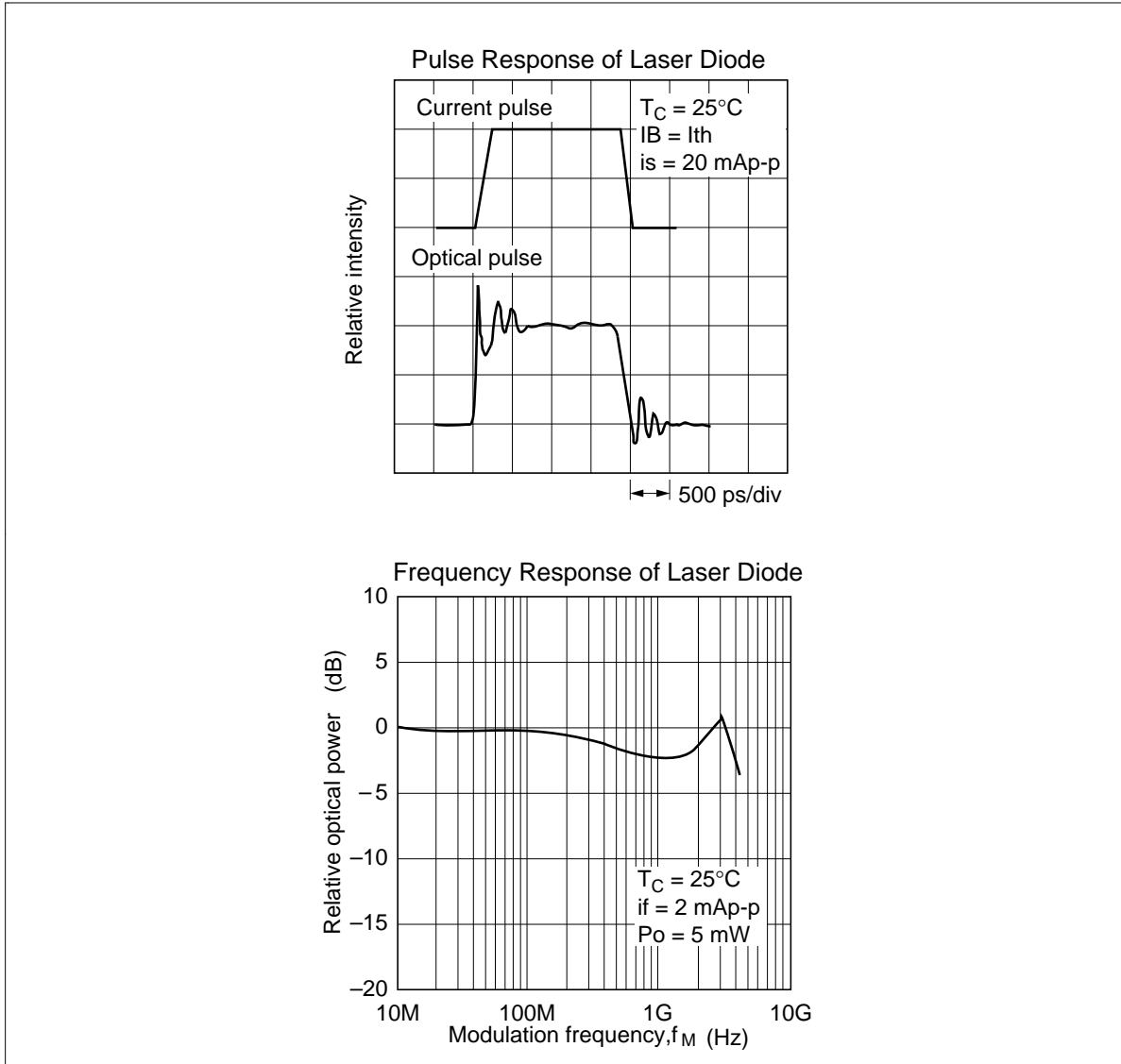
Note 2: Kink free up to 5mW is confirmed at the temperatures of 10°C, 25°C and 85°C.

