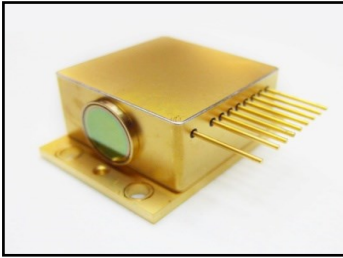


## 5.66 $\mu\text{m}$ DISTRIBUTED FEEDBACK (DFB) QCL ATP0566-H



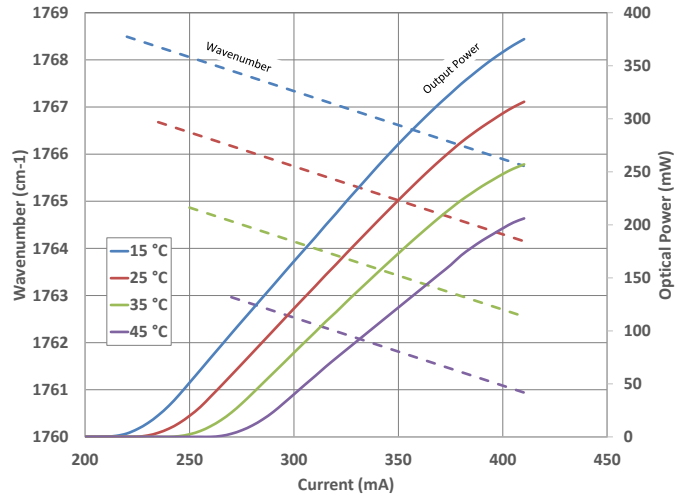
**DESCRIPTION:** AdTech's distributed feedback lasers are designed and fabricated in house to operate under Pulsed or CW conditions at room temperature while providing single longitudinal mode operation. Mode hop free tuning of wavelength emission can be achieved by increasing current or temperature.

**APPLICATION:** Trace Gas Detection of Formaldehyde ( $\text{H}_2\text{CO}$ )

### ELECTRO-OPTICAL LASER CHARACTERISTICS AT 15 °C:

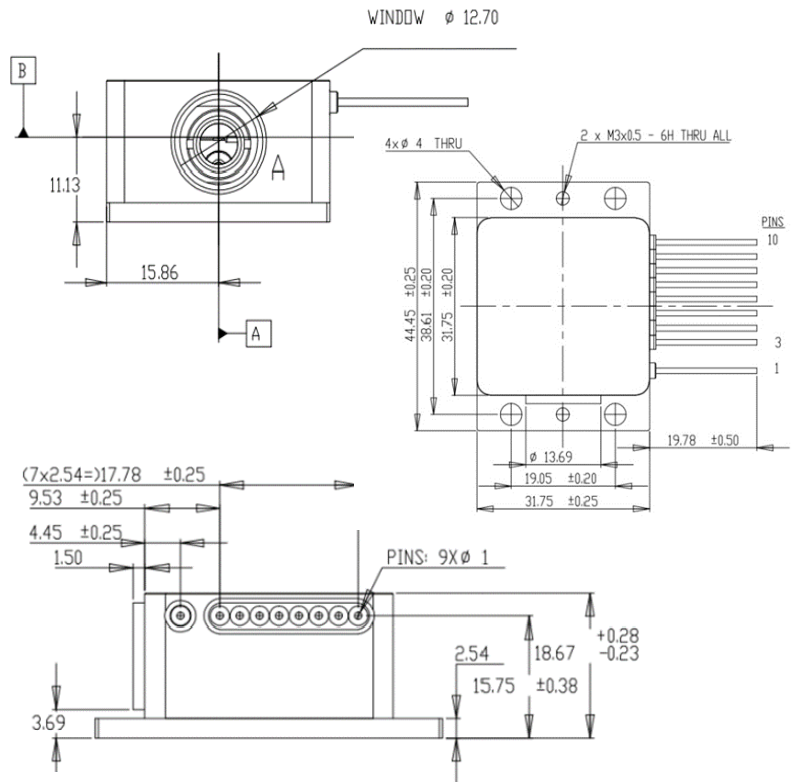
|                      | Min. | Typ. | Max. | Units         |
|----------------------|------|------|------|---------------|
| Operating Current    | 0.15 | 0.35 | 0.45 | A             |
| Operating Voltage    | 10.5 | 10.5 | 14.0 | V             |
| Wall-plug Efficiency | -    | 5    | -    | %             |
| Optical Output Power | -    | 100  | -    | mW            |
| Center Wavelength    | 5.61 | -    | 5.75 | $\mu\text{m}$ |
| Temperature Tuning   | -    | 0.50 | -    | nm/K          |
| Current Tuning       | -    | 45.0 | -    | nm/A          |
| SMSR                 | 25   | -    | -    | dB            |
| Linewidth            | -    | -    | 30   | MHz           |

### TYPICAL SPECTRA PLOT:



### PACKAGING SPECIFICATIONS:

|                       | Specifications | Unit |
|-----------------------|----------------|------|
| Temperature Sensor    | 10.0K or RTD   | ---- |
| Window Material       | ZnSe           | ---- |
| Window Tilt           | 5              | °    |
| Transmittance         | >95            | %    |
| Polarization Ratio    | > 100:1(S:P)   | -    |
| Collimation Lens Type | Aspheric       | ---- |
| Divergence            | < 10           | mrad |
| Beam Pointing         | < 1            | mrad |
| M2                    | < 1.5          | ---- |
| Dimensions            | 45 x 32 x 18   | mm   |
| Weight                | 110.0          | g    |



#### NOTES

- All Dimensions in Millimeters
- Tolerance: 0.13 mm (unless otherwise noted)
- TEC: Details Specs. Upon Request
- Thermal Sensor: RTD 100 or 10k Thermistor
- ZnSe Window:  
AR Coated: 3-7  $\mu\text{m}$  or 7-14  $\mu\text{m}$  (upon request)
- Collimating Lens Inside (upon request)

#### PIN LAYOUT

- |                       |                       |
|-----------------------|-----------------------|
| Pin 1: TEC (-)        | Pin 6: Thermal Sensor |
| Pin 2: Not Installed  | Pin 7: Laser (-)      |
| Pin 3:                | Pin 8:                |
| Pin 4: Laser (+)      | Pin 9:                |
| Pin 5: Thermal Sensor | Pin 10: TEC (+)       |

