

Impedance Control Film for FFC SF-FC370

The SF-FC370 is the heat-sealing type functional conductive film, it can control Impedance of FFC. It is designed for controlling differential Impedance at 100 ohm, when FFC has it on both sides. The differential Impedance at 100 ohm is necessary for transmission lines in LVDS. Its' slim and light design can promote flexibility of FFC.

Features

- **Controlling differential impedance at 100 ohm that is suitable for LVDS**

It can control impedance at single-end 50 ohm by conductor being formed a mesh structure and bonding double sided (wound up).

- **Enable Slim and Lightweight design without degrading a flexibility of FPC**

Although it has 3 layer structure, Base film, mesh foaming conductive layer, the total thickness is 29 um.

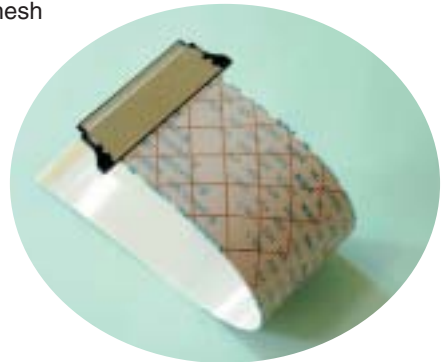
Therefore it can not degrade flexibility of FFC.

- **Bond at low temperature for short time**

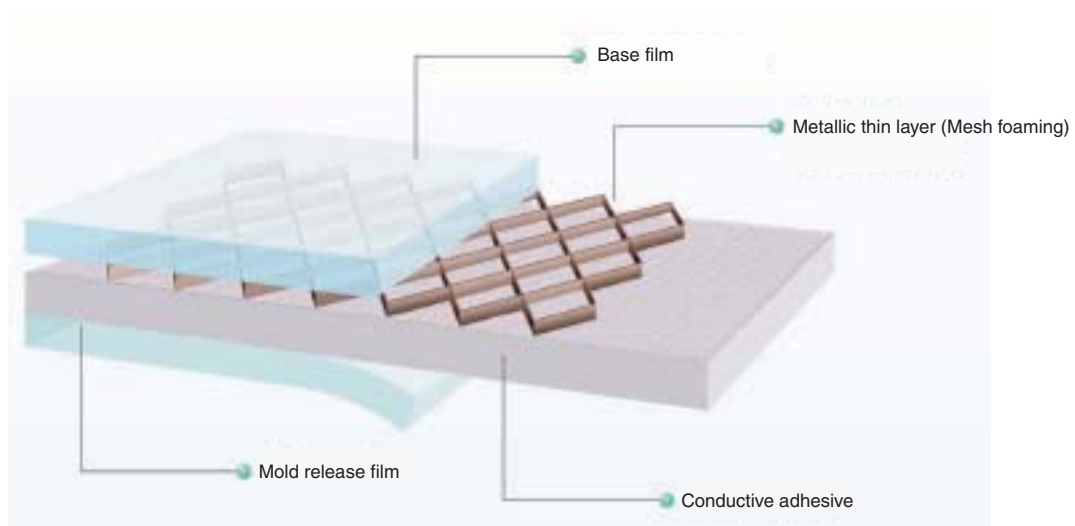
With developing special thermo plastic adhesive, It can be bonded to PET film that is a base material for FFC without any heat damage.

