

CHAPTERS

Coherent
SourcesIncoherent
SourcesQuantum
Electronics

Drivers/Mounts

Accessories

SECTIONS

Laser Diodes

Pigtailed Diodes

Fiber-Coupled
Laser SourcesWDM Laser
Sources

HeNe Lasers

Laser Diode
Modules

Tunable Lasers

Femtosecond
Lasers

Optical Amplifiers

Did you
know...

All laser diodes are extremely electrostatic sensitive; see page XXX for our selection of antistatic products.



$\lambda = 780 \text{ nm}$, $P = 1.65 \text{ mW}$, Multimode VCSEL-780

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

SPECIFICATION	SYMBOL	MIN	TYP.	MAX	TEST CONDITION
Peak Wavelength	λ_p	770 nm	780 nm	795 nm	$I_f = 8 \text{ mA @ RT}$
Spectral Width (FWHM)	$\Delta\lambda$	—	0.5 nm	1 nm	$I_f = 8 \text{ mA @ RT}$
Beam Divergence (FWHM)	$\theta_{//}$	10°	16°	30°	Full Width at $1/e^2$; $I_f = 8 \text{ mA @ RT}$
	$\theta_{\perp}$	10°	16°	30°	
Forward Voltage	V_f	1.7 V	2.1 V	2.5 V	$I_f = 8 \text{ mA @ RT}$
Threshold Current	I_{th}	0.5 mA	1.5 mA	3 mA	—
Slope Efficiency	$\Delta P/\Delta I$	0.12 W/A	0.24 W/A	0.4 W/A	$I_f = 8 \text{ mA @ RT}$
Optical Output Power	P_{out}	—	1.65 mW	—	$I_f = 8 \text{ mA @ RT}$
Dynamic Resistance	$\Delta V/\Delta I$	40 Ω	55 Ω	65 Ω	$I_f = 8 \text{ mA @ RT}$
Reverse Breakdown Voltage	V_{br}	—	10 V	—	—
Monitor Current	I_m	100 μA	—	—	$I_f = 8 \text{ mA @ RT}$
Dark Current	λ_r	—	0.2 nA	1 nA	$V_r = 10 \text{ V}$
Shunt Resistance	R_p	100 G Ω	200 G Ω	—	—
Breakdown Voltage	V_{br}	—	50 V	—	—
Junction Capacitance	C_p	—	40 pF	—	@ $V_r = 10 \text{ V}$, 10 kHz

Note: All data are presented as typical unless otherwise specified

*@ 10 μA

ITEM #	£*	€*	RMB*
1-5 PCS	1-5 PCS	1-5 PCS	1-5 PCS
VCSEL-780	£ 18.08	€ 21.84	¥ 200.05

*For quantities over 5 pieces, please call our local office for pricing.

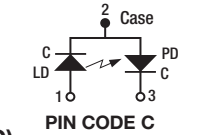
ITEM #	PRICE 1-5 PCS	PRICE 6-10 PCS	PRICE 11-20 PCS	DESCRIPTION
VCSEL-780	\$ 25.10	\$ 23.85	\$ 23.09	780 nm VCSEL, 1.65 mW

CAUTION:
ELECTROSTATIC
SENSITIVE

- Monitor Photodiode
- Flat Window Design
- Telecommunications and High-Speed Data Communications Applications
- 2.5 Gbps Speed
- Multimode

Pin Description

- 1 laser anode
- 2 common case
- 3 monitor diode cathode



PIN CODE C

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

CHARACTERISTIC	SYMBOL	MAX RATING
Optical Output Power (CW)	P_o	1.65 mW
Continuous Forward Current	—	8 mA
Continuous Reverse Voltage	—	5 V*
Operation Case Temperature	T_c	0 to +70 $^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to 100 $^\circ\text{C}$

$\lambda = 780 \text{ nm}$, $P = 10 \text{ mW}$, Single Mode Thorlabs L780P010

CAUTION:
ELECTROSTATIC
SENSITIVECharacteristics ($T_c = 25^\circ\text{C}$, $P = 10 \text{ mW}$)

