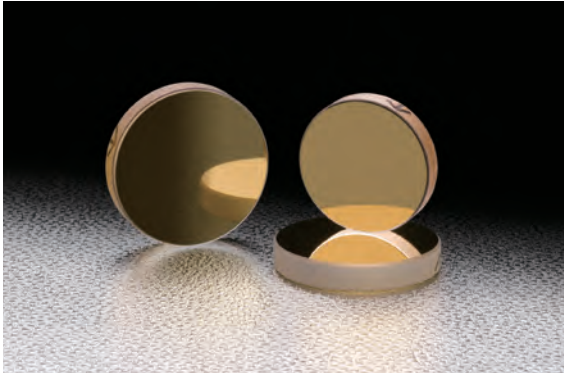
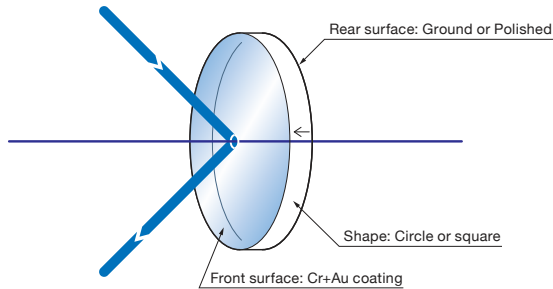


Gold (Au) coated reflection mirrors have high reflectance over wide infrared range.

- Chromium (Cr) is used as the undercoated to better reinforce the adhesion of gold to the substrate.
- Gold mirrors with silicon substrates have higher durability than glass because gold coating adheres much stronger to silicon and has a higher thermal conductivity. (thermal conductivity of silicon is 111 times better compared to glass)



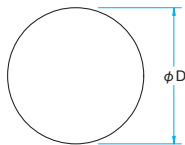
Schematic



Outline Drawing

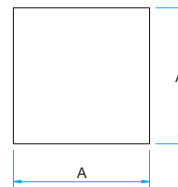
(in mm)

● Circle



● Tolerance
Diameter $\phi D_{\pm 0.1}$
Thickness $t \pm 0.1$

● Square



● Tolerance
Length $A_{\pm 0.1}$
Thickness $t \pm 0.1$

Specifications

Material	BK7 Hard glass (Pyrex® etc.) Silicon crystal
Coating	Cr (chrome) + Au (Gold)
Parallelism	<3'
Surface Quality (Scratch-Dig)	40-20
Clear aperture	90% of diameter or circle that internally contacts 90% square of dimension
Laser Damage Threshold	1.2kW/cm ² (CW laser)

Guide

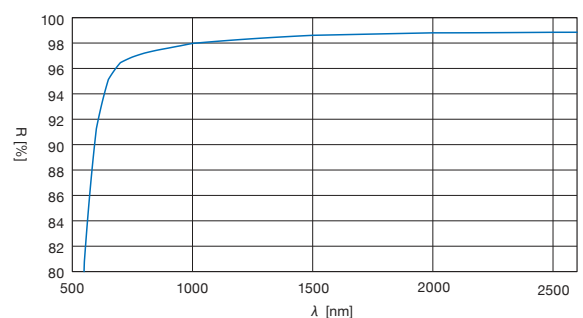
- ▶ Please contact our Sales Division for customized products. (customize outer diameter, etc.)
- ▶ Pyrex® is a registered trademark of Corning Inc.

Attention

- ▶ When silicon mirrors are water-cooled, heat dissipates more quickly and they have higher durability.
- ▶ Since gold coating has an extremely low mechanical strength, extra care should be taken and it is recommended that cleaning of the surface be limited to blowing off the coated surface.
- ▶ Reflectance of the specification are represented by the average of the reflectance of P polarized light and S polarized light.

Typical Reflectance Data

R: Reflectance



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Aluminum Coating

Gold Coating



Gold Flat Mirrors

Circle						
Part Number	Dimension ϕD [mm]	Thickness t [mm]	Surface Flatness		Material	Rear Surface
			(at 632.8nm)	(at 10.6 μ m)		
TFG-20C05-10	$\phi 20$	5	$\lambda/10$	$\lambda/160$	BK7	Ground
TFG-25C05-10	$\phi 25$	5	$\lambda/10$	$\lambda/160$	BK7	Polished
TFG-30C05-10	$\phi 30$	5	$\lambda/10$	$\lambda/160$	BK7	Polished
TFG-40C06-10	$\phi 40$	6	$\lambda/10$	$\lambda/160$	BK7	Polished
TFG-50C08-10	$\phi 50$	8	$\lambda/10$	$\lambda/160$	BK7	Polished

Square						
Part Number	Length A [mm]	Thickness t [mm]	Surface Flatness		Material	Rear Surface
			(at 632.8nm)	(at 10.6 μ m)		
TFG-20S05-10	$\square 20$	5	$\lambda/10$	$\lambda/160$	BK7	Ground
TFG-25S05-10	$\square 25$	5	$\lambda/10$	$\lambda/160$	BK7	Ground
TFG-30S05-10	$\square 30$	5	$\lambda/10$	$\lambda/160$	BK7	Ground
TFG-50S08-10	$\square 50$	8	$\lambda/10$	$\lambda/160$	Hard glass	Polished

Gold Silicon Mirrors

Circle						
Part Number	Dimension ϕD [mm]	Thickness t [mm]	Surface Flatness		Material	Rear Surface
			(at 632.8nm)	(at 10.6 μ m)		
TFGS-30C03-2	$\phi 30$	3	λ	$\lambda/16$	Silicon crystal	Ground
TFGS-40C04-2	$\phi 40$	4	λ	$\lambda/16$	Silicon crystal	Ground
TFGS-50C05-2	$\phi 50$	5	λ	$\lambda/16$	Silicon crystal	Ground

Compatible Optic Mounts

MHG-HS25, -HS30 / MHG-MP50 / MHF-20 / MHAN-40M

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