- **Provide free in product width from 16 to 570 mm**

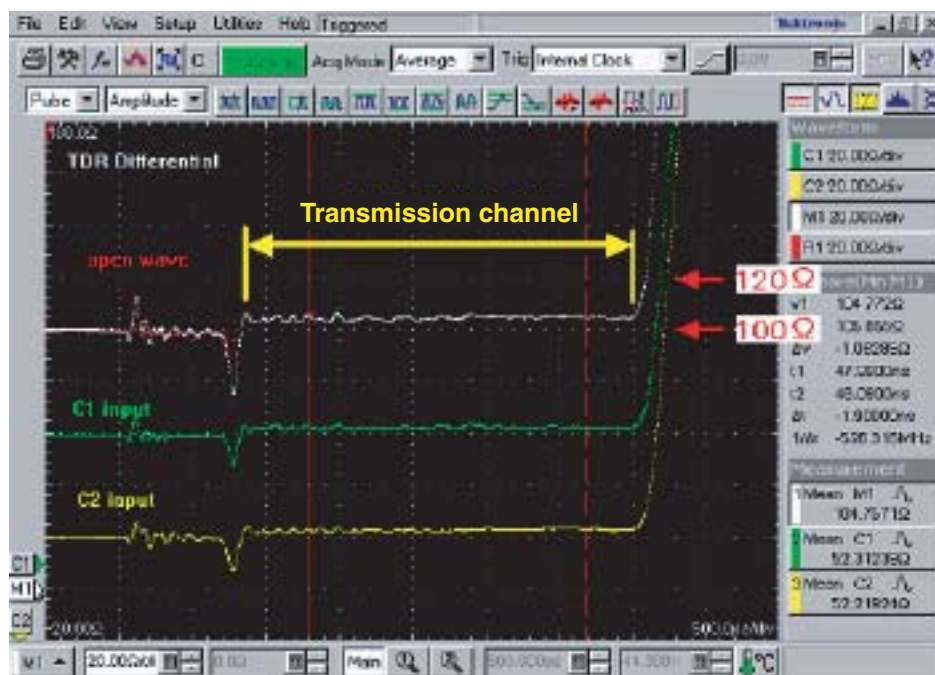
To meet FFC size, it can be provided the custom width.



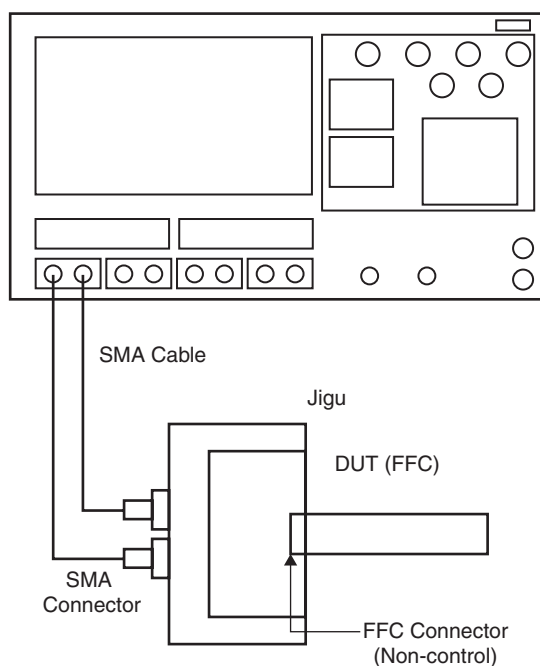
Structure



● Differential Impedance [Time Domain Reflect meter]



Sampling OSCILLOSCOPE



◆Rise time (Actual measurement)

- Tr = 35ps [10-90%] (TDR Sampling MODULE end)
- Tr = 90ps [10-90%] (Jigu connector end)

