



TO56 Packaged Laser Diodes

High Power Multi-Mode SemiNex Lasers
Up to 35 Watts of Pulsed Power
1550 nm
Custom Wavelengths Available

Features

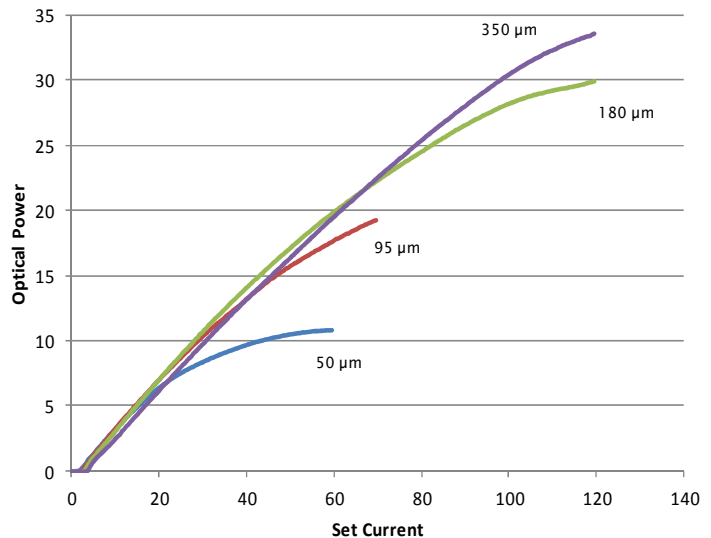
- High output power
- High dynamic power range
- High efficiency
- Standard Low-Cost Packages

Applications

- Range Finding
- LIDAR
- Free Space Optical Communication
- Military / Aerospace

SemiNex delivers the highest available power at infrared wavelengths between 13xx and 17xx nm. When necessary we will further optimize the design of our InP laser chips to meet our customers' specific optical and electrical performance needs. Diodes, bars and packages are tested to meet customer and market performance demands. Typical results and packaging options are shown. Contact SemiNex for additional details or to discuss your specific requirements

Typical TO56 Pulsed LIV





TO-56



1550 Pulsed TO56

	Symbol	TO56-105	TO56-101	TO56-102	TO56-103	TO56-104	Units
Optical							
Output Power*	P _o	1.8	9	14	24	28	watts
Cavity Length (typ.)	CL	2500	2500	2500	2500	2500	µm
Emitter Width	W	4	50	95	180	350	µm
Emitter Height	H	1	1	1	1	1	µm
Operating Current	I _{op}	2	35	50	80	100	A
Operating Voltage	V _{op}	3	8.5	5	7	6.5	V
Threshold Current	I _{th}	0.05	0.5	1	2	3.8	A
Specifications			Min	Typical	Max		
Peak Wavelength Range	λ _c		1530	1550	1580		nm
Spectral Width	Δλ			15	20		nm 3dB
Temperature Coeff.	Δλ/ΔλT			0.55			nm/C
Fast Axis Diverg.	θ _{perp}			30			deg FWHM
Slow Axis Diverg.	θ _{parallel}			10			deg FWHM
Pulse Width	PW			150			ns
Duty Cycle	DC			0.1			%
Mechanical							
Weight				0.48			g ±0.03
Operating Temp.				10 to 30			°C
Storage Temp.				-20 to 80			°C

Specified values are rated at a constant heat sink temperature of 20°C

* Pulsed power

1550 Pulsed TO56 with lens to collimate fast axis

	Symbol	TO56-105-116	TO56-101-116	TO56-102-116	TO56-103-116	TO56-104-116	Units
Optical							
Output Power*	P _o	1.8	9	14	24	28	watts
Cavity Length (typ.)	CL	2500	2500	2500	2500	2500	µm
Emitter Width	W	4	50	95	180	350	µm
Emitter Height	H	1	1	1	1	1	µm
Operating Current	I _{op}	2	35	50	80	100	A
Operating Voltage	V _{op}	3	8.5	5	7	6.5	V
Threshold Current	I _{th}	0.05	0.5	1	2	3.8	A
Specifications			Min	Typical	Max		
Peak Wavelength Range	λ _c		1530	1550	1580		nm
Spectral Width	Δλ			15	20		nm 3dB
Temp. Coeff.	Δλ/ΔλT			0.55			nm/C
Fast Axis Diverg.	θ _{perp}			<5			mrad
Slow Axis Diverg.	θ _{parallel}			175			mrad
Lens eff. focal length	f			590			µm
Pulse Width	PW			150			ns
Duty Cycle	DC			0.1			%
Operating Temp.			-45		85		°C
Storage Temp.			-55		100		°C
Mechanical							
Weight				0.51			g ±0.03
Operating Temp.				10 to 30			°C
Storage Temp.				-20 to 80			°C

