

Ceramic Wafer & Substrate

Aluminum Nitride Substrates: AlN	Corning EAGLE XG Glass	ITO Coated Glass / Plastic Substrates	Silicon Nitride (Si3N4) Substrate
Aluminum Oxide Substrates Al2O3	FTO Glass	Mica Disks Highest Grade V1	YSZ (Yttrium stablized ZrO2)
BeO Ceramic Substrate	Fused Silica Substrates: SiO2	Pyrolytic Graphite Substrate	

1. Aluminum Nitride Substrates: AlN

No.	Item	Description
1.	AlN Ceramic Substrate 1"x1"x 0.5mm, 1sp	<u>AlN Ceramic Substrate made by tape casting:</u> Purity: > 99% (AlN5116) Size: 1" x 1" x 0.5 mm Polishing: One side polished Surface Roughness: < 100A
2.	AlN Ceramic Substrate 2"x2"x 0.5mm, 1sp	<u>AlN Ceramic Substrate made by tape casting:</u> Purity: > 99% (AlN5116) Size: 2" x 2" x 0.5 mm Polishing: One side polished Surface Roughness: < 100A
3.	AlN Ceramic Substrate 2"x2"x 0.5mm, 2sp	<u>AlN Ceramic Substrate made by tape casting:</u> Purity: > 99% (AlN5116) Size: 2" x 2" x 0.5 mm Polishing: Two sides polished Surface Roughness: < 100A
4.	AlN Ceramic Substrate 2"x2"x 1.0 mm, as lapping	<u>AlN Ceramic Substrate made by tape casting:</u> Purity: > 99% (AlN5116) Size: 2" x 2" x 1.0 mm Two sides lapped (fine ground) Surface Roughness: < 0.5 microm
5.	AlN Substrate 10x10x 0.5mm, 1sp	<u>AlN Ceramic Substrate made by tape casting:</u> Purity: > 99% Size: 10x10 x 0.5 mm Polishing: One side polished Surface Roughness: < 100A
6.	3" Aluminum Nitride Substrate for RTP Furnace's Sample Holder - EQ-AlN-Holder	Such unpolished Aluminum Nitride can be placed in the center of holder for holding test samples up to 3" diam. The excellent temperature uniformity can be achieved in this 3" diam. area due to the benefit from its high thermal conductivity.

2. Aluminum Oxide Substrates Al₂O₃

No.	Item	Description
1.	Alumina Ceramic Substrate 1" x 1" x 0.5 mm fine ground	<u>Al₂O₃ Ceramic Substrate made by tape casting:</u> Purity: 96% Size: 1" x 1" x 0.5 mm Polishing: fine ground both side Surface Roughness: < 1 microm
2.	Alumina Ceramic Substrate 1"x1"x 1.0mm fine ground	<u>Al₂O₃ Ceramic Substrate made by tape casting:</u> Purity: 96% Size: 1" x 1" x 0.5 mm Polishing: fine ground both side Surface Roughness: < 1 microm
3.	Alumina Ceramic Substrate 10x10x0.5 mm , one side polished_1	<u>Al₂O₃ Ceramic Substrate made by tape casting:</u> Purity: 96% Size: 10 x 10 x 0.5 mm Polishing: One side polished Surface Roughness: < 100A
4.	Alumina Ceramic Substrate 10x10x0.5 mm , two sides polished	<u>Al₂O₃ Ceramic Substrate made by tape casting:</u> Purity: 96% Size: 10 x 10 x 0.5 mm Polishing: two sides polished Surface Roughness: < 100A
5.	Alumina Ceramic Substrate 3"x3"x 0.5mm, 1sp	<u>Al₂O₃ Ceramic Substrate made by tape casting:</u> Purity: 96% Size: 3"x3"x 5mm Polishing: One side polished Surface Roughness: < 1 micron
6.	Alumina Ceramic Substrate 3"x3"x 0.635mm, fine ground	<u>Al₂O₃ Ceramic Substrate made by tape casting:</u> Purity: 96% Size: 3"x3"x 0.635mm Polishing: fine ground Surface Roughness: < 1 micron
7.	High Purity (Purity :99.6%) Alumina Ceramic Substrate 1"x1"x 0.254mm, 1sp	<u>Al₂O₃ Ceramic Substrate:</u> Purity: 99.6% Size: 1" x 1" x 0.254 mm Polishing: One side polished Surface Roughness: < 1 microinch or < 25 nm
8.	High Purity (Purity :99.6%) Alumina Ceramic Substrate 1"x1"x 0.254mm, 2sp	<u>Al₂O₃ Ceramic Substrate:</u> Purity: 99.6% Size: 1"x1"x0.254 mm Polishing: Two sides polished Surface Roughness: < 1 microinch or < 25 nm
9.	High Purity (Purity :99.6%) Alumina Ceramic Substrate 2"x2"x 0.5mm, 1sp	<u>Al₂O₃ Ceramic Substrate; SUPERSTRATE 996:</u> Purity: 99.6% Grain Size: < 1.0 Micron Size: 2.0" +/- .020" SQ x .020" +/- .0005" THICK or 2" x 2" x 0.5 mm th Polishing: one side polished, 1sp Surface Roughness: < 1 microinch or 25 nm Flatness: .0005"/" measured in the restrained state.
10.	High Purity (Purity :99.6%) Alumina Ceramic Substrate	<u>Al₂O₃ Ceramic Substrate; SUPERSTRATE 996:</u> Purity: 99.6%

