

The High Power Semiconductor Lasers

OPTOENERGY

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PRODUCT CATALOG

Overview

OPTOENERGY Inc. is an optical component company specializing in developing, designing and manufacturing high-power semiconductor laser products. Our mission is to contribute to the society through providing innovative "lights". Experienced engineers bring break-through technologies to continuously generate world-class products. We continue to value strategic networks with key clients and suppliers globally, thereby expanding our product line, and deliver cost-competitive, reliable components.

The high power laser diode which meets various needs of the customers.

OPTOENERGY provides the light you need. Our products can be used for various applications, such as Optical communications, Laser processing, Remote sensing, and Biotechnology instrument. The laser diode features high power, high efficiency, and high reliability. The high power laser diode is becoming a key device to fulfill the needs, such as high performance, downsizing, and energy saving.

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High-Power 808 nm Multimode Laser

Bare Chip / Chip on submount / C package



Product Specifications

Type			OE808G1 Series			
Model No.			808012351	808012312	808013312	808014312
Operating light output	Po	W	2	2	3	4
Center wavelength	λ_c		808	808	808	808
Emitter aperture width	Wa	μm	50	100	100	100
Threshold current	Ith	A	0.58	1.0	1.0	1.0
Slope efficiency	η_s	W/A	1.21	1.21	1.21	1.21
Operating current	Iop	A	2.2	2.7	3.5	4.3
Operating voltage	Vop	V	1.7	1.7	1.7	1.8
Spectral width	$\Delta\lambda$	nm	2	2	2	2
Spectral temperature shift	$d\lambda/dT$	nm/K	0.3	0.3	0.3	0.3
Far-field parallel FWHM	$\theta_{//}$	deg.	7	7	8	9
Far-field perpendicular FWHM	$\theta_{\perp}$	deg.	35	34	34	34
Polarization			TE	TE	TE	TE

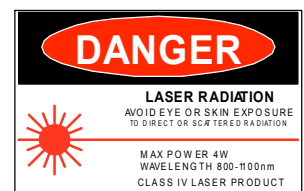
Absolute Maximum Ratings

			min	max		
Forward current	I _{max}	A	–	2.8	OE808G1	50u aperture
			–	5.0		100u aperture
Revers voltage	V _{rmax}	V	–	2.0		
Operating temperature	T _{op}	°C	–20	50		
Storage temperature	T _{st}	°C	–40	80		
Process temperature	T _{pr}	°C	–	250	5s, Chip on submount 5s, C package lead	
			–	250		

Caution

This laser emits invisible radiation which may be harmful to the eyes.

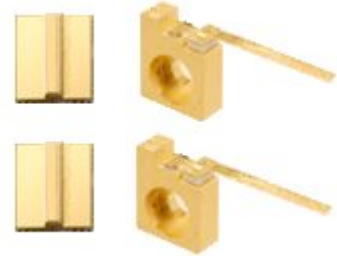
Avoid direct or reflected light from this device.



High-Power 915 nm Multimode Laser

Chip on submount / C package

Other wavelength : 940nm 975nm



Product Specifications

Type			OE9xxG1 Series		OE9xxG2 Series	OE9xxG3 Series
Model No.			9xx012351	9xx014312	9xx028312	9xx031412
Operating light output	Po	W	2	4	8	12
Center wavelength	λ c	nm	915 940 975	915 940 975	915 940 975	915 940 975
Emitter aperturewidth	Wa	μ m	50	100	100	100
Threshold current	Ith	A	0.25	0.45	0.90	1.40
Slope efficiency	η s	W/A	0.90	0.90	1.05	1.00
Operating current	Iop	A	2.5	5	9	13
Operating voltage	Vop	V	1.6	1.7	1.7	1.7
Spectral width	$\Delta \lambda$	nm	2	2	2	3
Spectral temperature shift	$d \lambda / dT$	nm/K	0.26	0.26	0.29	0.29
	θ //	deg.	6	9	10	10
Far-field perpendicular FWHM	$\theta \perp$	deg.	34	34	27	27
Polarization			TE	TE	TE	TE

