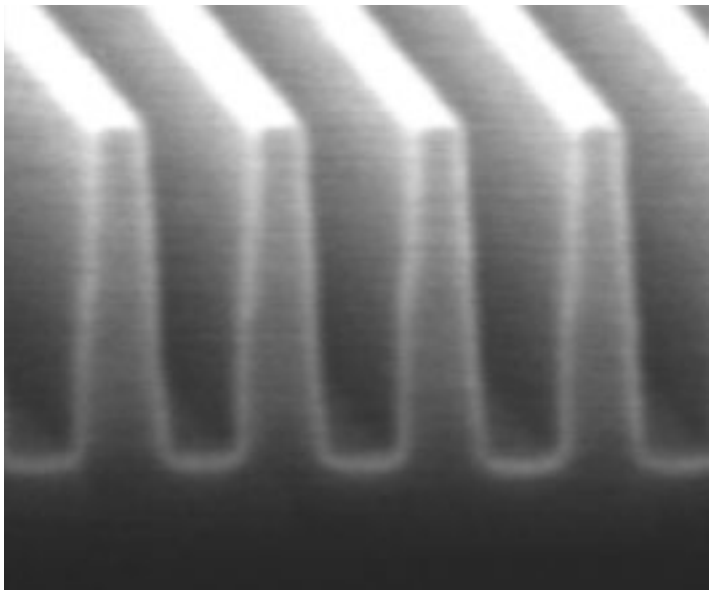
Micro-optic Solutions for Diffraction Gratings

DigitalOptics Corporation™ (DOC) is a world-wide leader in the design and manufacture of diffractive optical elements (DOEs). Using wafer-based lithography, DOC produces DOEs with exceptional thermal, mechanical and optical performance characteristics. In addition, wafer-level processing provides excellent manufacturing repeatability and economies of scale. Available materials include crystal-quartz, fused-silica, glass, silicon and advanced synthetic substrates.



Diffraction gratings are useful in applications such as:

- Spectral analysis (e.g. spectroscopy)
- MUX/DEMUX/DWDM (e.g. datacom)
- Precision motion control (e.g. optical encoders)

DOC's advanced lithography techniques and equipment enable the fabrication of precision gratings with tightly-controlled groove spacing. This is critical, as the distance and parallelism of the grooves directly impact the dispersion and efficiency of the grating.

DOC offers both custom and stock designs.

Technical Specifications Overview

Feature Control	Features as small as 100nm, with 15nm overlay control and ~100nm corner rounding
Wavelength	193nm to 14µm
Materials	Quartz, fused-silica, silicon, germanium, or advanced synthetic substrates
Dimensions	0.5mm to 125.0mm
Projection Angles	Wide: up to 120° (full angle)
Coatings	Anti-reflective coating and metallization capabilities
Zero Order	Typically < 1.5%
Efficiency	Varies by design

Technical Specifications - MDOC01192_B

DOC P/N	MDOC01192_B
Output Pattern	Linear Grating 1.2µm
Die Size (mm)	15x15x1
Substrate	Optical Grade Fused- Silica
Phase Levels	2
Wavelength (nm)	650
Pattern Angle (Max X°)	0.00°
Pattern Angle (Max Y°)	32.79°
Transmission Efficiency	>70%
Non Uniformity	2%

Contact a DOC sales representative for more information.
3025 Orchard Parkway | San Jose, CA 95134 | T +1.704.887.3154 | **www.doc.com**

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