	2"x2"x 0.5mm,2sp	Grain Size: < 1.0 Micron Size: 2.0" +/- .020" SQ x .020" +/- .0005" THICK or 2" x 2" x 0.5 mm th Polishing: Two sides polished, 2sp Surface Roughness: < 1 microinch or 25 nm Flatness: .0005"/" measured in the restrained state.
11.	High Purity (Purity :99.9%) Alumina Ceramic Substrate 2"x2"x 0.5mm,1sp	<u>Al2O3 Ceramic Substrate; SUPERSTRATE 999:</u> Purity: 99.9% Grain Size: 3.0 Microns Size: 2.0" +/- .020" x .020" +/- .0005" THICK or 2" x 2" x 0.5 mm th Polishing: One side polished, Surface Roughness: < 1 microinch or 25 nm Flatness: .0001"/" measured in the restrained state.
12.	High Purity (Purity :99.9%) Alumina Ceramic Substrate 2"x2"x 0.5mm,2sp	<u>Al2O3 Ceramic Substrate; SUPERSTRATE 999:</u> Purity: 99.9% Grain Size: 3.0 Microns Size: 2.0" +/- .020" x .020" +/- .0005" THICK or 2" x 2" x 0.5 mm th Polishing: Two sides polished, Surface Roughness: < 1 microinch or 25 nm Flatness: .0001"/" measured in the restrained state.