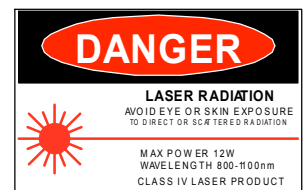
Absolute Maximum Ratings

			min	max		
Forward current	I _{max}	A	–	2.8	OE9xxG1	50u aperture
			–	6.0		100u aperture
			–	10.0	OE9xxG2	100u aperture
			–	15.0	OE9xxG3	100u aperture
Revers voltage	V _{rmax}	V	–	2.0		
Operating temperature	T _{op}	°C	–20	50		
Storage temperature	T _{st}	°C	–40	80		
Proccess temperature	T _{pr}	°C	–	250	5s, Chip on submount	
			–	250	5s, C package lead	

Caution

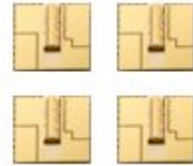
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Avoid direct or reflected light from this device.



High-Power 980 nm Singlemode Laser

Chip on submount / 9 ϕ -CAN



Product Specifications

Type			High power single mode series	
Model No.			980025230	980038230
Operating light output	P _o	mW	500	800
Center wavelength	λ_c		980	980
Emitter aperturewidth	W _a	μm	6	6
Threshold current	I _{th}	mA	45	95
Operating current	I _{op}	mA	700	1200
Operating voltage	V _{op}	V	1.6	1.7
Spectral width	$\Delta\lambda$	nm	2	2
Spectral temperature shift	$d\lambda/dT$	nm/K	0.3	0.3
Far-field parallel FWHM	$\theta_{//}$	deg.	7	7
Far-field perpendicular FWHM	$\theta_{\perp}$	deg.	34	27
Polarization			TE	TE

Absolute Maximum Ratings

			min	max	
Forward current	I _{max}	mA	–	800 1300	OE980025230 OE980038230
Revers voltage	V _{rmax}	V	–	2.0	
Operating temperature	T _{op}	°C	–20	50	
Storage temperature	T _{st}	°C	–40	80	
Proccess temperature	T _{pr}	°C	–	250	5s, Chip on submount
			–	250	5s, C package lead

Caution

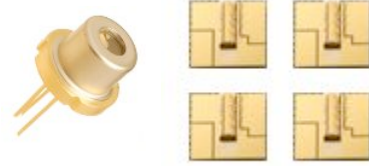
This laser emits invisible radiation which may be harmful to the eyes.
Avoid direct or reflected light from this device.



High-Power 1064nm Singlemode Laser

Chip on submount / 9 ϕ -CAN

Other wavelength : 1000nm 1020nm 1040nm



Product Specifications

Type			High power single mode series	
Model No.			Axx025230	A64024230
Operating light output	P _o	mW	500	400
Center wavelength	λ_c		1000 1020 1040	1064
Emitter aperturewidth	W _a	μ m	6	6
Threshold current	I _{th}	mA	45	40
Operating current	I _{op}	mA	700	590
Operating voltage	V _{op}	V	1.6	1.5
Spectral width	$\Delta\lambda$	nm	2	2
Spectral temperature shift	$d\lambda/dT$	nm/K	0.3	0.3
Far-field parallel FWHM	$\theta_{//}$	deg.	7	7
Far-field perpendicular FWHM	$\theta_{\perp}$	deg.	34	34
Polarization			TE	TE

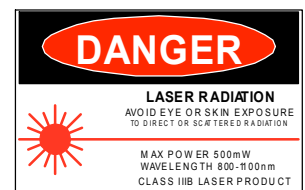
Absolute Maximum Ratings

			min	max	
Forward current	I _{max}	mA	–	800	1000nm
			–	800	1020nm
			–	800	1040nm
			–	700	1064nm
Revers voltage	V _{rmax}	V	–	2.0	
Operating temperature	T _{op}	°C	–20	50	
Storage temperature	T _{st}	°C	–40	80	
Proccess temperature	T _{pr}	°C	–	250	5s, Chip on submount
			–	250	5s, C package lead

Caution

This laser emits invisible radiation which may be harmful to the eyes.

