



High Performance HEM Sapphire Substrates

2" SINGLE SIDE POLISHED

Tolerances

Crystal	HEM sapphire	
Grade	Low distortion, device quality HEM Sapphire	
Purity	>99.99%	
Orientation	C-plane (0001)	+/- 0.2 deg
Diameter	50.80 mm	+/- 0.25 mm
Diameter finish	Fine ground	
Thickness	0.332 mm, 0.432 mm	+/- 0.025 mm
Primary flat	A-axis, (1120)	+/- 0.3 deg
Flat length	16.0 mm	+/- 1.5 mm
Front side polish	Epi polish, Ra < 1nm	
TTV	< 25 um	
BOW	< 20 um	
Back side surface	fine ground, ~1.0 um Ra	
Packaging	Vacuum packaged in nitrogen atmosphere in a class 100 clean room, ready for epi	

PRICING

5 pcs	\$68/ea
10 pcs	\$63/ea
25 pcs	\$60/ea
50 pcs	\$50/ea
100 pcs	\$45/ea

2" DOUBLE SIDE POLISHED

Tolerances

Crystal	HEM sapphire	
Grade	Low distortion, device quality HEM Sapphire	
Purity	>99.99%	
Orientation	C-plane (0001)	+/- 0.2 deg
Diameter	50.80 mm	+/- 0.25 mm
Diameter finish	Fine ground	
Thickness	0.332 mm, 0.432 mm	+/- 0.025 mm
Primary flat	A-axis, (1120)	+/- 0.3 deg
Flat length	16.0 mm	+/- 1.5 mm
Front side polish	Epi polish, Ra < 1nm	
TTV	< 25 um	
BOW	< 20 um	
Back side polish	60-40 scratch dig polish	
Packaging	Vacuum packaged in nitrogen atmosphere in a class 100 clean room, ready for epi	

PRICING

5 pcs	\$105/ea
10 pcs	\$92/ea
25 pcs	\$80/ea
50 pcs	\$70/ea
100 pcs	\$65/ea

*Please see following page for additional sizes

For more information, please email: sapphiresales@gtat.com

High Performance HEM Sapphire Substrates (cont.)

3" SINGLE SIDE POLISHED

Tolerances

Crystal	HEM sapphire	
Grade	Low distortion, device quality HEM Sapphire	
Purity	>99.99%	
Orientation	C-plane (0001)	+/- 0.2 deg
Diameter	76.20 mm	+/- 0.25 mm
Diameter finish	Fine ground	
Thickness	0.550 mm	+/- 0.025 mm
Primary flat	A-axis, (1120)	+/- 0.3 deg
Flat length	22.0 mm	+/- 1.5 mm
Front side polish	Epi polish, Ra < 1nm	
TTV	< 30 um	
BOW	< 30 um	
Back side surface	fine ground, ~1.0 um Ra	
Packaging	Vacuum packaged in nitrogen atmosphere in a class 100 clean room, ready for epi	

PRICING

5 pcs	\$305/ea
10 pcs	\$295/ea
25 pcs	\$275/ea

3" DOUBLE SIDE POLISHED

Tolerances

Crystal	HEM sapphire	
Grade	Low distortion, device quality HEM Sapphire	
Purity	>99.99%	
Orientation	C-plane (0001)	+/- 0.2 deg
Diameter	76.20 mm	+/- 0.25 mm
Diameter finish	Fine ground	
Thickness	0.550 mm	+/- 0.025 mm
Primary flat	A-axis, (1120)	+/- 0.3 deg
Flat length	22.0 mm	+/- 1.5 mm
Front side polish	Epi polish, Ra < 1nm	
TTV	< 30 um	
BOW	< 30 um	
Back side polish	60-40 scratch dig polish	
Packaging	Vacuum packaged in nitrogen atmosphere in a class 100 clean room, ready for epi	

PRICING

5 pcs	\$350/ea
10 pcs	\$335/ea
25 pcs	\$325/ea

4" SINGLE SIDE POLISHED

Tolerances

Crystal	HEM sapphire	
Grade	Low distortion, device quality HEM Sapphire	
Purity	>99.99%	
Orientation	C-plane (0001)	+/- 0.2 deg
Diameter	100 mm	+/- 0.25 mm
Diameter finish	Fine ground	
Thickness	0.650 mm	+/- 0.025 mm
Primary flat	A-axis, (1120)	+/- 0.3 deg
Flat length	32.0 mm	+/- 1.5 mm
Front side polish	Epi polish, Ra < 1nm	
TTV	< 40 um	
BOW	< 30 um	
Back side surface	fine ground, ~1.0 um Ra	
Packaging	Vacuum packaged in nitrogen atmosphere in a class 100 clean room, ready for epi	

PRICING

5 pcs	\$390/ea
10 pcs	\$350/ea
25 pcs	\$330/ea

4" DOUBLE SIDE POLISHED

Tolerances

Crystal	HEM sapphire	
Grade	Low distortion, device quality HEM Sapphire	
Purity	>99.99%	
Orientation	C-plane (0001)	+/- 0.2 deg
Diameter	100 mm	+/- 0.25 mm
Diameter finish	Fine ground	
Thickness	0.650 mm	+/- 0.025 mm
Primary flat	A-axis, (1120)	+/- 0.3 deg
Flat length	32.0 mm	+/- 1.5 mm
Front side polish	Epi polish, Ra < 1nm	
TTV	< 40 um	
BOW	< 30 um	
Back side polish	60-40 scratch dig polish	
Packaging	Vacuum packaged in nitrogen atmosphere in a class 100 clean room, ready for epi	

PRICING

5 pcs	\$420/ea
10 pcs	\$400/ea
25 pcs	\$375/ea

For more information, please email: sapphiresales@gtat.com