3. BeO Ceramic Substrate

No.	Item	Description																																																																								
1.	BeO Ceramic Substrate 2"x 2"x0.019", fine ground	<p><u>BeO Ceramic Substrate:</u></p> <p>Purity: > 99% Size: 2" x 2" x 0.019" Surface finish: fine ground 15-30 micron</p> <p><u>BeO Ceramic Properties:</u></p> <table border="1"> <thead> <tr> <th>Property</th> <th>Condition</th> <th>Unit</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Density</td> <td></td> <td>g/cm 3</td> <td>≥2.85</td> </tr> <tr> <td>BeO purity</td> <td></td> <td>%</td> <td>≥99</td> </tr> <tr> <td>Tensile strength</td> <td></td> <td>MPa</td> <td>≥140</td> </tr> <tr> <td>linear expansion coeff.</td> <td>20 -500</td> <td>×10 -4 /</td> <td>7-8.5</td> </tr> <tr> <td>Thermal Conductivity</td> <td>40</td> <td>W/m-k</td> <td>≥250</td> </tr> <tr> <td>Specific Heat</td> <td>25</td> <td>cal/°C gm</td> <td>0.25</td> </tr> <tr> <td>Hardness</td> <td>60</td> <td>Rockwell</td> <td></td> </tr> <tr> <td>Dialectic Constant</td> <td>1MHz 20</td> <td></td> <td>6.5-7.5</td> </tr> <tr> <td></td> <td>10GHz 20</td> <td></td> <td>6.5-7.5</td> </tr> <tr> <td></td> <td>1MHz 20</td> <td>×10 -4</td> <td>≤4</td> </tr> <tr> <td></td> <td>10GHz 20</td> <td>×10 -4</td> <td>≤8</td> </tr> <tr> <td>Resistivity</td> <td>100</td> <td>Ω.cm</td> <td>≥10¹³</td> </tr> <tr> <td></td> <td>300</td> <td>Ω.cm</td> <td>≥10¹⁰</td> </tr> <tr> <td>Dialectic Strength</td> <td>DC</td> <td>KV/mm</td> <td>≥15</td> </tr> <tr> <td>Chemical stability</td> <td>1:9HCl</td> <td>ug/cm 2</td> <td>≤0.3</td> </tr> <tr> <td></td> <td>10% NaOH</td> <td>ug/cm 2</td> <td>≤0.2</td> </tr> <tr> <td>Max. working Temperature</td> <td></td> <td></td> <td>1800</td> </tr> </tbody> </table>	Property	Condition	Unit	Value	Density		g/cm 3	≥2.85	BeO purity		%	≥99	Tensile strength		MPa	≥140	linear expansion coeff.	20 -500	×10 -4 /	7-8.5	Thermal Conductivity	40	W/m-k	≥250	Specific Heat	25	cal/°C gm	0.25	Hardness	60	Rockwell		Dialectic Constant	1MHz 20		6.5-7.5		10GHz 20		6.5-7.5		1MHz 20	×10 -4	≤4		10GHz 20	×10 -4	≤8	Resistivity	100	Ω.cm	≥10 ¹³		300	Ω.cm	≥10 ¹⁰	Dialectic Strength	DC	KV/mm	≥15	Chemical stability	1:9HCl	ug/cm 2	≤0.3		10% NaOH	ug/cm 2	≤0.2	Max. working Temperature			1800
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2.	BeO Ceramic Substrate 2"x 2"x0.5 mm, 1sp	<p><u>BeO Ceramic Substrate:</u></p> <p>Purity: > 99% Size: 2" x 2" x 0.5 mm Surface finish: one side lapped and polished down to <4 micron and the other side: lapped 25-45 micron</p>																																																																								

<i>BeO Ceramic Properties</i>			
Property	Condition	Unit	Value
Density		g/cm 3	≥2.85
BeO purity		%	≥99
Tensile strength		MPa	≥140
linear expansion coeff.	20 -500	×10 -4 /	7-8.5
Thermal Conductivity	40	W/m-k	≥250
Specific Heat	25	cal/°C gm	0.25
Hardness	60	Rockwell	
Dialectic Constant	1MHz 20		6.5-7.5
	10GHz 20		6.5-7.5
	1MHz 20	×10 -4	≤4
	10GHz 20	×10 -4	≤8
Resistivity	100	Ω.cm	≥10 ¹³
	300	Ω.cm	≥10 ¹⁰
Dialectic Strength	DC	KV/mm	≥15
Chemical stability	1:9HCl	ug/cm 2	≤0.3
	10% NaOH	ug/cm 2	≤0.2
Max. working Temperature			1800

4. Corning EAGLE XG Glass

No.	Item	Description
1.	Corning EAGLE XG® Glass Substrates 100mm x 100 mm x 0.7 mm,	<u>Features:</u> Corning EAGLE XG® Glass Substrates Dimension: 100 mm x 100mm x 0.7 mm High transmission (75-80 %) Low defect densities Low ohmic values Highly transparent ,conductive coating LCD and OLED applications

5. FTO Glass

No.	Item	Description
1.	FTO Glass Substrate (TEC 7) 1" x 1" x 2.2 mm, R: 6-8 ohm/sq 25pcs /pack	Fluorine-Tin-Oxide (FTO) coated Glass Plates (Corning brand-TEC7) Dimension: 1" x 1" x 2.2 mm Nominal FTO Film thickness: <250 nm Resistivity: 6-8 ohm/sq Visible Transmittance: 80-82 % Haze: 5% Heat Flow thru Glass: clear glass at 22 deg C/air space/clear glass at 4 C: 64 W/m^2
2.	FTO Glass Substrate (TEC 7) 1.0" x 3" x 2.2 mm, R: 6-8 ohm/sq, 25pcs /pack	Fluorine-Tin-Oxide (FTO) coated Glass Plates (Corning brand-TEC7) Dimension: 1" x 3" x 2.2 mm Nominal FTO Film thickness: <250 nm Resistivity: 6-8 ohm/sq Visible Transmittance: 80-82 % Haze: 5% Heat Flow thru Glass: clear glass at 22 deg C/air space/clear glass at 4 C: 64 W/m^2

