

ThinFlex Corporation

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ThinFlex-A, A-2020RD Adhesiveless Double Sided Copper Clad Laminate

(Halogen Free)

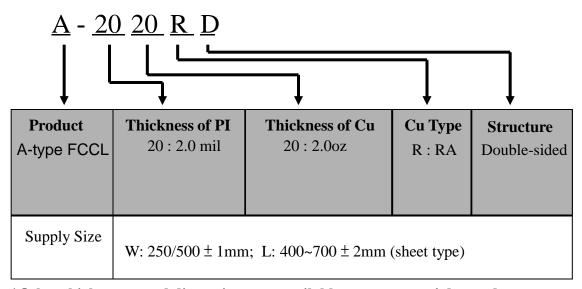
IPC Designation IPC-4204/11

ThinFlex-A, A-2020RD is an adhesiveless double-sided (D/S) copper clad laminate, using UBE TPI film and laminated with RA copper foil on both sides. ThinFlex-A, A-2020RD adhesiveless D/S composites are designed for a wide variety of flexible circuit applications which require advanced material performance, temperature resistance, fine pitch, and high reliability.

1. Product Characteristics:

- * Excellent dimensional stability
- * Excellent flexibility
- * Finer line etching capability
- * Low moisture absorption
- * Excellent flammability (Flame class UL 94V-0; UL File No. E219724)
- * Excellent chemical resistance
- * Excellent thermal, mechanical, and electrical properties

2. Specifications:



^{*}Other thicknesses and dimensions are available on customers' demand.

Technical Data Sheet: 201401





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3. Construction:

Copper foil
Polyimide film
Copper foil

4. Properties:

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Test item		Unit	A-2020RD	Test Method
Peel Strength				
As Received		Kgf/cm	≧ 1.0	IPC-TM650 2.4.9 B
Solder Float		Kgf/cm	≧ 1.0	IPC-TM650 2.4.13 B
After Temp. Cycling		Kgf/cm	≧ 1.0	IPC-TM650 2.4.9
Chemical Resistance		Kgf/cm	≧ 1.0	IPC-TM650 2.3.2
Tensile Strength (Base Film)		Kg/mm ²	≧28	IPC-TM-650 2.4.19
Elongation (Base Film)		%	≧50	IPC-TM-650 2.4.19
Tensile Modulus (Base Film)		Kg/mm²	≧550	ASTM D882
Initial Tear Strength (Base Film)		g	≧2100	IPC-TM-650 2.4.16
Propagation Tear Strength (Base Film)		g	≧22	IPC-TM-650 2.4.17.1
Flexural Endurance, MIT M.D.		Cycles Cycles	NA NA	JIS-C 6471, 0.8mmR, 0.5kg JIS-C 6471, 0.8mmR, 0.5kg
Electrical Properties Surface Resistance		Ω	~10 ¹¹	IPC-TM650 2.5.17
Volume Resistance		Ω-cm	~1012	IPC-TM650 2.5.17
Insulation Resistance		Ω	~10 ⁹	IPC-TM650 2.6.3.2
Dielectric Strength Dielectric Constant Dissipation factor		kV/mil - -	6.9 3.3 0.002	ASTM-D149 IPC-TM650 2.5.5.3 IPC-TM650 2.5.5.3
Physical and Thermal Prop Dimensional Stability	M.D. T.D.	% %	-0.1~0.1 -0.1~0.1	IPC-TM650 2.2.4C IPC-TM650 2.2.4C
CTE T _g	40 4000°0 (5500F)	ppm/°C °C	19.3 350	ThinFlex ThinFlex
Solder Float Moisture Absorption Test	10sec at 288°ℂ (550°F)	- %	Pass	IPC-TM650 2.4.13 IPC-TM650 2.6.2
Chemical Resistance- single		/0 -	1.1 Pass	IPC-TM650 2.3.2
Thickness tolerance UL Flame Class		um -	190±10% 94V-0	ThinFlex UL

^{*} Above data are typical values, and are not guaranteed values.

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5. Storage:

ThinFlex-A, A-2020RD will meet its shelf-life for at least 12 months after arrival at the user's factory when stored in the original packaging at temperatures of below 25°C and below 70% humidity. The products do not need refrigeration and should not be frozen.

Note: The information and data contained in this technical literature is believed to be accurate and is offered in good faith for the benefit of the user. The user should make his own tests to verify the suitability of this product for any application before its use. All data are typical values only and subject to change without notice.

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