

ITO Transparent Heater Windows

Customized Transparent Heaters for Temperature Controlled Displays

Ocean Thin Films Transparent Heater Windows enable temperature control to extend the operating temperature and readability of a variety of displays – improving minimum operating temperature, anti-fog, and de-icing performance. These high transmittance panels utilize a precisely controlled Indium-Tin-Oxide (ITO) layer as the transparent conducting medium to provide defined electrical resistance between 10 Ω and >170 Ω . Designs can be index matched (IMITO) to a variety of materials other than air – such as liquid crystals, adhesives and index oils for optimized performance. The high density ITO coatings provide strong environmental and temperature stability to support a wide range of applications. Transparent heater windows can also be customized for specific optical transmission/ blocking, electrical resistance, passivation and substrate requirements. The ITO coating can be patterned or combined with Gold Solderable Coating busbars to provide a durable electrical connection.



Benefits

- Optically transparent and electrically conductive
- Precise electrical resistance - from 10 Ω to >170 Ω /sq
- High environment durability (tested to MIL - C-14806) and temperature stability
- Strong transmission and resistance uniformity
- No protective layer necessary for heater windows
- High coating density, remarkably free of pinholes
- Design flexibility and support for COTS (Commercial Off-The-Shelf) display components
- Engineering support for custom designs
- Gold Solderable Coating busbars for electrical contact to ITO

Applications

- Avionics displays
- Shipboard, periscope and vehicle displays
- Security and surveillance cameras
- Mobile computers, kiosks and handheld devices
- Industrial displays
- Medical instrumentation
- Heavy equipment control panels
- Gasoline pumps
- Other temperature-controlled LCD displays

Technical Data

Electrical Resistance

10 to >170 Ω /sq

Environmental

Tested to MIL-C-14806

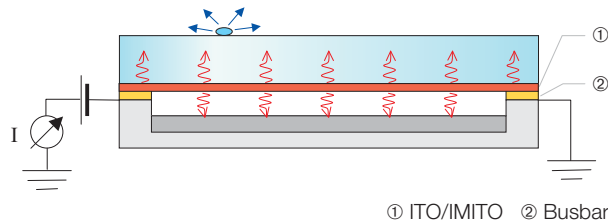
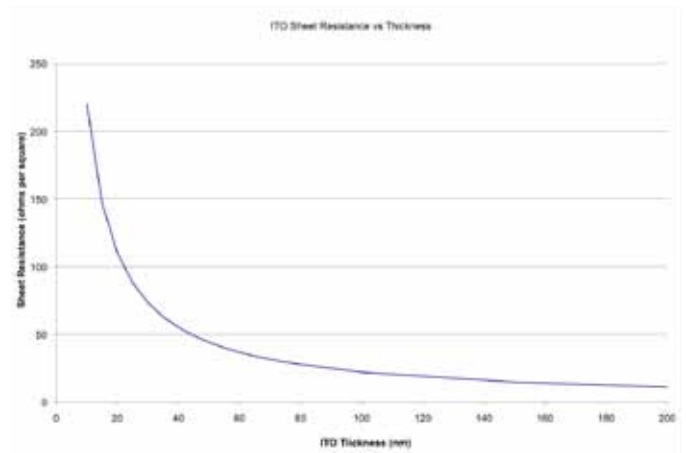
Maximum Size

200mm (7.8") square

Index Matching

Customized media

other performance grades and specifications available on request



Heater Window

Electrical current across ITO layer (red line) heats the glass and prevents condensation on the surface. Yellow lines are busbars for electrical contacting of ITO.

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