3.	FTO Glass Substrate (TEC 7) 100 x 100 x 2.2 mm, R: 6-8 ohm/sq 25 pcs /pack	Fluorine-Tin-Oxide (FTO) coated Glass Plates (Corning brand-TEC7) Dimension: 100x100x 2.2 mm Nominal FTO Film thickness: <250 nm Resistivity: 6-8 ohm/sq Visible Transmittance: 80-82 % Haze: 5% Heat Flow thru Glass: clear glass at 22 deg C/air space/clear glass at 4 C: 64 W/m ²
4.	FTO Glass Substrate (TEC 15) 1" x 1" x 2.2 mm, R:12-14 ohm/sq 25pcs /pack	Fluorine-Tin-Oxide (FTO) coated Glass Plates (Corning brand-TEC15) Dimension: 1" x 1" x 2.2 mm Nominal FTO Film thickness: <200 nm Resistivity: 12-14 ohm/sq Phi (work function): 4.92~5.12 eV (Kelvin probe) Visible Transmittance:82-84.5 % Haze: <= 0. 74 % Heat Flow thru Glass: TEC 15 at 22 deg C/ air space/clear glass at 4 C: 43 W/m ² Heat Flow thru Glass: clear glass at 22 deg C/air space/clear glass at 4 C: 64 W/m ² Please click to download MSDS
5.	FTO Glass Substrate (TEC 15) 100 x 100 x 2.2 mm, R: 12-14 ohm/sq 25 pcs /pack	Fluorine-Tin-Oxide (FTO) coated Glass Plates (Corning brand-TEC15) Dimension: 100x100x 2.2 mm Nominal FTO Film thickness: <200 nm Resistivity: 12-14 ohm/sq Phi (work function): 4.92~5.12 eV (Kelvin probe) Visible Transmittance:82-84.5 % Haze: <= 0. 74 % Heat Flow thru Glass: TEC 15 at 22 deg C/ air space/clear glass at 4 C: 43 W/m ² Heat Flow thru Glass: clear glass at 22 deg C/air space/clear glass at 4 C: 64 W/m ²
6.	FTO Glass Substrate (TEC 15) 1.0" x 3" x 2.2 mm, R: 12-14 ohm/sq, 25pcs /pack	Fluorine-Tin-Oxide (FTO) coated Glass Plates (Corning brand-TEC15) Dimension: 1" x 3" x 2.2 mm Nominal FTO Film thickness: <200 nm Resistivity: 12-14 ohm/sq Phi (work function): 4.92~5.12 eV (Kelvin probe) Visible Transmittance: 82-84.5 % Haze: <= 0. 74 % Heat Flow thru Glass: TEC 15 at 22 deg C/ air space/clear glass at 4 C: 43 W/m ² Heat Flow thru Glass: clear glass at 22 deg C/air space/clear glass at 4 C: 64 W/m ²
7.	FTO Glass Substrate (TEC 70) 1.0" x 3" x 3.2 mm, R: 58-72 ohm/sq ,25pcs /pack	Fluorine-Tin-Oxide (FTO) coated Glass Plates (Corning brand-TEC70) Dimension: 1" x 3" x 3.2 mm Nominal FTO Film thickness: <150 nm Resistivity: 58~72 ohm/sq Phi (work function): 4.83~5.03 eV (Kelvin probe) Visible Transmittance:82-84.5 % Haze: 0. 5% Heat Flow thru Glass: TEC 70 at 27 deg C/ air space/TEC 15 glass at -20 C: 86 W/m ² Heat Flow thru Glass: TEC 70 at 27 deg C/ air space/clear glass/air space/clear glass at -20 C: 94 W/m ²
8.	FTO Glass Substrate(TEC 70) 1" x 1" x 3.2 mm, R:58-72 ohm/sq 25 pcs /Pack	Fluorine-Tin-Oxide (FTO) coated Glass Plates (Corning brand-TEC70) Dimension: 1" x 1" x 3.2 mm Nominal FTO Film thickness: <150 nm Resistivity: 58~72 ohm/sq Phi (work function): 4.83~5.03 eV (Kelvin probe) Visible Transmittance:82-84.5 % Haze: 0. 5% Heat Flow thru Glass: TEC 70 at 27 deg C/ air space/TEC 15 glass at -20 C: 86 W/m ²

