

# CleanBeam™

## Red and Near-IR Diode Lasers



**56 ICS Series**

*The Melles Griot CleanBeam™-series of semiconductor diode lasers provides the ultimate in beam quality. A circular, Gaussian beam is delivered by a compact, self-contained package which requires only 5 Vdc to operate. Excellent power stability and diode protection are achieved using thermoelectric cooling and precision drive electronics. Analog modulation, with a bandwidth of 5 MHz, is standard. Bandwidth of up to 350 MHz is an available option. Each device is thoroughly tested at the factory pretested and supplied with full characterization documentation.*

*Compact size, superior beam quality, and free-space beam delivery make it an ideal complement or alternative to gas and diode-pumped solid-state lasers in many applications including confocal microscopy and semiconductor thin-film measurement.*

### **Features**

- ▶ Superior beam quality
- ▶ Excellent power stability
- ▶ Pointing stability 10  $\mu$ rad/°C
- ▶  $M^2 < 1.2$
- ▶ CDRH and CE compliant
- ▶ 5-Vdc operation

**MELLES GRIOT**

## Specifications

**Beam Size (1/e<sup>2</sup>):** 0.8 ± 0.15 mm

**Beam Quality:** M<sup>2</sup> < 1.2

**Polarization:**

Linear (horizontal)

Extinction ratio: >50:1

**Beam Pointing Stability:** <10 μrad/°C

**Power Stability (22°C ± 5°C over 8 hrs):** ± 2%

**Amplitude Noise:**

<2% peak to peak (10 Hz to 2 MHz)

**Bore Sight:** <2 mrad

**Beam Centration:** 0.5 mm

**Modulation Bandwidth (typical):**

Standard unit: 5 MHz (-3 db), 70-nsec rise/fall time

High-speed option: 350 MHz, 1-nsec rise/fall time

## Electrical Specifications

**Input:** 5 ± 0.3 Vdc at 1.5 A

**Recommended Power Supply:** 56 IMA 019

## Environmental Specifications

**Cooling:** Thermoelectric

**Operating Temperature:** 5°C to 40°C

**Storage Temperature:** 0°C to 50°C

**Operating Relative Humidity:**

0 to 95% noncondensing

## Options for OEMs

- Polarization extinction ratio >100:1
- Custom beam sizes
- Other wavelengths: 635 to 830 nm
- Fiber-optic pigtailed versions
- Custom configurations

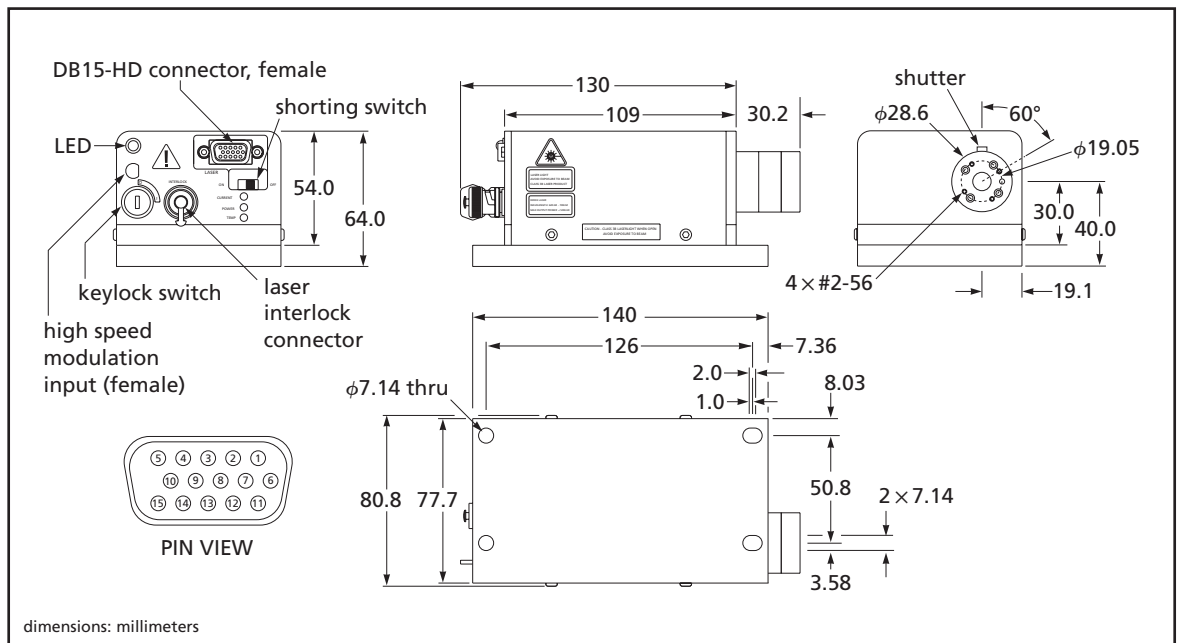
## Minimum Delivered Output Power

Wavelength (nm)	Minimum Output Power (mW)	PRODUCT NUMBER*
635	3	56 ICS 272
638	10	56 ICS 264
660	20	56 ICS 254
785	25	56 ICS 210
830	30	56 ICS 270

\*Add /HS for high speed modulation option.



This Melles Griot laser is designed, tested, and manufactured for compliance with applicable international electrical and laser safety standards.



56 ICS-series laser outline and mounting

# MELLES GRIOT

[www.mellesgriot.com](http://www.mellesgriot.com)

**Laser Group** Carlsbad, California • 1(800) 645-2737 • (760) 438-2131 • FAX (760) 438-5208 • sales@carlsbad.mellesgriot.com

**Electro-Optics Group** Longmont, Colorado • 1-800-326-4363 • (720) 494-9420 • FAX (720) 494-9432 • sales@boulder.mellesgriot.com

**France** (01) 3012-0680 **Germany** (06251) 84060 **Japan** (03) 3407-3614 **Netherlands** (0316) 333041 **Singapore** 6392-5368

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