Avoid direct or reflected light from this device.



Fiber Coupled 808, 915 nm Multimode Laser Module

TO220 Module

Other wavelength : 940nm 975nm



Product Specifications

Type			OE9xxG2	OE808G1
Model No.			9xx027312M3	808014312M3
Fiber light output	Pf	W	7	3.5
Center wavelength	λ_c		915 940 975	808
Threshold current	I _{th}	A	0.90	1.0
Operating current	I _{op}	A	9.0	4.6
Operating voltage	V _{op}	V	1.9	1.9
Spectral width	$\Delta\lambda$	nm	2	2
Spectral temperature shift	$d\lambda/dT$	nm/K	0.3	0.3
Fiber specification	L _{fiber}	m	1.0	1.0
Fiber Core diameter	ϕ_{core}	um	105	105
Fiber Clad diameter	ϕ_{clad}	um	125	125
Fiber N.A.	–	–	0.22	0.22

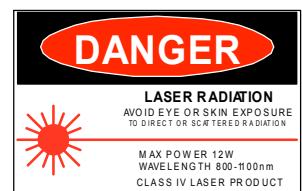
Absolute Maximum Ratings

			min	max	
Forward current	I _{max}	A	–	5.0	OE808G1
			–	10.0	OE9xxG2
Revers voltage	V _{rmax}	V	–	2.0	
Operating temperature	T _{op}	°C	–20	50	
Storage temperature	T _{st}	°C	–40	80	
Proccess temperature	T _{pr}	°C	–	250	5s, TO220 package lead

Caution

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Avoid direct or reflected light from this device.



Fiber Coupled 980 nm Singlemode Laser Module

14pin Butterfly Module



Product Specifications

Type			High power single mode series	
Model No.			975036230M	
Fiber output	Po	mW	550	
Center wavelength	λ_c		975	
Threshold current	Ith	mA	95	
Operating current	Iop	mA	1100	
Operating voltage	Vop	V	1.7	
Fiber Bragg Grating			with/wothout	
Spectral width	$\Delta\lambda$	nm	<0.5/<2.0	
Fiber type			SM/PMF	
	Lfiber	m	2.0	
Monitor PD reverse bias	VRpd	V	5	
Monitor PD response	Rpd	mA/W	0.5	
Thermistor temperature	Ts	°C	25	
Case temperature	Tc	°C	75	
TEC current	Itec	A		
TEC voltage	Vtec	V		
Thermistor resistance	TR	kΩ	10	
Thermistor B constant	TB	K	3920	

Absolute Maximum Ratings

			min	max	
Forward current	I _{max}	mA	–	1200	980nm
Reverse voltage	V _{rmax}	V	–	2.0	
Operating temperature	T _{op}	°C	–20	75	
Storage temperature	T _{st}	°C	–40	80	
PD reverse voltage	V _{rmax}	V	–	10.0	
TEC current	I _{tecmax}	A	–	2.0	
TEC voltage	V _{tecmax}	V	–	4.0	
Process temperature	T _{pr}	°C	–	250	<5s, Package lead

Caution

This laser emits invisible radiation which may be harmful to the eyes.

Avoid direct or reflected light from this device.



