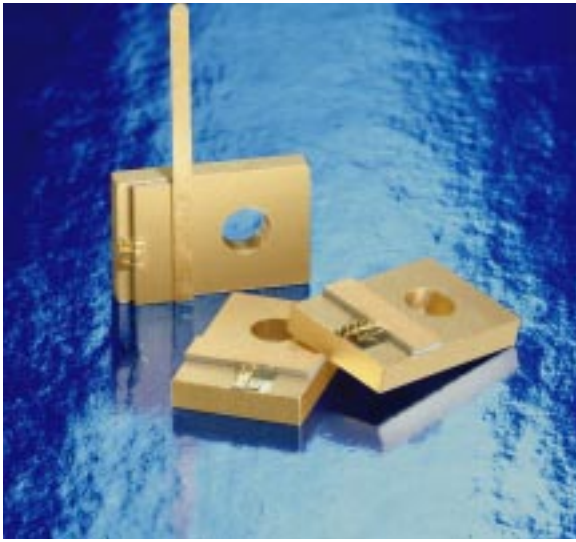


Open Heatsink, Single Emitter Semiconductor Lasers



SCT Series

Our single emitter semiconductor lasers are high power, multi-transverse mode devices intended to deliver very high brightness output, where brightness is defined as output power per unit of solid angle. High brightness enables more efficient fiber coupling, or, when the laser is used directly, results in increased power density in an optical system's final spot. This important property allows thermal applications to be performed at higher speeds; typical examples are welding, heat treating, sintering and melting.

In addition to superior performance, our products are also designed and manufactured for maximum reliability. We are able to achieve high quality on a volume basis because of our total vertical integration within a single manufacturing facility. This gives us complete control over every aspect of our production process – from wafer processing through final packaging.

The standard products listed here are representative of our capabilities, however, the majority of our products are designed and built to meet specific customer requirements. We offer a variety of materials, including Phosphorous-based materials (recently referred to as "Aluminium Free") to provide the optimum combination of performance and price for each customer.

Features:

- From 0.6 up to 1.6 W cw power
- High brightness
- High reliability
- Available in volume

Applications:

- Solid state laser pumping
- Graphic arts
- Illuminations
- Materials processing
- Medical

$P_o^{(1)}$ (W)	Emitter Size (μm)	$I_{th}^{(2)}$ (A)	$I_{op}^{(3)}$ (A)	$R_s^{(4)}$ (Ω)	$\lambda_o^{(5)}$ (nm)	Part Number
0.6	40 x 1	0.15	0.90	0.35	830	SCT040-830-M1-01
1.0	60 x 1	0.25	1.25	0.15	830	SCT060-830-Z1-01
1.0	100 x 1	0.25	1.25	0.10	808	SCT100-808-Z1-01
					830	SCT100-830-Z1-01
					860	SCT100-860-Z1-01
					915	SCT100-915-Z1-01
					940	SCT100-940-Z1-01
					975	SCT100-975-Z1-01
1.3	100 x 1	0.4	1.70	0.10	808	SCT100-808-F2-01
					830	SCT100-830-F2-01
1.6	100 x 1	0.4	2.00	0.10	915	SCT100-915-M2-01

Notes:

- (1).... P_o typical output power in cw regime
(2).... I_{th} typical threshold current
(3).... I_{op} typical operating current
(4).... R_s typical series resistance
(5).... λ_o center wavelength @ 25°C case temperature, +/- 5nm tolerance.
Typical wavelength temperature coefficient : 0.2-0.3 nm/°C

Common Specifications:

Optical

Spectral Width (FWHM)	<5nm
Typical Slope Efficiency	1.0 W/A
Typical Conversion Efficiency	>35%
Polarization	TE
Beam Divergence (FWHM)	<36° _x x <10° _y

Electrical

Operating Voltage	< 2 Volts
Reverse Voltage	< 3 Volts
Negative Current Transient	< 25μA

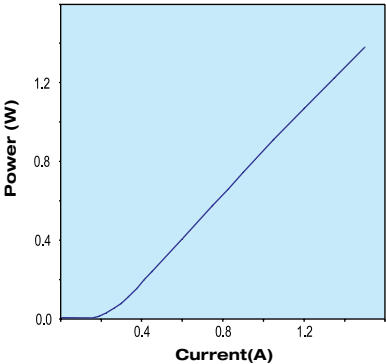
Mechanical

Storage Temp Range	-30°C to 80°C
Lead Soldering Temp	250°C less than 10 sec
Dimensions	see figure

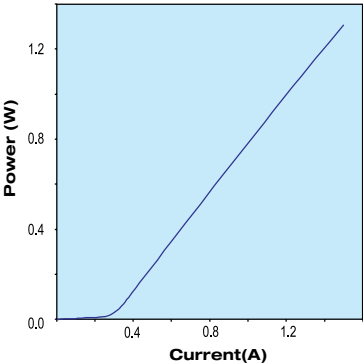
Environmental

Thermal Resistance	< 10°C/W
Recommended Case Temp.	25°C

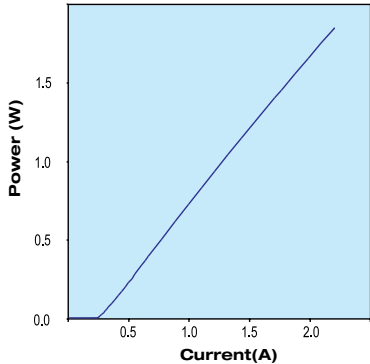
SCT060-830-Z1-01
Power vs. Current(Typical)



