

Flexible Printed Cable

What is FPC?



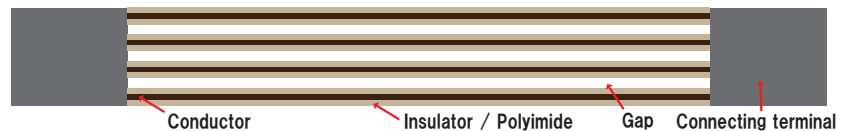
Flexible Printed Cable is made by applying printed circuit board manufacturing technology to laminate conductor and insulation materials.

In general cables, the skin effect occurs during AC conduction, causing the resistance value to rise. This unique multilayered structure brings better skin effect and provides a higher power supply capacity. Also low inductance can be achieved due to the canceling effect of the magnetic field by the multilayer structure.

The product can be custom-made to suit your application.

Product types & Features

High Current Type

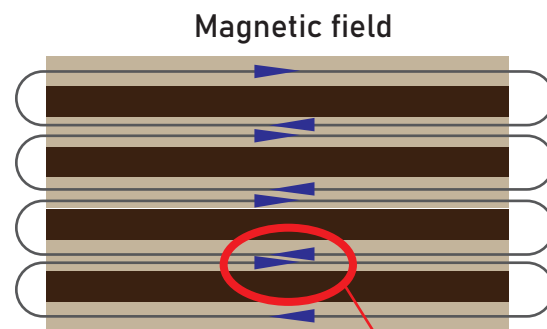


- High heat dissipation
- High flexibility
- Bendable

Low inductance Type



Low inductance can be achieved due to the canceling effect of the magnetic field by the multilayer structure.



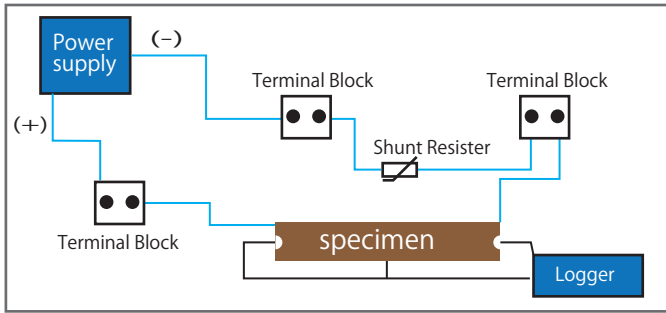
Mutually cancel each other out.

- Low inductance during high frequency conduction (less than 110MHz)

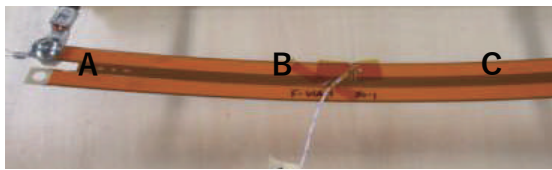
Expecting Application

- Integration into tight spaces
- Replacement of bus bars and harnesses
- Space-saving power supply for EV components such as inverters and ECU
- Requires stable high-frequency conductivity such as Semiconductor manufacturing equipment

Temperature rise test



Measurement point



Measurement condition : Measure the temperature 30 minutes after applying current to a specimen in air.

High Current type

100A	Temperature rise value Δt		
	A	B	C
	38.5°C / 101°F	59.0°C / 138°F	40.0°C / 104°F

Low inductance type

	Temperature rise value Δt		
	A	B	C
50A	41.6°C / 107°F	54.0°C / 129°F	39.7°C / 104°F
70A	59.9°C / 140°F	90.3°C / 195°F	55.9°C / 133°F
100A	98.4°C / 229°F	155.2°C / 312°F	89.3°C / 193°F

Inductance measurement

We conducted a performance comparison test between FPC and general-purpose cables. An impedance analyzer was used to measure the inductance when the AC signal was continuously varied from 50 Hz to 110 MHz.



Type of Cable	Conductor Cross section (mm ²)	Inductance (mH)			
		10KHz	100KHz	1MHz	110MHz
FPC 2 layers	2.2	9.56E-06	8.89E-06	8.80E-06	8.41E-06
VFS cable	2.0	15.10E-06	14.90E-06	14.40E-06	13.50E-06
IV cable	2.0	14.20E-06	13.50E-06	13.10E-06	12.30E-06
FPC 4 layers	3.6	8.13E-06	7.72E-06	7.56E-06	7.29E-06
KIV cable	3.5	14.10E-06	13.80E-06	13.40E-06	12.60E-06
IV cable	3.1	12.20E-06	12.40E-06	12.50E-06	11.50E-06
FPC 6 layers	5.0	6.74E-06	6.75E-06	6.61E-06	6.41E-06
CT cable	5.5	12.30E-06	12.60E-06	12.20E-06	11.50E-06

Measured value (not guaranteed value)

The inductance is smaller than that of cables with the same cross-sectional area, achieving voltage drop suppression and stable power supply.

NOTICE:

- The same exact performance and results are not guaranteed.
- Specifications are subject to change without prior notice.

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