

Drill bit for the lithography module



Article Overview

Tungsten carbide micro-drill bits with specialized coatings are ideal for precise lithography module drilling.

Recommended Drill Bit Types

For lithography modules, which often involve high-precision micro-drilling on substrates like FR4, polyimide, or carbon-fiber laminates, the following drill bit characteristics are essential:

- **Material:** Tungsten carbide is preferred for its hardness, wear resistance, and ability to maintain sharp edges at high speeds, crucial for small-diameter holes and delicate substrates .
- **Coatings:** TiN (Titanium Nitride) or TiAlN (Titanium Aluminum Nitride) coatings enhance durability, reduce friction, and allow higher-speed drilling without overheating .
- **Tip Geometry:** Multi-facet or 4-facet tips with polished flutes ensure self-cleaning and precise cutting, minimizing micro-cracks and burrs .
- **Shank Size:** Standard 1/8 inch shanks are compatible with automated collets and allow depth-setting rings for consistent hole depth .

Key Considerations

- **Hole Size and Density:** Select drill bits that match the required hole diameter and spacing to prevent substrate damage and ensure accurate alignment .
- **Feed Rate and Speed:** Adjust rotation speed and downward pressure according to...

Article Content

May 14, 2026

Carbide Drill Bits, Routers & CNC Tools | Drill Bits

Shop carbide drill bits, routers, end mills & engraving tools at Drill Bits Unlimited. Precision for wood,

Mar 19, 2026

Drill Bits | McMaster-Carr

Choose from our selection of drill bits, including over 14,100 products in a wide range of styles and sizes. Same and Next Day Delivery.

Nov 07, 2025

The Ultimate Guide to Drill Bits

Imagine tackling your next DIY project with confidence, knowing you have the perfect drill bit for the job. Whether you're

Jan 29, 2026

PCB Drills | UNION TOOL CO.

UNION TOOL recommend drill models based on actual drilling data depending on customer's conditions, to correspond to a great

Dec 18, 2025

TNMT Mutant Module Replacement 3d printed Drill Bit set custom

TNMT Mutant Module Replacement 3d printed Drill Bit set Modeled in CAD and 3d printed using petg plastic Awesome

Apr 19, 2026

Rotary drill bits

Rotary drill bits are manufactured using advanced materials technology. This enables longer bit life and reduces costs. Innovative

May 17, 2026

Drill Bits & Drill Bit Sets

When it comes to Drill Bits, you can count on Grainger. Supplies and solutions for every industry, plus easy

Mar 24, 2026

Lithography Stepper V2 Build

Start with a center drill then use an appropriately sized drill bit for M4 and M6 holes. You may also switch

Oct 09, 2025

Modular Drill Bodies | Haas Tooling

Explore high-performance modular drill bodies designed for precision and efficiency. Our versatile drill body solutions offer

Jul 14, 2026

The Ultimate Guide to Choosing the Right PCB Drill Bit: Materials ...

Discover the ultimate guide to choosing PCB drill bits. Learn about materials, carbide vs. HSS, sizes, and best

Apr 22, 2026

Lithography principles

Learn the basics of semiconductor lithography, the critical step in the microchip manufacturing process.

Apr 01, 2026

Circuit Board Drill Bits | McMaster-Carr

Choose from our selection of circuit board drill bits, including over 250 products in a wide range of styles and sizes. Same and Next

Jan 09, 2026

Lithography in Semiconductor Manufacturing: Techniques and

Explore the realm of semiconductor fabrication lithography. Discover the main ideas, methods, and tools influencing

Jun 24, 2026

Drill Bits 101: Choosing the Right Bit for the Job

Expert guide to choosing the right drill bit. Learn about sizes, coatings, hardness levels & applications. Consolidated

Jan 03, 2026

Drill Bit Types: Buying Guide 2026 | Mister Worker®

Discover different drill bit types, their uses, sizes, and shank types. A complete guide for MRO professionals to

Mar 28, 2026

Computational Lithography and Optics

The computational lithography and optics group develops physical and chemical models, numerical algorithms, and software for the

Jul 11, 2026

Drill Bit: 22 Types of Drill Bits

In this article, you'll learn what is Drill Bit? How to use them? with pictures, applications, and Types of Drill Bits.

Apr 21, 2026

What is Lithography? - How it Works | Synopsys

Lithography is a critical process in semiconductor manufacturing, enabling the precise patterning of micro- and nano

Oct 03, 2025

Lithography

Photolithography is a patterning process in chip manufacturing. The process involves transferring a pattern from a

Jun 23, 2026

Diamond core bits, X-Change modules, and segments

Show me diamond core bits, X-Change modules and segments, designed for hand-held or rig-based core drilling in concrete and

Dec 31, 2025

The crucial role of lithography in IC fabrication | imec

Lithography is a crucial step in the semiconductor manufacturing process. It allows intricate patterns to be etched onto silicon wafers

Dec 12, 2025

Drill bits

Starting with the industry's first roller cone bit, we've been at the forefront of drill bit innovation for more

Jan 03, 2026

Home | Schmoll Maschinen GmbH

Schmoll Maschinen offers a range of mechanical drilling and routing machines tailored to the needs of high-volume PCB

Jun 08, 2026

Modular Drills

WIDIA modular drills are available in metric and inch measurements. Select from Top Drill™ Modular X and Victory Top Drill M1™

Jul 29, 2025

Choose the Best Drill Bits for Your Next Project

Discover the best drill bits for any project. Our guide covers types of drill bits for wood, metal and masonry to help you

May 23, 2026

Types of Drill Bits — The Right Bit for the Job

The multitude of different types of drill bits is confusing—we reveal the secrets behind the many formats, their uses, and with which

Sep 09, 2025

Waverton Groove Curved Wall Hung Vanity Florentine Walnut (All Sizes)

Get the Waverton Groove Curved Wall Hung Vanity in Florentine Walnut from Zure. Stylish and modern curved design with a

Feb 17, 2026

Modular Drill Systems

Kennametal modular drills are ideal for a variety of machining operations. A locking system enables inserts

Apr 14, 2026

An Introduction to Lithography Machine

The principle of lithography technological originates from photographic plate making in printing technology, where micro graphs are

Dec 04, 2025

Drill Bits | Northern Tool

Shop 2461 Drill Bits at Northern Tool + Equipment. Browse a variety of top brands in Drill Bits such as

Oct 21, 2025

Lithography

Maskless exposure lithography systems represent an entirely new platform of EVG lithography equipment.

Sep 13, 2025

The Ultimate Guide to Drill Bits

What do you all know about drill bits? There's actually a lot more than you think that goes into their shape and function. In this

Sep 14, 2025

21 Types of Drill Bits and How to Use Them

Drill bits are essential for a home DIY project or construction job site. These parts are attached to a drill base and are

Jul 10, 2026

Printed Circuit Fabrication Tools

Depth setting rings are plastic collars that are securely pressed onto the 1/8 in. shank of a drill bit, end-mill, router bit, or similar rotary

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: <https://greatpremiersolutions.co.za>

Email: sales@greatpremiersolutions.co.za

Phone: +27 82 914 3675

Address: Unit 5, Silicon Heights, 22 Electron Avenue, Cape Town, 8001, South Africa

This document is for informational purposes only. Specifications subject to change without notice.