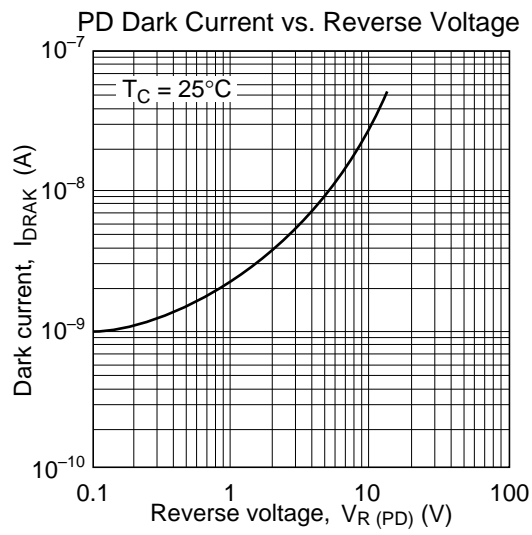
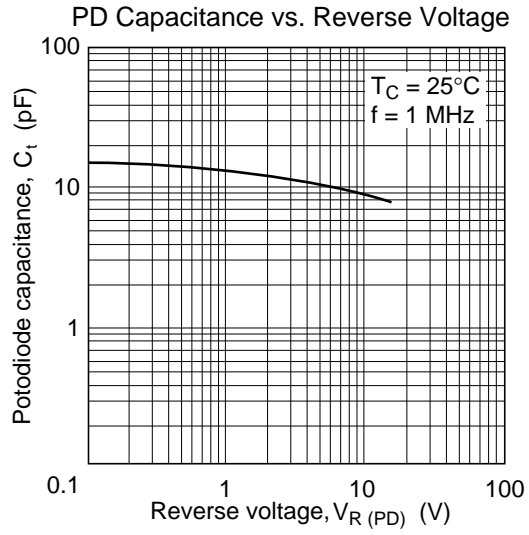
Typical Characteristics Curves