		Heat Flow thru Glass: TEC 70 at 27 deg C/ air space/clear glass/air space/clear glass at -20 C: 94 W/m ²
9.	FTO Glass Substrate (TEC 70) 100x100 x 3.2 mm, R:58-72 ohm/sq 25pcs /pack	Fluorine-Tin-Oxide (FTO) coated Glass Plates (Corning brand-TEC70) Dimension: 100x100 x 3.2 mm Nominal FTO Film thickness: <150 nm Resistivity: 58~72 ohm/sq Phi (work function): 4.83~5.03 eV (Kelvin probe) Visible Transmittance: 82-84.5 % Haze: 0. 5% Heat Flow thru Glass: TEC 70 at 27 deg C/ air space/TEC 15 glass at -20 C: 86 W/m ² Heat Flow thru Glass: TEC 70 at 27 deg C/ air space/clear glass/air space/clear glass at -20 C: 94 W/m ²

6. Fused Silica Substrates: SiO₂

No.	Item	Description
1.	Fused Silica Glass Substrate, 0.5"x0.5"x0.5 mm, 2sides polished	<u>UV grade Fused Silica:</u> Size: 0.5" x 0.5" x 0.5 mm Polishing: Two sides polished Surface Roughness: < 5 A
2.	Fused Silica Glass Substrate, 1"x1"x1.4 mm, 2 sides optical polished	<u>Optical grade Fused Silica:</u> Size: 1"x1"x1.4 mm, Polishing: Two sides optical polished(S/D 60/40)
3.	Fused Silica Glass Substrate, 10x10x0.5 mm, 1 side polished	<u>UV grade Fused Silica:</u> Size: 10 x 10 x 0.5 mm Polishing: One side polished Surface Roughness: < 5 A
4.	Fused Silica Glass Substrate, 10x10x0.5 mm, 2 side polished	<u>UV grade Fused Silica:</u> Size: 10 x 10 x 0.5 mm Polishing: Two sides polished Surface Roughness: < 5 A
5.	Fused Silica Glass Substrate, 10x10x1.0mm, 1 side polished	UV grade Fused Silica Size: 10 x 10 x 1.0mm Polishing: One side polished Surface Roughness: < 5 A
6.	Fused Silica Glass Substrate, 10x10x1.0mm, two sides polished	<u>UV grade Fused Silica:</u> Size: 10 x 10 x 1.0mm Polishing: Two sides polished Surface Roughness: < 5 A
7.	Fused Silica Glass Substrate, 2"x0.5 mm, 2 sides polished	<u>UV grade Fused Silica:</u> Size: 2"x0.5mm Polishing: Two sides polished Surface Roughness: < 5 A
8.	Fused Silica Glass Substrate, 25mm x 1.0mm(+/-0.1) 2 sides optical polishedwith S/D: 60/40	<u>Optical grade Fused Silica:</u> Size: 25mm dia. x 1.0mm(+/-0.1) thick Polishing: Two sides optical polished with S/D: 60/40
9.	Fused Silica Glass Substrate, 4" x 0.5 mm, 1 sides polished	<u>UV grade Fused Silica:</u> Size: 4"diameter x 0.5 mm Polishing: one side polished Surface Roughness: < 5 A

