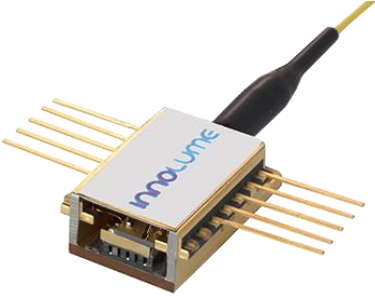


GM-1030-130-YY-200	
Fiber coupled curved stripe gain chip for 950-1100nm tuning range	
	<p>Features:</p> <ul style="list-style-type: none"> • Optimized for wavelength locked operation in external cavity system • Broad hopping free tuning range • Low beam ellipticity • Orthogonal beam output for easy optics alignment • Fiber output <p>Application:</p> <ul style="list-style-type: none"> • External cavity tunable laser
Specification	DATE: 27 th February 2014

RECOMMENDED OPERATING POINT				
Parameter	Min	Typ	Max	Unit
Current		400	500*	mA
Forward voltage		1.6	2	V
Heatsink temperature	20	25	30	C

*No self-lasing up to maximum current

TUNABILITY				
@ CW, recommended operating point, external cavity in Littrow configuration with ≈50% feedback				
Parameters	Min	Typ	Max	Unit
Wavelength of maximum power (λ_{MP})	1035	1050	1065	nm
Optical output power ex fiber @ λ_{MP}		200		mW
Central wavelength of tuning range	1015	1030	1045	nm
Tuning range		130		nm

AMPLIFIED SPONTANEOUS EMISSION (ASE)				
Tested for each device @ CW, recommended operating point, without external cavity				
Parameter	Min	Typ	Max	Unit
Optical power ex fiber		3		mW
Optical power ex facet		120		mW
Mean wavelength		1000		nm
Bandwidth @ -3dB*		80		nm
Fast axis beam divergence @ -3dB, ex facet		19	23	deg.
Slow axis beam divergence @ -3dB, ex facet	4	7		deg.
Ripples (RMS) ⁽¹⁾		0.2	0.4	dB

* Radiation coupled in single-mode fiber without lens and measured by OSA with 1 nm resolution.

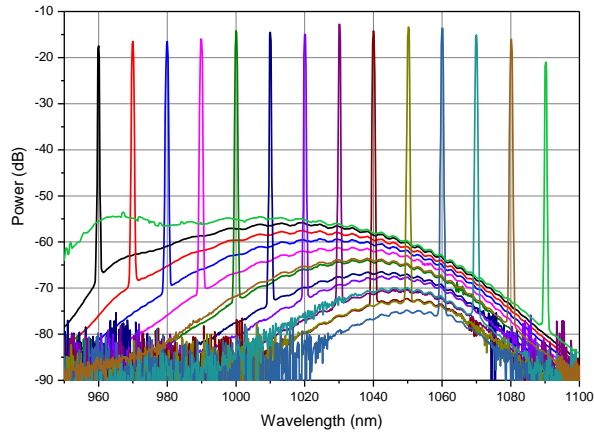
¹ Central wavelength of tuning range, in 1nm range, 10pm resolution

CHIP PARAMETERS				
Parameter	Min	Typ	Max	Unit
Chip length		2.8		mm
Stripe width		5		um
Back reflectivity of straight stripe facet		10		%
Back reflectivity of tilted stripe facet			0.001	%

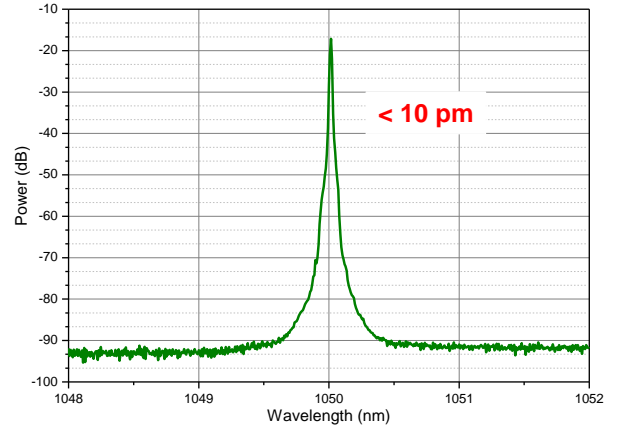
TYPICAL PERFORMANCE IN EXTERNAL CAVITY (EC)