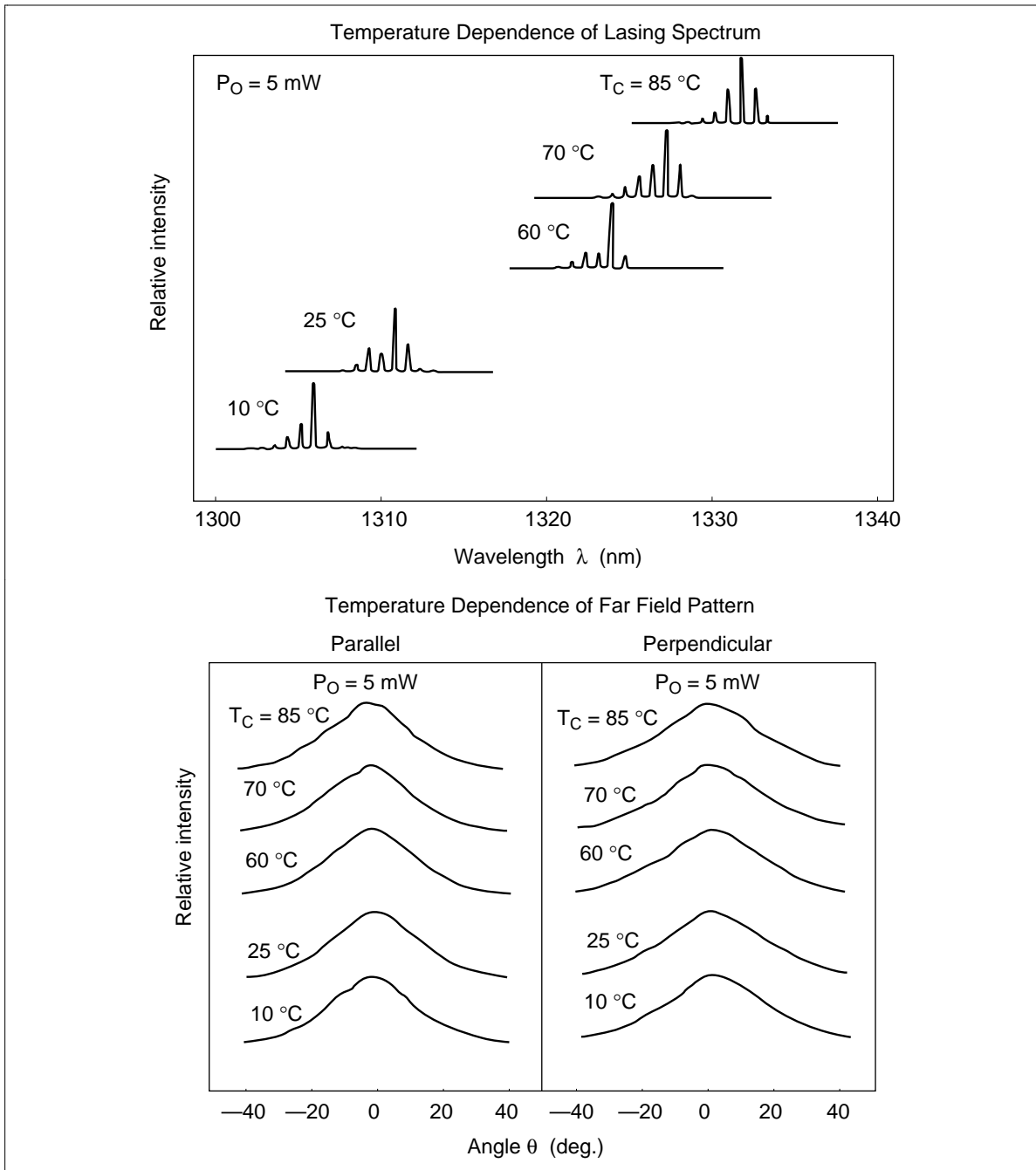


Typical Characteristics Curves





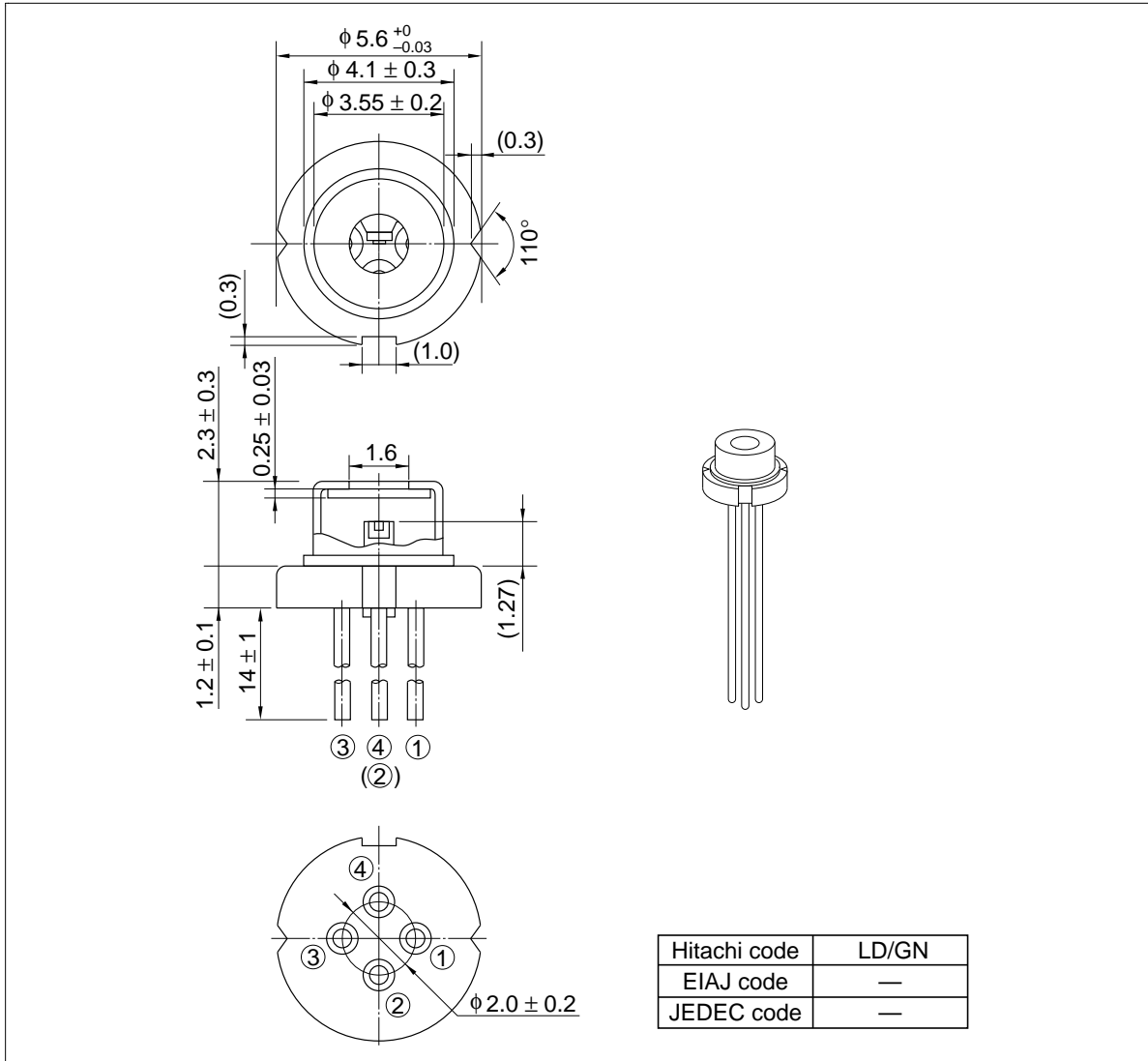