10.	Fused Silica Glass Substrate, 4" x 0.5 mm, 2 sides polished	<u>UV grade Fused Silica:</u> Size: 4"diameter x 0.5 mm Polishing: Two sides polished Surface Roughness: < 5 A
11.	Fused Silica Glass , 2" x 0.5 mm, 1sp	<u>UV grade Fused Silica:</u> Size: 2" diameter x 0.5 mm Polishing:One side polished For DIY glass window and substrate
12.	Fused Silica Glass Substrate, 100 x 100 x 1.0 mm, 2 sides polished	<u>UV grade Fused Silica:</u> Size: 100 mm x 100 mm x 1.0 mm Polishing: Two sides polished Surface Roughness: < 5 A

7. ITO Coated Glass / Plastic Substrates

A. ITO Coated Glass, 10mmx10mmx 0.7mm

No.	Item	Description
1.	ITO Coated Glass Substrate 10mm x 10 mm x 0.7 mm, R:9-15 ohm/sq, Nominal ITO film thickness: 180 nm	<u>Indium-Tin-Oxide (ITO) coated Glass Plates:</u> Dimension: 10 mm x 10mm x 0.7 mm Resistivity: 9-15 ohm/sq Nominal ITO film thickness: 180 nm

B. ITO Coated Glass, 1" x1"x 0.7mm

No.	Item	Description
1.	ITO Coated Glass Substrate 1" x 1" x 0.7 mm, R: 16-19 ohm/sq, Nominal ITO film thickness: 90 nm+/10nm	<u>Indium-Tin-Oxide (ITO) coated Glass Plates:</u> Dimension: 1" x 1" x 0.7 mm Resistivity: 16-19ohm/sq Nominal ITO film thickness: 90 nm+/10nm
2.	ITO Coated Glass Substrate 1" x 1" x 0.7 mm, R:12-15 ohm/sq, Nominal ITO film thickness: 115 nm+/10nm	<u>Indium-Tin-Oxide (ITO) coated Glass Plates:</u> Dimension: 1" x 1" x 0.7 mm Resistivity: 12-15 ohm/sq Nominal ITO film thickness: 115 nm+/10nm
3.	ITO Coated Glass Substrate 1" x 1" x 0.7 mm, R:6-7 ohm/sq, Nominal ITO film thickness: 250 nm+/25nm	<u>Indium-Tin-Oxide (ITO) coated Glass Plates:</u> Dimension: 1" x 1" x 0.7 mm Resistivity: 6-7 ohm/sq Nominal ITO film thickness: 250 nm+/25nm
4.	ITO Coated Glass Substrate 1" x 1" x 0.7 mm, R:9-15 ohm/sq, Nominal ITO film thickness: 180 nm	<u>Indium-Tin-Oxide (ITO) coated Glass Plates:</u> Dimension: 1" x 1" x 0.7 mm Resistivity: R:9-15 ohm/sq Nominal ITO film thickness: 180 nm

C. ITO Coated Glass, 1" x3"x 0.7mm

No.	Item	Description
1.	ITO Coated Glass Substrate 1.0" x 3" x 0.7 mm,R: 6-7 ohm/sq, Nominal ITO film thickness: 250 nm+/- 25nm	<u>Indium-Tin-Oxide (ITO) coated Glass Plates:</u> Dimension: 1" x 3" x 0.7 mm Resistivity: 6-7 ohm/sq Nominal ITO film thickness: 250 nm+/-25nm
2.	ITO Coated Glass Substrate 1.0" x 3" x 0.7 mm,R: 9-15 ohm/sq, Nominal ITO film thickness: 180 nm	<u>Indium-Tin-Oxide (ITO) coated Glass Plates:</u> Dimension: 1" x 3" x 0.7 mm Resistivity: 16-19 ohm/sq Nominal ITO film thickness: 180 nm