@ CW, 25°C heatsink temperature, Littrow configuration with ≈50% feedback

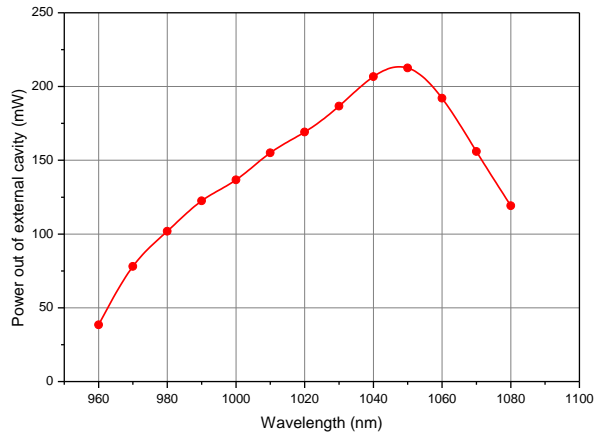
Optical spectra @ 600mA (res. 0.5 nm)



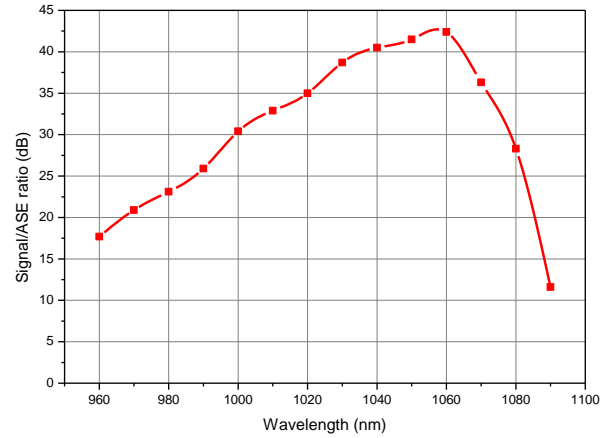
Optical spectrum @ 400mA (res. 10 pm)



