—Copper Clad Laminate—

"Adhesiveless FCCL"

Example of use

- Mobile devices (mobile phone, Tablet PC and others)
- HDD
- For automobile applications
- DSC

Characteristics

- Adhesiveless FCCL structured with polyimide film and copper foil.
- No adhesive applied which provides product reliabilities of high heat resistance, dimensional stability, and others.
- Excellent flexibility. Applicable to the area requires durability to repetitive bending.

Product structure

【Single-sided】 Adhesiveless FCCL with internally designed polyimide resin coated on a Cu foil.

【Double-sided】 Adhesiveless FCCL made by laminating a polyimide film and copper foils.

Product Properties

	Item	Condition	Unit	Single-sided		Double-sided	
				PNS H	PRS	PKRW	PCW
	Characteristic	—	—	For general-purpose	Good adhesion to solder resist	For general-purpose	High heat resistance
FCCL	180° peel strength	180°	N/cm	10.0	10.0	11.0	11.0
FCCL	Dimensional stability (MD/TD)	0.5hr/150℃	%	+0.01/+0.01	-0.01/-0.02	-0.02/-0.04	-0.02/+0.00
FCCL		0.5hr/150℃	%	+0.01/+0.01	-0.02/-0.03	-0.03/-0.05	-0.05/+0.00
FCCL	Solder heat resistance (Float in solder bath for 60 sec.)	Normal state	℃	340 <	340 <	340 <	340 <
FCCL		72hr/85℃/85%RH	℃	340 <	340 <	300	**310**
FCCL	Dk (10GHz)	Normal state	—	3.50	3.55	3.3	3.4
FCCL	Df (10GHz)	Normal state	—	0.008	0.004	0.006	0.006
Film	Elastic modulus	Normal state	GPa	5.5	6.5	5.5	5.5
Film	CTE	Normal state	ppm/K	20	19	20	19
Film	Tg	Normal state	℃	332	315	285 (TPI) 350 (PI)	240 (TPI) 330 (PI)

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