Fiber Coupled 1064 nm Singlemode Laser Module

14pin Butterfly Module

Other wavelength : 1000nm 1020nm 1040nm

Product Specifications



Type			High power single mode series	
Model No.			Axx023230M	A64023230M
Fiber output	Po	mW	330	280
Center wavelength	λ_c		1000 1020 1040	1064
Threshold current	Ith	mA	45	40
Operating current	Iop	mA	700	590
Operating voltage	Vop	V	1.6	1.5
Fiber Bragg Grating			with/without	with/without
Spectral width	$\Delta\lambda$	nm	<0.5/<2.0	<0.5/<2.0
Fiber type			SM/PMF	SM/PMF
	Lfiber	m	2.0	2.0
Monitor PD reverse bias	VRpd	V	5	5
Monitor PD response	Rpd	mA/W	0.5	0.5
Thermistor temperature	Ts	°C	25	25
Case temperature	Tc	°C	75	75
TEC current	Itec	A	1.4	1.2
TEC voltage	Vtec	V	2.8	2.6
Thermistor resistance	TR	kΩ	10	10
Thermistor B constant	TB	K	3920	3920

Absolute Maximum Ratings

			min	max	
Forward current	I _{max}	mA	–	800	1000nm
			–	800	1020nm
			–	800	1040nm
			–	700	1064nm
Reverse voltage	V _{rmax}	V	–	2.0	
Operating temperature	T _{op}	°C	–20	75	
Storage temperature	T _{st}	°C	–40	80	
PD reverse voltage	V _{rmax}	V	–	10.0	
TEC current	I _{tecmax}	A	–	2.0	
TEC voltage	V _{tecmax}	V	–	4.0	
Process temperature	T _{pr}	°C	–	250	<5s, Package lead

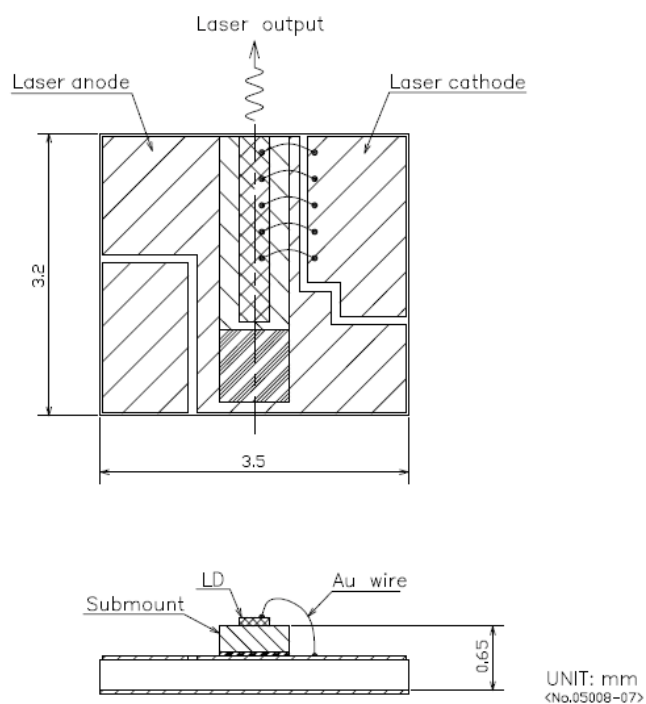
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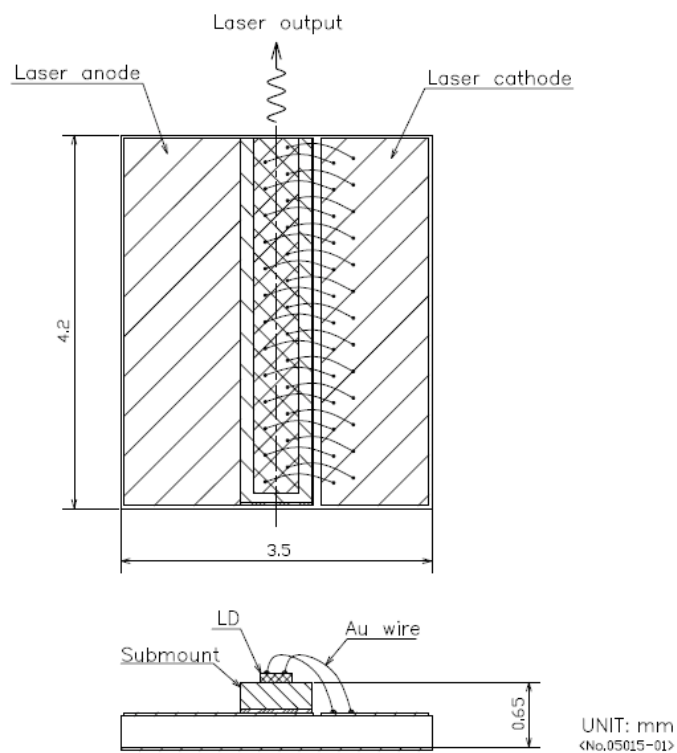
Avoid direct or reflected light from this device.