◆SMA Cable

- Impedance: 50 Ω
- Length: 1,000 mm

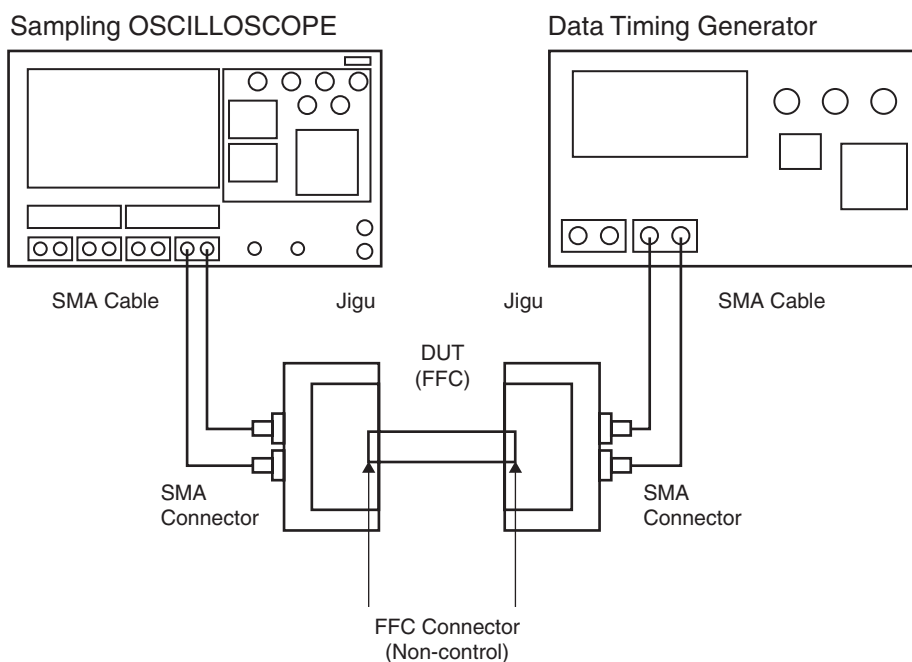
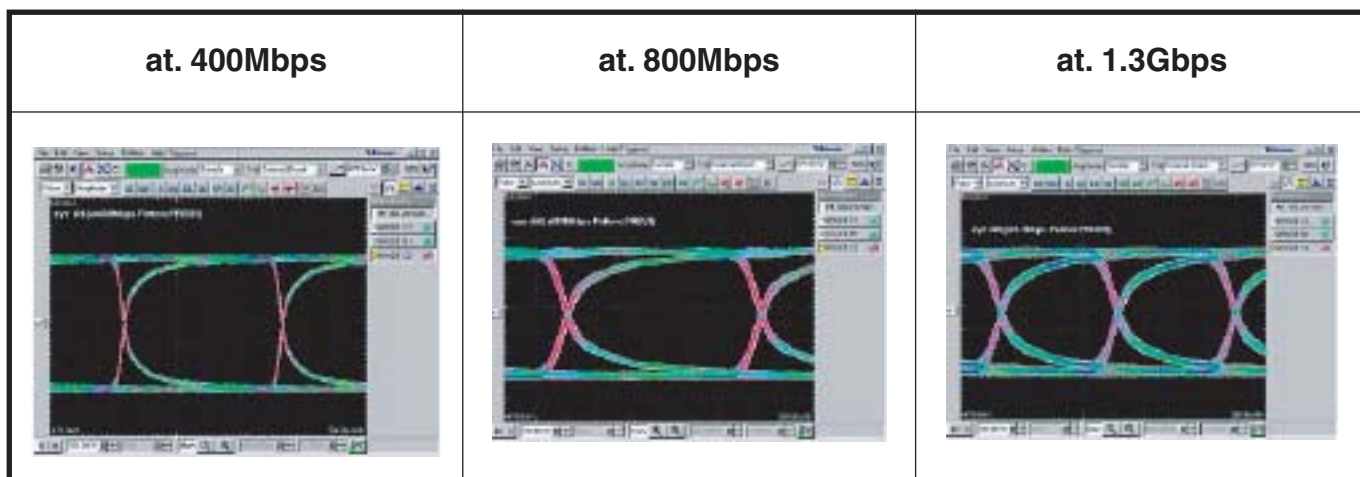
◆Measurement tool

- Single Ended: 50 ±5 Ω
- Differential: 100 ±10 Ω

◆Sample

Conductor size	0.3 mm x 0.035 mm
Conductor pitch	0.5 mm
Pin	50 pin
Whole length	265 mm

● Measuring example, eye pattern



◆Measurement condition

- Transmission method: NRZ (Differential)
- Out put level: 250 S
- Data pattern: PRBS9 steps (Similar random pattern)

◆Sample

Conductor size	0.3 mm x 0.035 mm
Conductor pitch	0.5 mm
Pin	50 pin
Whole length	265 mm

* Evaluation results are measurement values, not guaranteed values.

* Measurement value may have differential due to the basic characteristic of FFC.

Item		Specification
Base film	Material	PET
	Thickness	9 μm
Metallic thin layer	Material	Cu
	Thickness	1000 Å (about 0.1 μm)
	Mesh foam	L=0.3 mm/S=6.7 mm
Conductive adhesive	Resin	Polyester (Thermo plastic type)
	Thickness	20 μm
	Adhesive strength	3.5N/cm or more (against PET)
Mold release film	Material	OPP
	Thickness	40 μm

● Standard pressing condition

Hot pressing	Temperature	120 to 130 °C
	Time	5 to 10 sec
	Pressure	0.5 to 1.0 MPa

