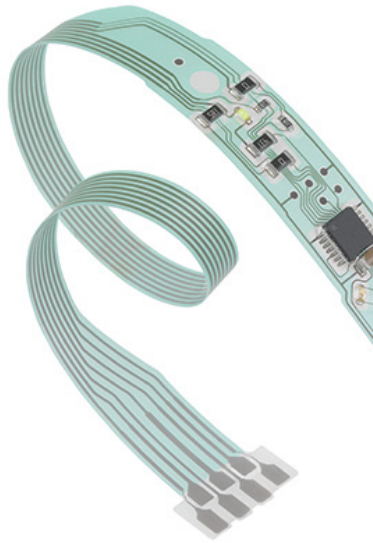
PRINTED ELECTRONICS SUBSTRATES › FROM MOLEX



Having designed, manufactured and engineered printed electronics for over three decades, Molex engineers understand the importance of selecting the best substrate for Printed Electronic (PE) solutions. Hence, Molex leverages its substrate expertise and an extensive network of supplier relationships to offer industry-leading support in helping customers find the optimal substrate for their applications.

THE SELECTION PROCESS

The key to selecting the ideal substrate is understanding the application and knowing the available substrate options. The chart below provides a snapshot of the relative advantages and concessions of some common substrate choices:

Molex Engineering

Molex can print on substrates as thin as 0.5 mil (12µm), and can precisely adjust the substrate weight and flexibility as the application demands. Molex engineers have extensive knowledge and experience to provide the best recommendations for important substrate considerations including:

Balancing performance needs with costs

Optimizing rigidity and flexibility

Achieving form factor and packaging requirements

Integrating cutting-edge components

	TRADITIONAL PCBS		PRINTED ELECTRONIC SUBSTRATES			
	Copper Flex PCB	Rigid PCB	PC (polycarbonate) and PET (polyester)	Polyimide	Fabrics & Paper	Stretchable Materials
Cost	POOR	MIDDLE	BETTER	MIDDLE	BETTER	MIDDLE
Flexibility	MIDDLE	POOR	BETTER	BETTER	BETTER	BETTER
Performance	BETTER	BETTER	MIDDLE	BETTER	POOR	MIDDLE
Component Integration	MIDDLE	BETTER	MIDDLE	MIDDLE	POOR	POOR
Processing Characteristics	BETTER	MIDDLE	MIDDLE	BETTER	MIDDLE	MIDDLE

KEY: BETTER RATING · MIDDLE RATING · POOR RATING

INDUSTRY PERFORMANCE STANDARDS

Molex engineers are also experienced in identifying and meeting substrate performance standards in the medical, consumer, automotive and industrial industries. Some of these organizational standards include:

IEC, RoHS and REACH, UL

molex

PRINTED ELECTRONICS SUBSTRATES › FROM MOLEX

Molex delivers optimization with a variety of materials

1. **Dielectric Substrates-** Offer reliable performance properties and are selected based on your specific application needs.
2. **PET (Polyester)-** Economizes customer applications with polyester substrates, while retaining PCB premium abilities.
3. **Polyimide (Kapton)-** Provides a flexible material with elite performance in heat and chemical resistance.
4. **Fabrics and Paper-** Optimize designs for one-time, disposable use by considering a selection of cost-effective, biodegradable substrates.
5. **Stretchable Substrates-** Maximizes comfort and conformability by utilizing stretchable substrates to support functional printed electronics.
6. **Printed Circuit Boards-** Provides superior PCB technology and a cost effective, reliable solution when a rigid substrate will suffice.

APPLICATIONS

Automotive
Safety & Driver Assist
Power Train
Body Electronics
Comfort & Infotainment
Connected Mobility

Consumer
Mobile
Wearables
Home Security
Home Entertainment
Personal Care
Fitness

Home Appliance
Major Appliance
Small Connected Appliances
Small Appliances
Vending Machines
HVAC

Medical
Medical Devices
Patient Monitoring
Diagnostic
Therapeutic

Connected Lighting

Industrial

Industrial Automation

Safety and Driver Assists

Medical, Patient Monitoring

RFID Labels

THE MOLEX ADVANTAGE ›

By applying its extensive PE knowledge and partnering with material suppliers during the initial stages of design, Molex identifies and integrates the best substrate for PE solutions. Learn more about the various substrates used at Molex for your next project.

molex

www.molex.com/capabilities/pesub.html

Order No. 987651-9316 USA/0k/GF/2019.03