

Reference Price for Customized Laser Diodes



Overview

Custom Laser Diodes | Cost-effective Custom Diode lasers | RPMC With nearly 30 years of experience providing the right laser at the best price, RPMC has the.

Key Takeaways

Custom laser diodes can range from a few hundred dollars to tens of thousands of dollars depending on wavelength, power, packaging, and spectral requirements. Price Range Overview

The cost of a custom laser diode is highly variable and depends on several key factors:

- **Wavelength and Application:** High-volume wavelengths used in consumer electronics (e.g., red 630–670 nm) are generally less expensive, while specialty wavelengths for biomedical, industrial, or telecommunications applications can be significantly more costly due to lower production volumes and specialized requirements .
- **Output Power:** Higher power diodes command higher prices. For example, a standard low-power diode may cost under \$10, whereas high-power or multi-watt diodes can reach several thousand dollars .

- **Package Type and Features:** Hermetically sealed packages, integrated lensing, thermoelectric cooling (TEC), or photodiode monitoring increase the cost. Custom packages like HHL or SMA with specific lensing or cavity designs are more expensive than standard off-the-shelf packages .
- **Spectral Properties:** Narrow linewidth, single-mode, or distributed feedback (DFB) diodes are more expensive than broad-spectrum or multi-mode diodes .
- **Quantity:** Unit price decreases with larger production volumes, but custom designs often have higher initial setup costs .

Typical Cost Examples

- **Low-power, standard wavelength diodes:** \$1-\$50 per unit for small quantities .
- **Specialty or high-power diodes:** \$500-\$5,000 per unit depending on power, wavelength, and packaging .
- **Highly customized solutions:** Multi-watt diodes with specific cavity lengths, hermetic sealing, and integrated optics can exceed \$10,000 per unit, especially for low-volume or prototype orders .

How to Obtain a Quote

For precise pricing, it is recommended to submit your specifications to custom laser diode suppliers such as RPMC Lasers or GoPhotonics, providing details like wavelength, output power, package type, and quantity. These suppliers can provide tailored quotes and suggest cost-effective alternatives if available .

Key Takeaway

Custom laser diode pricing is highly dependent on technical specifications and production volume. While basic diodes may be inexpensive, specialized or high-power custom diodes can be very costly, and obtaining a direct quote from a manufacturer is the most reliable way to determine the reference price for your specific requirements .

Article Content

Pricing Guide for Buying Laser Diodes

IntroductionHow Does The Wavelength Affect The Price of A Laser diode?How Do The Spectral Properties Affect The Price?Fabry-Perot Laser DiodesDFB, DBR and ECL Single Frequency Laser DiodesNarrow Spectral Linewidth Laser DiodesHow Does The Package Type Affect Price?Bare Laser Diode Chips and Coc Devices (\$10~\$500)Open Heat Sink Laser Diodes (Range Is Approximately \$50 ~ \$1,000)Butterfly Packaged Laser Diodes (Range Is Approximately \$600 ~ \$4,500)Semiconductor laser diodes range widely in price based on a few key parameters. The wavelength, power, spectral qualities, package type, cavity type and quantity will all have an effect on the price. You can buy a laser diode for less than a dollar. But the price can also be in the tens of thousands of dollars just by changing several paramaters. T...See more on laserdiodesource GoPhotonics

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