Typical Characteristics Curves



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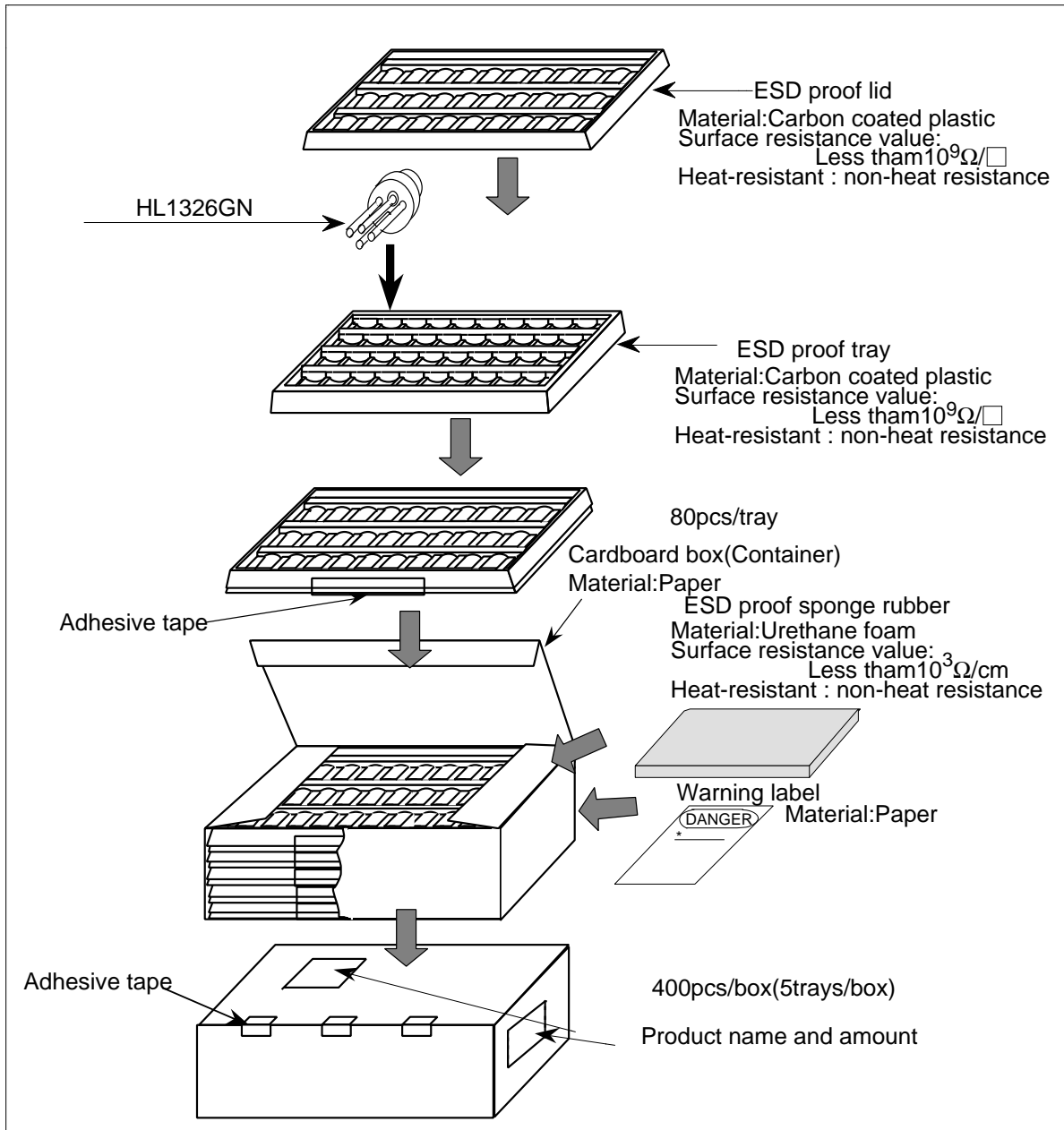
Package Dimensions

