

COF and Polarizer Demands Tighten in 2019, Becoming a Possible Variable in 2H Panel Shipment Momentum, Says TrendForce

2019-04-02 [Julian Lee](#)

Demand in end applications has weakened in 1Q19, causing COFs (Chip on film) to exhibit no signs of undersupply in the market. However, according to WitsView, a division of TrendForce, problems in COF supply will begin to become felt in 2Q as demand rises due to the need to stock up. Also entertained is the possibility that there will be a 6-7% gap in demand in 2H this year, and glut ratio for the entire year is estimated to stand at 0.3%. COF will be key in determining whether panel manufacturers may reach shipment goals.

With Greater Resolution Comes Greater IC Usage for Large Size Panels; COF Increasingly Adopted by Mobile Devices

Julian Lee, Assistant Research Manager at WitsView, points out that market penetration rates for high-resolution products are increasing year by year, whether they're televisions or monitors, bringing up the number of driver ICs used. TV panels utilizing GOA architecture, for example, require 6 COFs on the source-side for FHD, 12 for 4K, and 24 for 8K.

Mobile devices including tablets and notebooks PCs are gradually adopting COF designs due to the increased demand for narrow borders. Only accounting for the standard 5-slot, 48mm tape width COFs, COF usage in smartphones for the whole 2019 year have a chance to arrive at over 600 million chips, crowding out COF supply for large size panels. This is due to the increased focus on high screen-to-body ratio and Apple's total adoption of COF in its three new phones in 2018, leading other brands to follow suit.

COF Undersupply Projected to Ease Down in 2020, with Upstream FCCL Supply as Key

WitsView observes that besides the increased usage of smartphone COFs this year, large, next generation LCD capacities such as HKC's G8.6 and CSOT's G11 will be opening up for business, causing COF demand for TV panels to increase likewise, propelling overall COF adoption to new, historic high. Glut ratios are projected to arrive at -7.8% in the third season and -6.2% in the fourth season, putting the whole second half-year through undersupply. This shortage will have to wait until 2020 when additional production capacities of FCCL suppliers come into play for a chance to restore the supply-demand balance.

In order to deal with the undersupply situation, Korean COF vendors such as LGIT and Stemco have all tried optimizing current processes to raise production capacities; Taiwanese vendors including Chipbond and JMC Electronics have respective plans for production expansion; while China vendors such as Leader-Tech Electronics and Aplus Microstructure Electronics are also eager to join in. Additional production capacity will however be limited by FCCL supply upstream. The FCCLs that COF uses are different from those used by other electronic materials, and currently derive from three sources: Sumitomo Chemical, Toray Advanced Materials Korea (TAK) and Korean supplier KCFT. The combined FCCL production capacity of the three vendors barely meet the current demands of COF for now. This means the successful conversion of increased COF capacity into effective capacity will depend on whether FCCL supplies become sufficient.

Panel Area Shipments Increase, While Polarizer Supply Tightens in Similar Fashion

China's next generation panel suppliers are expanding at great speeds, but polarizer manufacturers' expansion plans are rather reserved. Thus apart from COFs, polarizers also attract a large amount of attention in the market as to its potential to cause a shortage. WitsView's observations on polarizer supply and demand shows that overall supply area is still greater than demand this year, yet all suppliers have reached maximum utilization rates. Customers can therefore expect considerable resistance in asking for an increase in production or adjustment of production portfolios. Furthermore, TAC layers are increasingly being replaced in recent years by PMMA, PET

and COP layers to reduce cost or raise reliability in performance. PMMA layers have Nitto Denko and Sumitomo as main suppliers, while Toyobo and Zeon are the sole suppliers of PET and COP layers, respectively. These non-TAC films form a rather small proportion of the supply side. This and the slow expansion of capacity are some of the reasons for tightening polarizer supply.

About TrendForce

TrendForce is a global provider of the latest development, insight, and analysis of the technology industry. Having served businesses for over a decade, the company has built up a strong base membership base of 435,000 subscribers. TrendForce has established a reputation as an organization that offers insightful and accurate analysis of the technology industry through five major research divisions: DRAMXchange, WitsView, LEDinside, EnergyTrend and Topology. Founded in Taipei, Taiwan in 2000, TrendForce has extended its presence in China since 2004 with offices in Shenzhen and Beijing. For more details about TrendForce, please visit www.trendforce.com

Major research divisions:

DRAMeXchange focuses on memory, storage and the consumer electronics industry including PC DRAM, Mobile DRAM, Server DRAM, NAND Flash, SSD and smartphone.

WitsView offers comprehensive coverage of the display industry from upstream components, midstream panels/touch modules to downstream system integrators, brands and channels.

LEDinside covers all aspects of the LED supply chain from upstream equipment/materials, midstream chip/packaging to the downstream backlight and lighting market.

EnergyTrend specializes in green energy research, such as solar energy, lithium battery, energy storage systems and xEVs.

Topology studies structural trends of technology industries in the Greater China Region and beyond, focusing on semiconductors, photovoltaic technology, telecommunications, and IA.

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