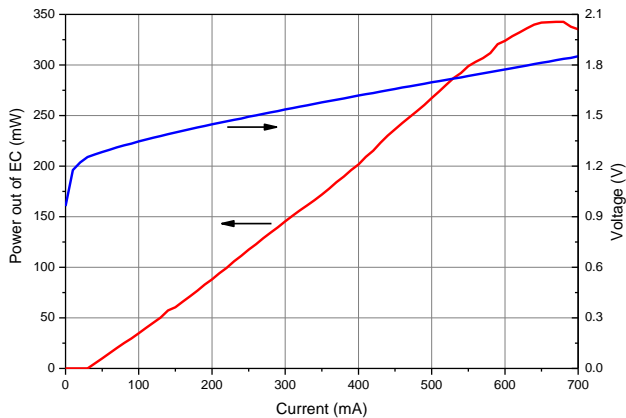
Power spectrum @ 400mA



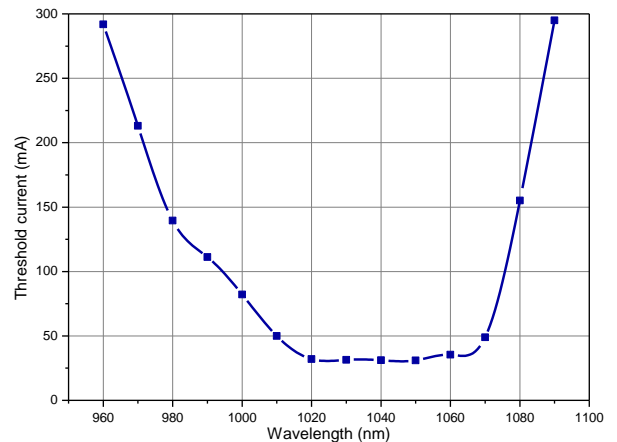
Signal/ASE ratio @ 600mA



Power ex fiber @ 1050nm

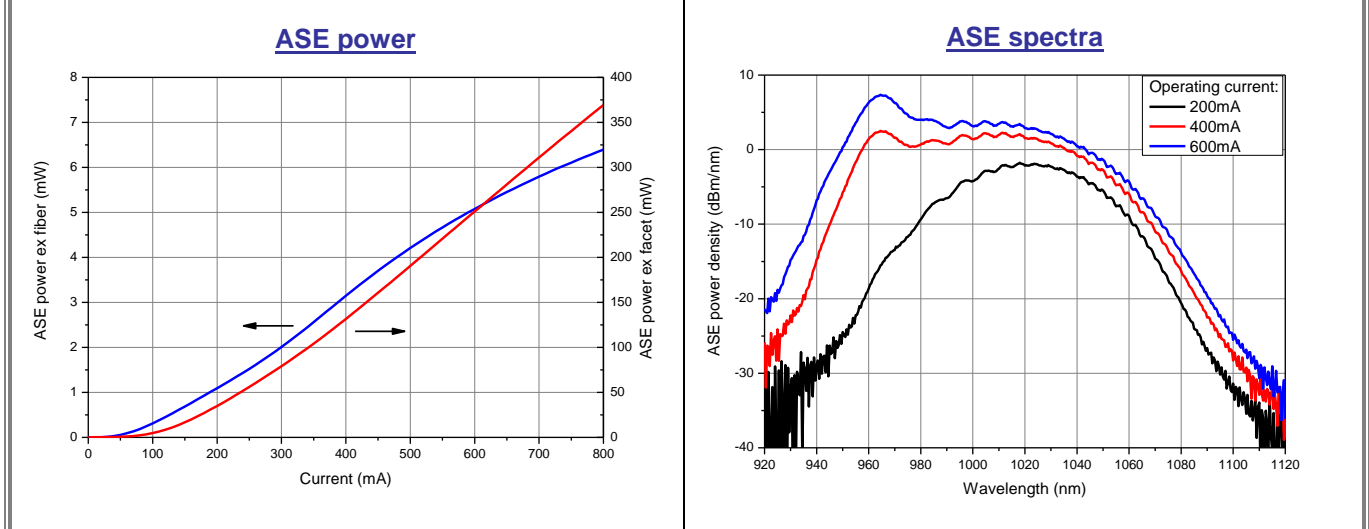


Threshold current



