

ADVANCED FUNCTIONAL MATERIALS

Transparent
Electronics

TRANSPARENT ELECTRONICS

Transparent electronic devices demonstrated by K. C. Choi, B.-K. Ju, and co-workers show as invisible to the eyes. In order to achieve stable device operation, the negative-bias illumination stress-induced instability must be improved. To achieving this, plasmonic filters engraved by laser interference lithography are integrated with amorphous oxide-semiconductor thin film transistors. The cut-off wavelength of plasmonic filters can be designed by controlling the periodic nanopatterns, and cutting off the light, which can affect amorphous oxide semiconductors, thereby realizing the photostable transparent electronic devices.

α -IGZO based
Thin Film Transistor

Plasmonic Color Filter
with nano hole arrays

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