Dimensions : CoS for Singlemode LD

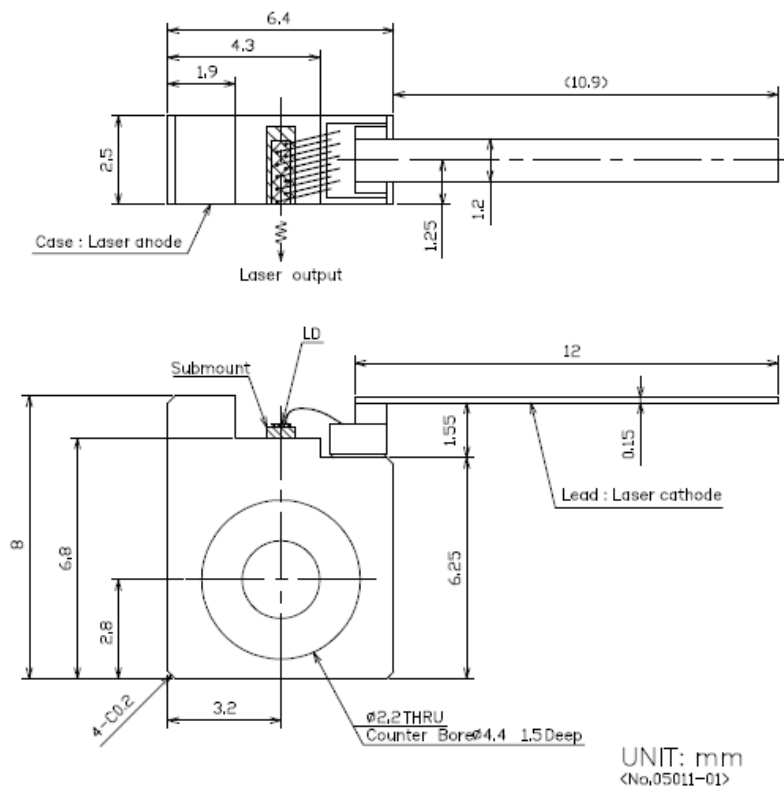


Dimensions : CoS for Multi mode LD

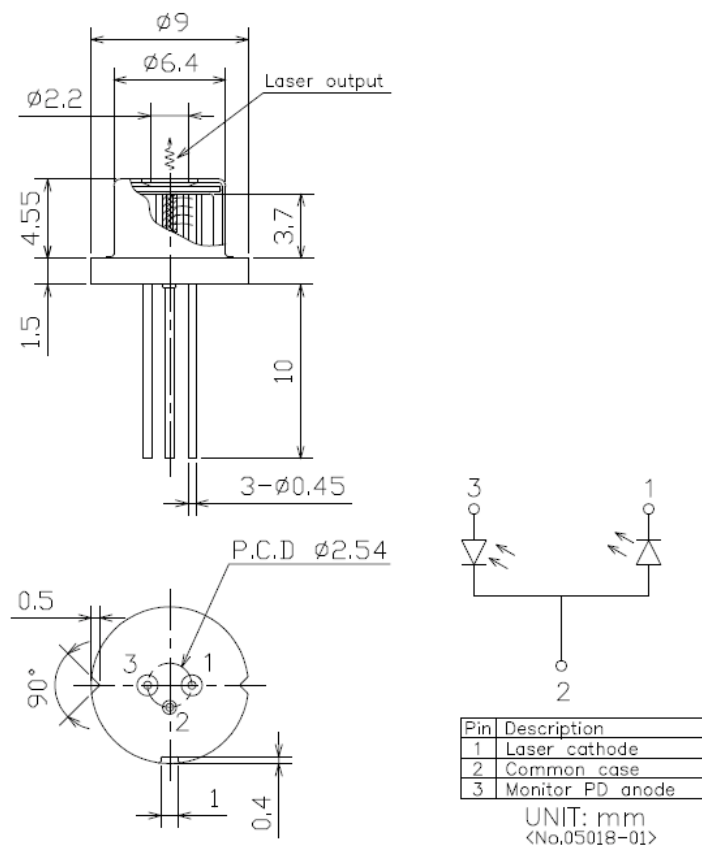


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Dimensions :C package

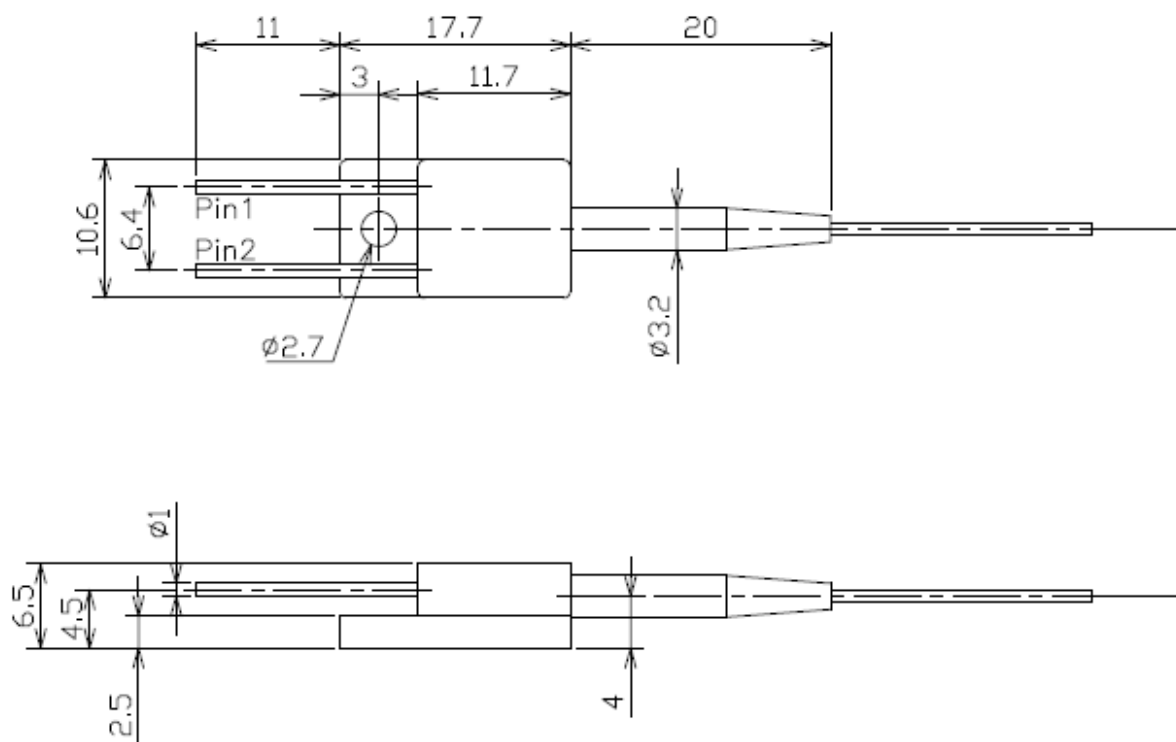


Dimensions : 9 φ -CAN