D. ITO Coated Glass, 100mm x100mm x 0.7mm

No.	Item	Description
1.	ITO Coated Glass Substrate 100mm x 100 mm x 0.7 mm, R: 9-15 ohm/sq, Nominal ITO film thickness: 180 nm	<u>Indium-Tin-Oxide (ITO) coated Glass Plates:</u> Dimension: 100 mm x 100mm x 0.7 mm Resistivity: 9-15 ohm/sq Nominal ITO film thickness: 180 nm
2.	ITO Coated Glass Substrate with ITO film 115+/-10 nm 100mm x 100 mm x 0.7 mm, 12-15 ohm/sq	<u>Indium-Tin-Oxide (ITO) coated Glass Plates:</u> Dimension: 100 mm x 100mm x 0.7 mm Resistivity: 12-15 ohm/sq ITO film thickness:~115+/-10 nm
3.	ITO Coated Glass Substrate with ITO film 180+/-25 nm 100mm x 100 mm x 0.7 mm, 8-10 ohm/sq	<u>Indium-Tin-Oxide (ITO) coated Glass Plates:</u> Dimension: 100 mm x 100mm x 0.7 mm Resistivity: 8 - 10 ohm/sq ITO film thickness:~180+/-25 nm
4.	ITO Coated Glass Substrate with ITO film thickness about 250+/- 25 nm 100mm x 100 mm x 0.7 mm, 6-7 ohm/sq	<u>Indium-Tin-Oxide (ITO) coated Glass Plates:</u> Dimension: 100 mm x 100mm x 0.7 mm Resistivity: 6-7 ohm/sq ITO film thickness:~ 250+/-25 nm
5.	ITO Coated Glass Substrate with ITO film thickness about 90+/- 10nm 100mm x 100 mm x 0.7 mm, 16-19ohm/sq	<u>Indium-Tin-Oxide (ITO) coated Glass Plates:</u> Dimension: 100 mm x 100mm x 0.7 mm Resistivity: 16-19 ohm/sq ITO film thickness: 90+/-10nm

E. ITO Coated Glass,2"x 0.7mm

No.	Item	Description
1.	ITO Coated Glass Substrate 2" x 0.7 mm, R:9-15 ohm/sq- 1sp,Nominal ITO film thickness: 150 nm	<u>Indium-Tin-Oxide (ITO) coated Glass Plates:</u> Dimension: 2" x 0.7 mm Polish: one side polished Resistivity: 9-15 ohm/sq Nominal ITO film thickness: 150 nm

F. ITO Coated Plastic Film, 0.175mm Thick x 300mm Width x 1 Meter Length

No.	Item	Description
1.	ITO Coated Plastic Film, 0.175mm Thick x 300mm Width x 1 Meter Length ,14 ohm/sq	<u>Indium-Tin-Oxide (ITO) coated plastic film:</u> Plastic materials: PET Coating method: Magnetron sputtering Dimension: 300 mm width x 1000 mm L x 0.175 mm Thickness Resistivity: 14 ohm/sq

8. Mica Disks Highest Grade V1

No.	Item	Description
1.	Highest Grade Mica Disks, 10mm diameter pkg/10	<u>Recommended for AFM:</u> Highest quality grade V1 mica, 0.21mm (.0085") thick. Interleaved, in packages of 10. Diameter : 10mm (0.39")
2.	Highest Grade Mica Disks, 20mm diameter pkg/10	<u>Recommended for AFM:</u> Highest quality grade V1 mica, 0.21mm (.0085") thick. Interleaved, in packages of 10. Diameter : 20mm (0.39")
3.	Highest Grade Mica Sheets, 15mm x 15mm (0.59 x 0.59") ,0.15 to 0.177mm (.006-.007") thick , pkg/10	Highest Grade Mica Sheets, Highest quality Grade V1 Size: 15mm x 15mm (0.59 x 0.59") Thickness: 0.15 to 0.177mm (.006-.007") Sheets interleaved
4.	Highest Grade Mica Sheets, 15mm x 15mm (0.59 x 0.59") ,0.15 to 0.177mm (.006-.007") thick , pkg/10 -1	Highest Grade Mica Sheets, Highest quality Grade V1 Size: 15mm x 15mm (0.59 x 0.59") Thickness: 0.15 to 0.177mm (.006-.007") Sheets interleaved