Unit: mm



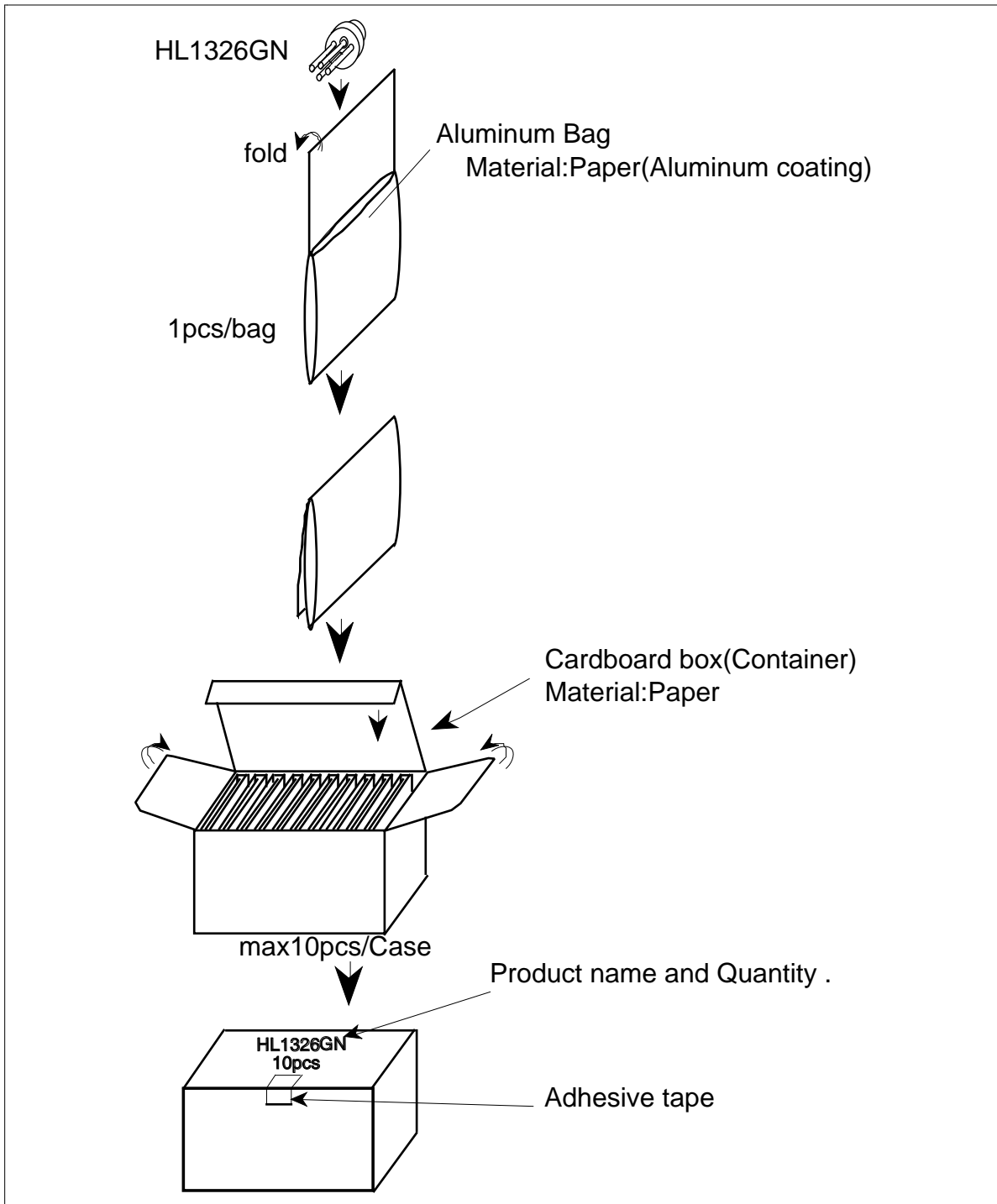
Packing specification (HL1326GN96 Bulk packing)

Note: Each box contains 400pcs of laser diodes and is intended to be opened by actual user(s) . Therefore orders must be placed for QTY of multiples of 400. Please use HL1326GN97 or HL1326GN98 for QTY other than multiples of 400.