CHARACTERISTIC	SYMBOL	MIN	TYP.	MAX
Lasing Wavelength	λ_p	770 nm	780 nm	790 nm
Threshold Current	I_{th}	—	14 mA	20 mA
Operating Current	I_{op}	—	24 mA	40 mA
Operating Voltage	V_{op}	—	1.8 V	2.5 V
Beam Divergence (FWHM)	$\theta_{//}$	6°	8°	12°
	$\theta_{\perp}$	25°	30°	32°
Astigmatism	A_s	—	10 μm	15 μm
Slope Efficiency	η_s	0.5 mW/mA	0.65 mW/mA	0.9 mW/mA
Monitor Current	I_m	0.3 mA	0.7 mA	1.5 mA

Note: All data are presented as typical unless otherwise specified

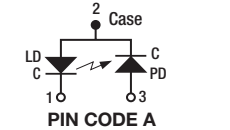
ITEM #	£*	€*	RMB*
1-5 PCS	1-5 PCS	1-5 PCS	1-5 PCS
L780P010	£ 16.28	€ 19.67	¥ 180.13

*For quantities over 5 pieces, please call our local office for pricing.

- $\varnothing 5.6 \text{ mm}$ Package
- Index-Guided MQW Structure
- $1 \times 5 \text{ } \mu\text{m}$ Emitter Size

Pin Description

- 1 laser cathode
- 2 common case
- 3 monitor diode anode



PIN CODE A

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

CHARACTERISTIC	SYMBOL	MAX RATING
Optical Output Power (CW)	P_o	12 mW*
LD Reverse Voltage	$V_{R(LD)}$	2 V
PD Reverse Voltage	$V_{R(PD)}$	30 V
Operation Case Temperature	T_c	-10 to 60 $^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to 85 $^\circ\text{C}$

*10 mW Typical

ITEM #	PRICE 1-5 PCS	PRICE 6-10 PCS	PRICE 11-20 PCS	DESCRIPTION
L780P010	\$ 22.60	\$ 21.92	\$ 21.47	Thorlabs 780 nm, 10 mW

$\lambda = 785 \text{ nm}$, $P = 25 \text{ mW}$, Single Mode Thorlabs L785P025

NEW
productCAUTION:
ELECTROSTATIC
SENSITIVECharacteristics ($T_c = 25^\circ\text{C}$, $P = 25 \text{ mW}$)

CHARACTERISTIC	SYMBOL	MIN	TYP.	MAX
Lasing Wavelength	λ_p	775 nm	785 nm	795 nm
Threshold Current	I_{th}	—	20 mA	35 mA
Operating Current	I_{op}	—	50 mA	75 mA
Operating Voltage	V_{op}	—	2 V	2.8 V
Beam Divergence (FWHM)	$\theta_{//}$	8°	9°	12°
	$\theta_{\perp}$	22°	28°	32°
Astigmatism	A_s	—	5 μm	15 μm
Slope Efficiency	η_s	0.6 mW/mA	0.85 mW/mA	1.2 mW/mA
Monitor Current	I_m	0.1 mA	0.3 mA	0.6 mA

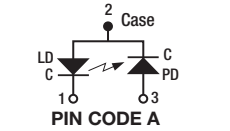
ITEM #	£*	€*	RMB*
1-5 PCS	1-5 PCS	1-5 PCS	1-5 PCS
L785P025	£ 31.06	€ 37.53	¥ 343.75

*For quantities over 5 pieces, please call our local office for pricing.

- $\varnothing 5.6 \text{ mm}$ Package
- 25 mW (Typ.) Optical Output Power (CW)
- 0.85 mW/mA (Typical) Slope Efficiency
- Single Transverse Mode

Pin Description

- 1 laser cathode
- 2 common case
- 3 monitor diode anode



PIN CODE A

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

CHARACTERISTIC	SYMBOL	MAX RATING
Optical Output Power (CW)	P_o	30 mW*
LD Reverse Voltage	$V_{R(LD)}$	2 V
PD Reverse Voltage	$V_{R(PD)}$	30 V
Operation Case Temperature	T_c	-10 to 60 $^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to 85 $^\circ\text{C}$

*25 mW Typical

ITEM #	PRICE 1-5 PCS	PRICE 6-10 PCS	PRICE 11-20 PCS	DESCRIPTION
L785P025	\$ 43.13	\$ 41.84	\$ 40.97	Thorlabs 785 nm, 10 mW