9. Pyrolytic Graphite Substrate

No.	Item	Description
1.	Pyrolytic Graphite Substrate, C axis Textured, 10x10X0.5 mm, One Side Polished	Size: 10 mm x 10 mm x 0.50 mm thickness Orientation: C axis textured Surface fitness: one side polished Surface roughness: < 65A
2.	Pyrolytic Graphite Substrate, C axis Textured, 10x3X0.5 mm, One Side Polished	Size: 10 mm x 3 mm x 0.50 mm thickness Orientation: C axis textured Surface fitness: one side polished Surface roughness: < 65A
3.	Pyrolytic Graphite Substrate, C axis Textured, 10x5X0.5 mm, One Side Polished	Size: 10 mm x 5 mm x 0.50 mm thickness Orientation: C axis textured Surface fitness: one side polished Surface roughness: < 65A
4.	Pyrolytic Graphite Substrate, C axis textured, 2"W x 2"L X 0.5 mm T, 1SP	Size: 2.0" x 2.0" x 0.5 mm thickness Orientation: C axis textured Surface fitness: one side polished Surface roughness: < 65A
5.	Pyrolytic Graphite Substrate, C axis	Size: 3.0" x 3.0" x 0.5 mm thickness Orientation: C axis textured

	textured, 3"W x 3"L X 0.5 mm T, 1SP	Surface fitness: one side polished Surface roughness: < 65A
6.	Pyrolytic Graphite Substrate, C axis Textures, 1"W x 1"L X 0.4-0.5mm Thick. 1sp	Size: 1.0" x 1.0" x 0.4-0.5mm thickness Orientation: C axis textured Surface fitness: 1sp Surface roughness: < 65A
7.	Pyrolytic Graphite Substrate, C axis Textures, 1"W x 1"L X 1.0mm T 1sp	Size: 1.0" x 1.0" x 1.0mm thickness Orientation: C axis textured Surface fitness: 1sp Surface roughness: < 65A

10. Silicon Nitride (Si3N4) Substrate

No.	Item	Description
1.	Si3N4 Silicon Nitride Ceramic Substrate, 50 x 50 x 1.5 mm, as Hot pressed	<u>Si3N4 ceramic substrate is made by hot press:</u> Purity: > 99.95% Density: > 99.5% Size: 50 mm x 50 mm x 1.50 mm thickness Orientation: N/A Polycrystalline Surface fitness: as hot pressed Surface roughness: < 65A
2.	Si3N4 Silicon Nitride Ceramic Substrate, 50 x 50 x 1.5 mm, as One Side Polished	<u>Si3N4 ceramic substrate is made by hot press:</u> Purity: > 99.95% Density: > 99.5% Size: 50 mm x 50 mm x 1.50 mm thickness Orientation: N/A Polycrystalline Surface fitness: One side polished Surface roughness: < 30A
3.	Si3N4 Silicon Nitride Ceramic Substrate, 50 x 50 x 1.50,mm, Tow Sides Polished	<u>Si3N4 ceramic substrate is made by hot press:</u> Purity: > 99.95% Density: > 99.5% Size: 50 mm x 50 mm x 1.50 mm thickness Orientation: N/A Polycrystalline Surface fitness: Two sides Polished Surface roughness: < 30A

11. YSZ (Yittrium stablized ZrO2)

No.	Item	Description
1.	Si3N4 Silicon Nitride Ceramic Substrate, 50 x 50 x 1.5 mm, as Hot pressed	<u>Si3N4 ceramic substrate is made by hot press:</u> Purity: > 99.95% Density: > 99.5% Size: 50 mm x 50 mm x 1.50 mm thickness Orientation: N/A Polycrystalline Surface fitness: as hot pressed Surface roughness: < 65A
2.	Si3N4 Silicon Nitride Ceramic Substrate, 50 x 50 x 1.5 mm, as One Side Polished	<u>Si3N4 ceramic substrate is made by hot press:</u> Purity: > 99.95% Density: > 99.5% Size: 50 mm x 50 mm x 1.50 mm thickness Orientation: N/A Polycrystalline Surface fitness: One side polished Surface roughness: < 30A

3.	Si3N4 Silicon Nitride Ceramic Substrate, 50 x 50 x 1.50,mm, Tow Sides Polished	<u>Si3N4 ceramic substrate is made by hot press:</u> Purity: > 99.95% Density: > 99.5% Size: 50 mm x 50 mm x 1.50 mm thickness Orientation: N/A Polycrystalline Surface fitness: Two sides Polished Surface roughness: < 30A
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