Specified values are rated at a constant heat sink temperature of 20°C

* Pulsed power



TO-56



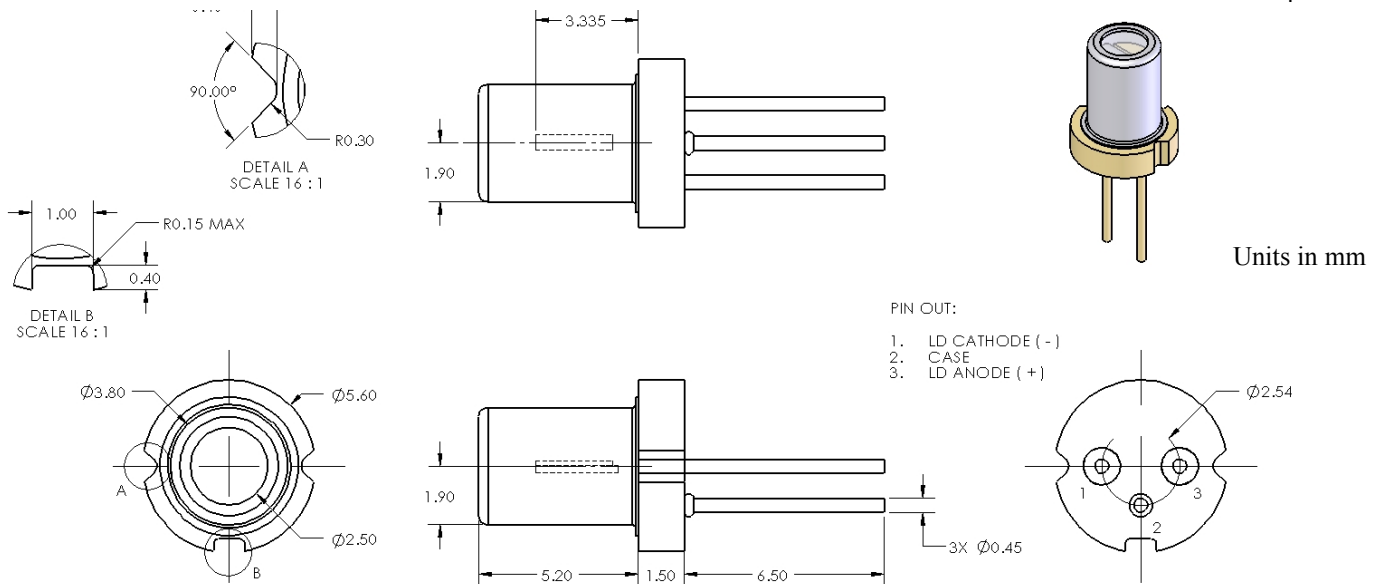
1550 Pulsed TO56 with lens to match fast and slow axis

Symbol TO56-105-126 TO56-101-126 TO56-102-126 TO56-103-126 TO56-104-126 Units

Optical							
Output Power*	P_o	1.8	9	14	24	28	watts
Cavity Length (typ.)	CL	2500	2500	2500	2500	2500	μm
Emitter Width	W	4	50	95	180	350	μm
Emitter Height	H	1	1	1	1	1	μm
Operating Current	I_{op}	2	35	50	80	100	A
Operating Voltage	V_{op}	3	8.5	5	7	6.6	V
Threshold Current	I_{th}	0.05	0.5	1	2	3.8	A
Specifications		Min	Typical	Max			
Peak Wavelength Range	λ_c	1530	1550	1580	nm		
Spectral Width	$\Delta\lambda$		15	20	nm 3dB		
Temp. Coeff.	$\Delta\lambda/\Delta T$		0.55		nm/C		
Fast Axis Diverg.	θ_{perp}		10		deg FWHM		
Slow Axis Diverg.	$\theta_{parallel}$		10		deg FWHM		
Lens eff. focal length	f		171		μm		
Pulse Width	PW		150		ns		
Duty Cycle	DC		0.1		%		
Operating Temp.		-45		85	$^{\circ}\text{C}$		
Storage Temp.		-55		100	$^{\circ}\text{C}$		
Mechanical							
Weight				0.51			g ± 0.03
Operating Temp.				10 to 30			$^{\circ}\text{C}$
Storage Temp.				-20 to 80			$^{\circ}\text{C}$

Specified values are rated at a constant heat sink temperature of 20°C

* Pulsed power



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