

CORPORATE PROFILE



STATE OF THE ART SEMICONDUCTORS

KDPOF, Knowledge Development for Plastic Optical Fiber, develops state of the art semiconductors for gigabit and long-reach communications over large core Plastic Optical Fiber (POF). Our gigabit communication technology, which is based on a unique combination of cutting edge digital communications and information theory, enables us to deliver networking solutions in the home/SOHO, automotive and industrial networking markets.

A fabless silicon company, KDPOF has developed a high spectral efficiency communication technology that leverages the available capacity of large core POF and can be implemented with standard microelectronic technology.

Our design flow delivers a seamless optimization of all the system components, while the analog and digital components of the system are closely integrated to allow for maximum communication capacity over dispersive large core fibers. Thanks to our unique design flow and ASIC architecture, we are able to provide a dramatic reduction of the risks, costs and time-to-market.

GROUND-BREAKING TECHNOLOGY

KDPOF has developed a high spectral efficiency communication technology that exploits the available capacity of large core POF. Using advanced communications techniques our integrated circuits obtain the best performance from the POF channel to enable a fully engineered solution for large core standard fibers like SI-POF that can be implemented with standard microelectronic technology.

Enabling Gigabit Communications over POF

As KDPOF technology uniquely approaches the available communication capacity, we can deliver a transmission system that automatically adapts its operation (bit-rate and equalization) to variable operating conditions like temperature, fiber, bending, coupling losses, and connector aging. Our flexible, robust and affordable Gigabit networking technology efficiently approaches the theoretical limit of the channel, making Gigabit communication over POF a reality.

KDPOF ADVANTAGES

KDPOF semiconductors leverage POF to provide one Gbps links for home, SOHO, automotive and industrial networks that are currently limited to much slower speeds and/or shorter distances, while preserving immunity from electromagnetic interference.

Applications	Market	Current Limits	KDPOF Performance
Short Reach	Home/SOHO Networks	500 Mbps over 80 meters 1 Gbps over 5 meters	1 Gbps over 50 meters
	Automotive	150 Mbps over 15 meters	
Long Reach	Industrial and Access Networks	100 Mbps over 50 meters	100 Mbps over 300 meters (green laser) 100 Mbps over 150 meters (red LED) 1 Gbps over 120 meters (green laser)

KEY FACTS

FOUNDED

2010

MANAGEMENT TEAM

Chief Executive Officer/Co-Founder
Carlos Pardo

Chief Technical Officer/Co-Founder
Rubén Pérez de Aranda

MARKET LAUNCH

Q1 2014

INDUSTRY RECOGNITION

Due to the use of advanced communications techniques, KDPOF technology is used as the basis for technical standards developed by key European standards organizations:

- DKE/VDE V 0885-763:2013-09
- CENELEC
- ETSI TS105 75-1-1

FUNDING

KDPOF, a privately owned company, is funded by private, financial and technology-based investors, including individuals, VCs, and institutions.

WEBSITE

www.KDPOF.com

HEADQUARTERS

Knowledge Development for POF S.A.
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Spain

MARKETS

Home and SOHO

Providing data rates of more than one Gbps and assured Quality of Service (QoS) to every device in the network, KDPOF technology is not only a future proof solution, but an excellent complementary technology for the distribution of present and future multimedia services as well as data sharing within the home or small office.

KDPOF products offer features that are ideally suited for emerging IPTV and digital video services, where the Quality of Experience (QoE) and guaranteed data rate are the most important factors for a successful deployment. Because KDPOF technology is highly adaptive, our products provide a flexible data link with an on-the-fly optimization of the operation to achieve the highest communication capacity for any do-it-yourself or professional installation.

When used in conjunction with individual Wi-Fi spots in each room, a KDPOF-powered plastic optical fiber (POF) backbone that connects the home through in-wall cabling is the optimum home networking/SOHO solution.

Industrial

Operating in industrial environments, KDPOF technology provides a greater coverage for Fast Ethernet installations throughout the factory floor. KDPOF technology, thanks to its native capacity-achieving modulations and seamless component optimization, provides Fast Ethernet (100 Mbps) over SI-POF links up to more than 150 meters using off-the-shelf red LEDs and connectors. This translates into a true, effective capacity upgrade of the existing industrial buses while maintaining the installed low-cost POF infrastructure.

For applications where true 1 Gbps bandwidth is needed, KDPOF offers a physical layer capable of extending links up to 85 m with standard industrial power margins and up to 50 m with red LEDs or up to 120 m with green lasers as the light source.

Due to a partnership between KDPOF and leading optoelectronic device suppliers, integrated PHY chip/optoelectronics fiber and connectors solutions are available to meet the rigorous specifications of the industrial market. These integrated solutions outperform other Fast and Gigabit grade industrial LAN physical layers.

Automotive

KDPOF technology is compatible with many input interfaces enabling connection to several automotive input devices like MOST®, DVP for cameras or native Ethernet.

Within the MOST stack, KDPOF technology provides a physical layer of more than one Gbps, which is fully compatible with the same ring topologies, fiber, connectors and optoelectronics components currently installed in lower speed MOST networks. Due to low latency and guaranteed Gigabit rate, KDPOF technology also is suitable for the implementation of ADAS (Advanced Driver Assistance Systems) over any kind of POF cabling topology.

Higher bandwidth demands required by video-based sensors are achievable with KDPOF technology, which enables the cost-effective and reliable installation of high-definition rear view cameras, multi-camera 360° view, parking assist, wing mirror replacement, backseat monitoring, and night vision. Depending on the camera resolution and frame rate the very large link margin enabled by a KDPOF PHY can be employed to accommodate several in-line connectors or, equivalently, increase the link length.

Thanks to the native Ethernet compatibility of KDPOF technology, the KDPOF PHY can be seamlessly integrated with the proposed OPEN Alliance new automotive bus.



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