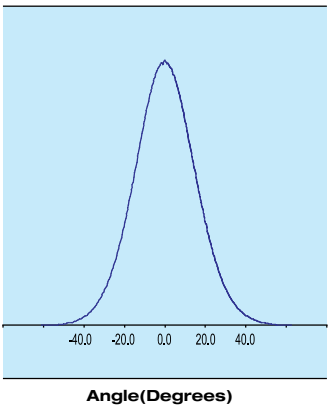
SCT100-808-Z1-01
Power vs. Current(Typical)



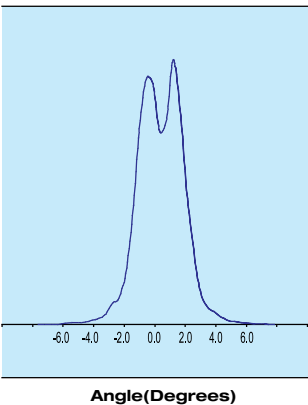
SCT100-915-M2-01
Power vs. Current(Typical)



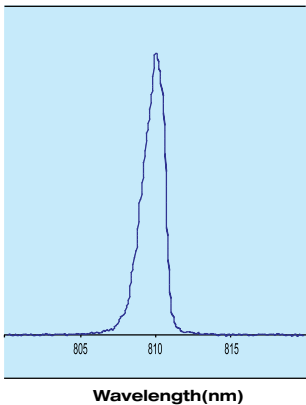
Typical Farfield Distribution
Fast Axis

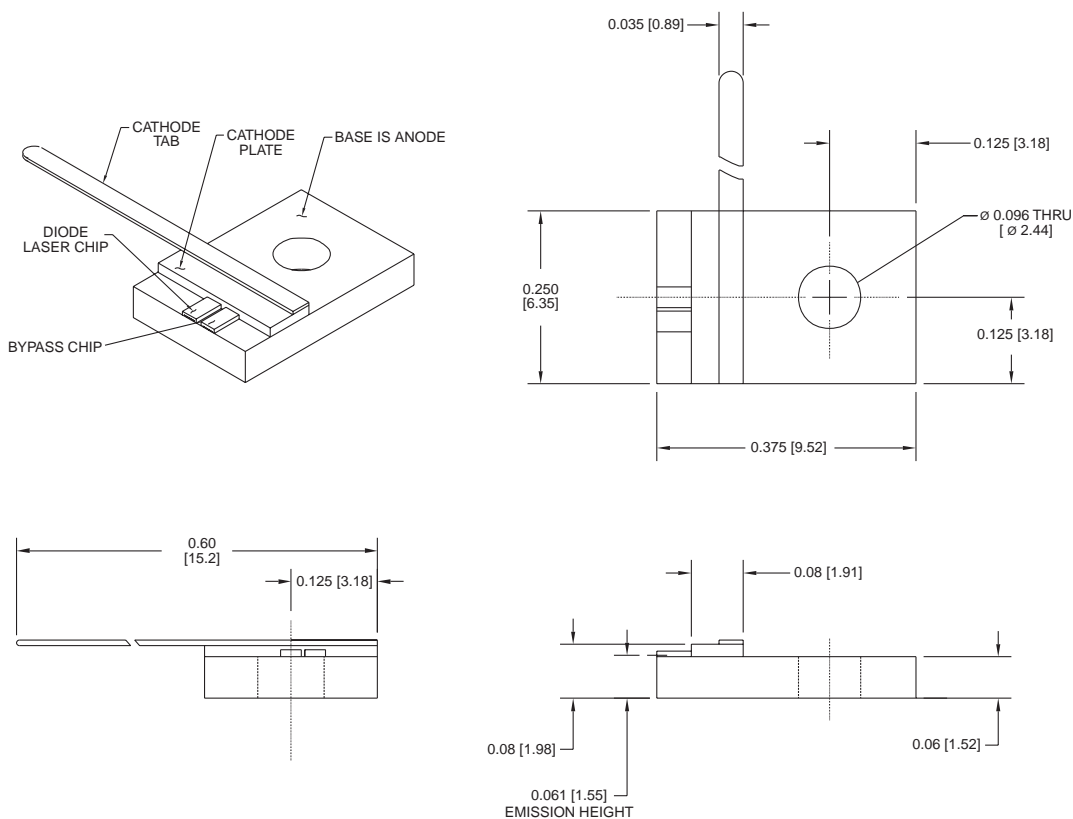


Typical Farfield Distribution
Slow Axis



Typical Emission Spectrum





Not shown actual size - Dimensions in inches[mm]

Laser energy emitted from these products is invisible and harmful to the human eye. Avoid eye or skin exposure to direct or scattered radiation. Proper laser safety eyewear must be worn during operation. Use of controls, or adjustments or performance of procedures other than those specified may result in hazardous radiation exposure. Use of collimating optics may increase the radiation hazard of these products. Pursuant to the Health and Safety Act of 1968, Radiation Control sections 21 CFR 1040.10 & 1040.11, laser safety warning labels, compliant as of date of manufacture, are provided on shipping containers.

Information and specifications contained herein are deemed to be reliable and accurate. SPSSL reserves the right to change, alter or modify the design and specifications of these products at any time without notice

Spectra-Physics
 3321 East Global Loop, Tucson, AZ 85706
 (520) 746-1234 FAX (520) 294-3300

Model No. _____
 Serial No. _____
 Manufactured: _____
 P.O. # _____

This product conforms to 21 CFR 1040.10 & 1040.11 at the date of manufacture.

DANGER

INVISIBLE LASER RADIATION
 AVOID EYE OR SKIN EXPOSURE TO
 DIRECT OR SCATTERED RADIATION

GaAlAs Diode 10W max at 780-1000nm

SPSL-110 CLASS IV LASER PRODUCT

AVOID EXPOSURE
 Invisible laser
 radiation is emitted
 from this
 aperture.