TYPICAL PERFORMANCE WITHOUT FEEDBACK

@ CW, 25°C heatsink temperature

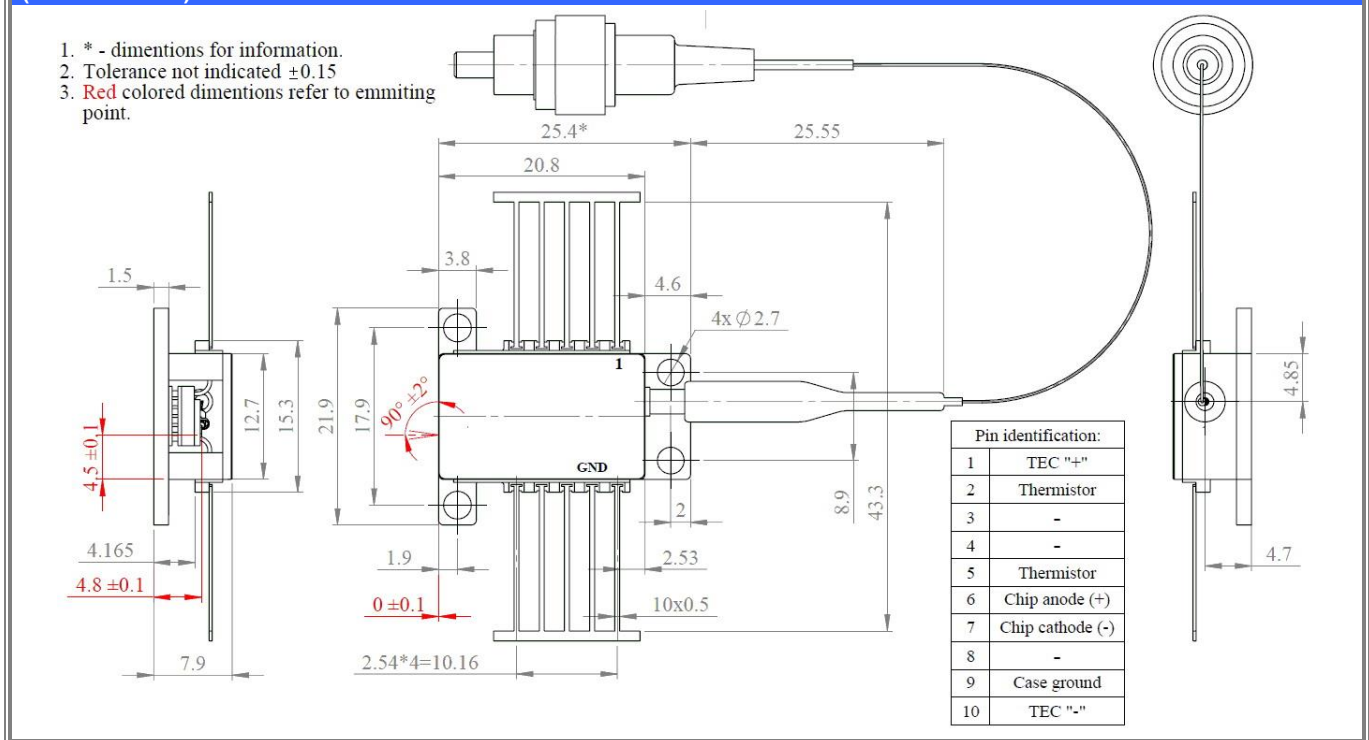


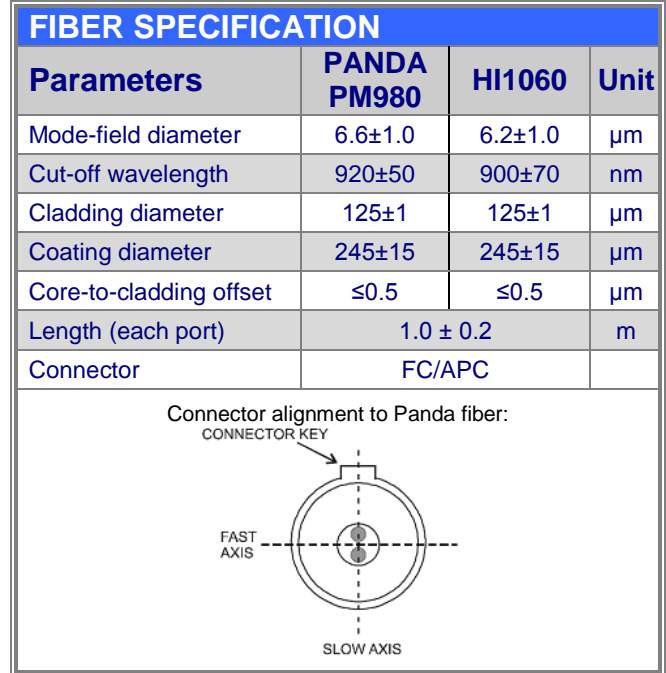
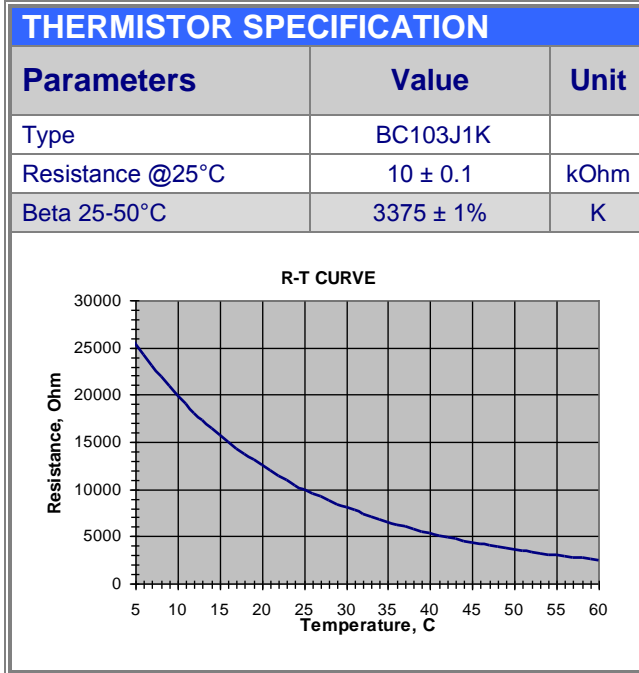
ABSOLUTE MAXIMUM RATINGS