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Dimensions : TO-220 Module

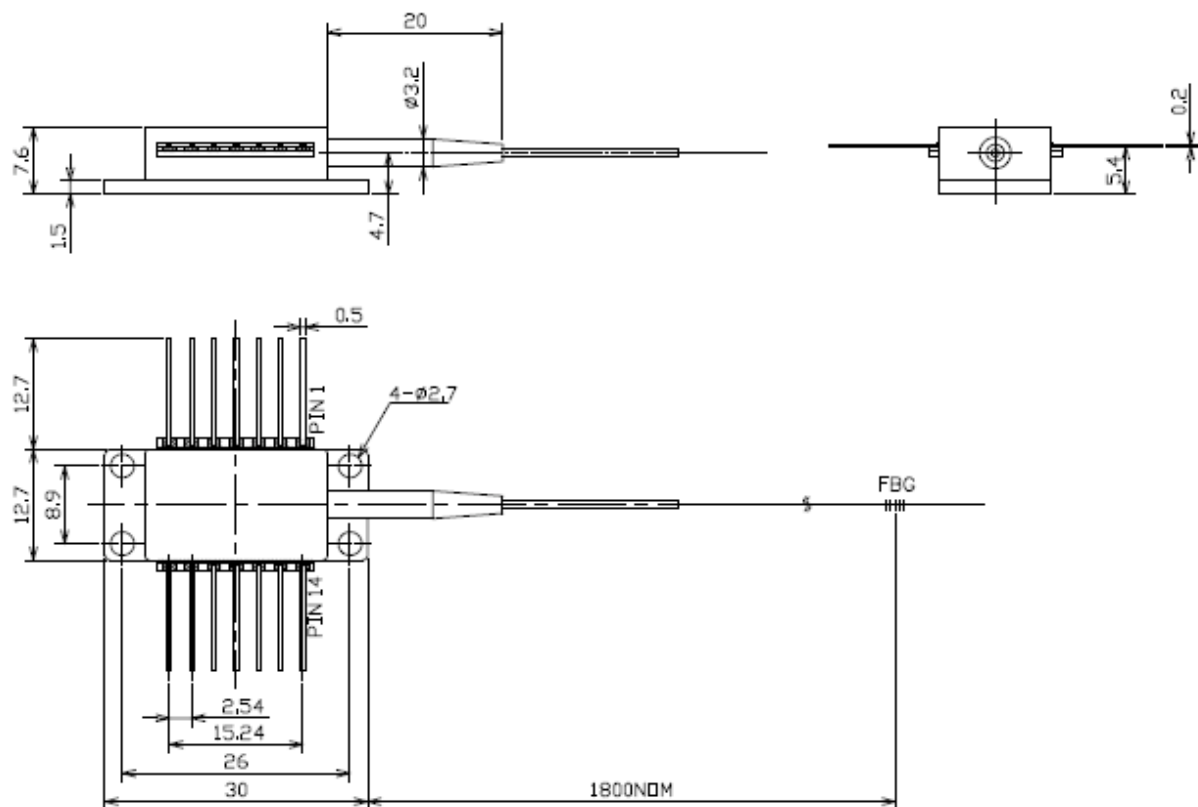


UNIT: mm
<No.05021-01>

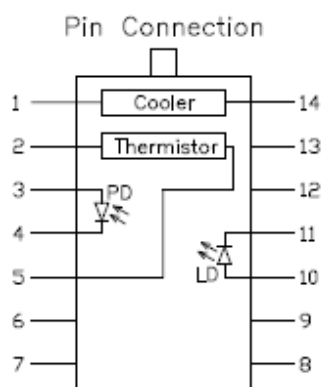
Pin	Description
1	Laser anode
2	Laser cathode

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Dimensions : 14pin Butterfly Module



UNIT: mm
<No.05020-01>



Pin	Description	Pin	Description
1	Cooler(+)	14	Cooler(-)
2	Thermistor	13	Case ground
3	PD anode	12	NC
4	PD cathode	11	Laser cathode
5	Thermistor	10	Laser anode
6	NC	9	NC
7	NC	8	NC

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