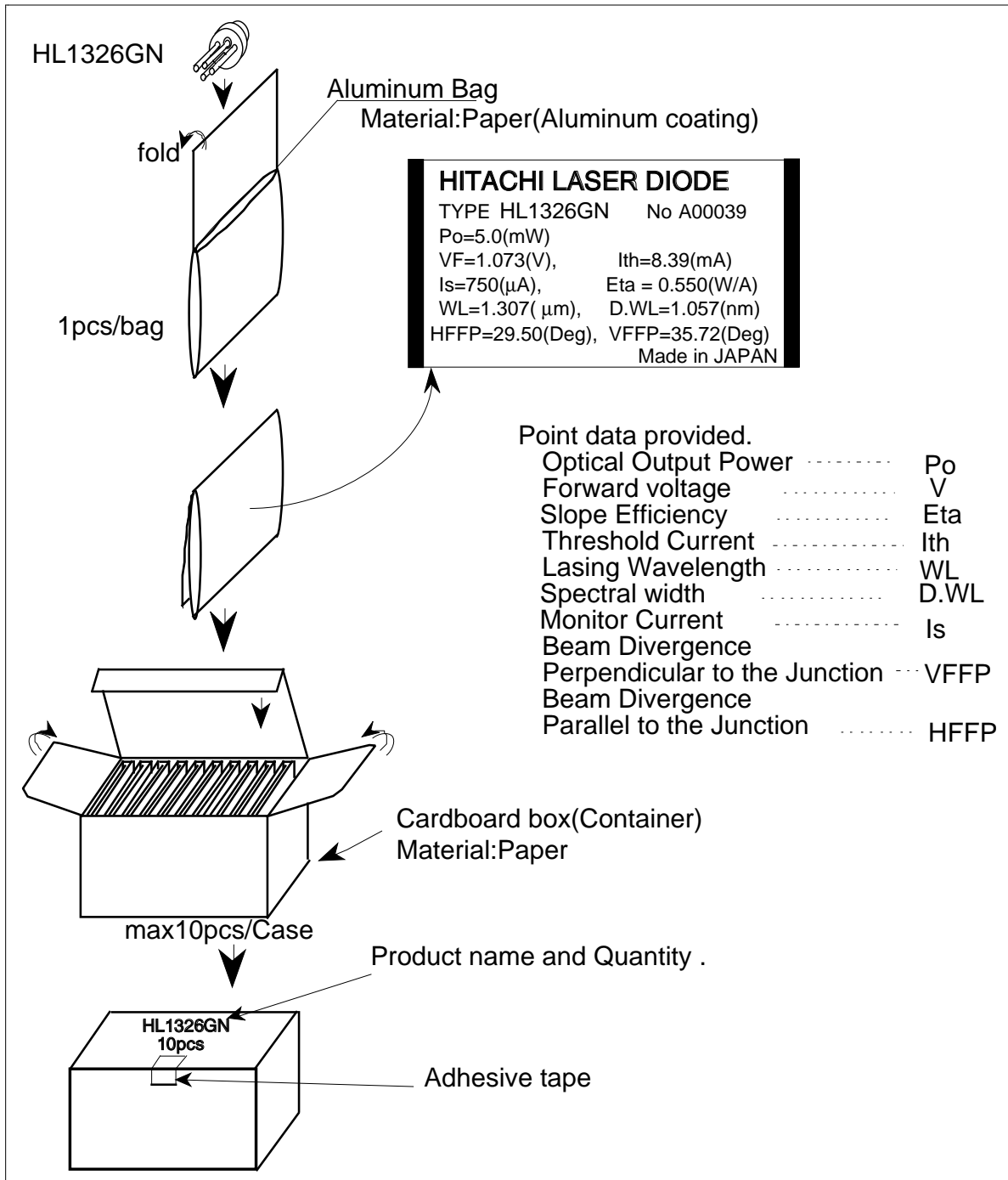


HL1326GN

Packing specification (HL1326GN97 Individual packing)



Packing specification (HL1326GN98 Individual packing with data)



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