Parameters	Min.	Max.	Unit
Laser Diode reverse voltage		2	V
Laser Diode CW forward current		800	mA
Thermo Electric Cooler (TEC) current		3	A
TEC voltage		4	V
Thermistor temperature	10	50	°C
Case operating temperature range	10	50	°C

DIMENSIONS (subject to change)

(All sizes in mm)





PART NUMBER IDENTIFICATION

GM-1020-130-YY-200
YY: Optical fiber type
 PM – PM980 Panda fiber
 HI – HI1060
 Example: GM-1020-130-PM-200


SAFETY AND OPERATING INSTRUCTIONS

The laser light emitted from this device is invisible and can be dangerous to the human eye. Avoid looking directly into the fiber output or into the collimated beam along its optical axis when the device is in operation. Proper laser safety eyewear must be worn during operation.

Absolute Maximum Ratings may be applied to the device for short period of time only. Exposure to maximum ratings for extended period of time or exposure above one or more max ratings may cause damage or affect the reliability of the device. Operating the product outside of its maximum ratings may cause device failure or a safety hazard. Power supplies used with the device must be employed such that the maximum peak optical power cannot be exceeded. A proper heatsink for the device on thermal radiator is required, sufficient heat dissipation and thermal conductance to the heatsink must be ensured.

The device is an open-heatsink laser diode; it may be operated in cleanroom atmosphere or dust-protected housing only. Operating temperature and relative humidity must be controlled to avoid water condensation on the laser facets. Any contamination or contact of the laser facet must be avoided.

ESD PROTECTION – Electrostatic discharge is the primary cause of unexpected product failure. Take extreme precaution to prevent ESD. Use wrist straps, grounded work surfaces and rigorous antistatic techniques when handling the product.



LASER RADIATION
 AVOID EYE OR SKIN EXPOSURE TO
 DIRECT OR SCATTERED RADIATION
 CLASS 4 LASER PRODUCT

CAUTION
 STATIC SENSITIVE DEVICE
 OBSERVE PRECAUTIONS

DANGER
 VISIBLE AND/OR INVISIBLE LASER RADIATION
 AVOID EYE OR SKIN EXPOSURE TO
 DIRECT OR SCATTERED RADIATION
 DIODE LASER
 MAX POWER 0.5W
 WAVELENGTH 1000 - 1400 nm
 CLASS IIIb LASER PRODUCT

NOTE: Innolume product specifications are subject to change without notice.