



# Autolad1G

(UL ANSI: FR-4.1) Halogen Free, Mid-Loss, Automotive-used HDI Material

## FEATURES

- Lead-free compatible and excellent CAF resistance
- Lower Z-CTE and better dimensional stability in ultra-thin specification.
- Halogen, antimony and red phosphorous free

## APPLICATIONS

Specified for advanced HDI automotive electronics, like Camera-modulus, MDC, etc.

## GENERAL PROPERTIES

Test Items	Test Method	Test Condition	Unit	Typical Value
Tg	IPC-TM-650 2.4.25D	DSC	°C	160
	IPC-TM-650 2.4.24.4	DMA	°C	170
Td	IPC-TM-650 2.4.24.6	TGA (5% W.L)	°C	400
T288	IPC-TM-650 2.4.24.1	TMA	min	60
CTE (Z-axis)	IPC-TM-650 2.4.24	Before Tg	ppm/°C	35
	IPC-TM-650 2.4.24	After Tg	ppm/°C	189
	IPC-TM-650 2.4.24	50-260°C	%	2.3
Permittivity	IPC-TM-650 2.5.5.9	C-24/23/50, (R/C: 50%, 1GHz)	-	4.30
	IPC-TM-650 2.5.5.5	C-24/23/50, (R/C: 50%, 10GHz)	-	4.05
Loss Tangent	IPC-TM-650 2.5.5.9	C-24/23/50, (R/C: 50%, 1GHz)	-	0.010
	IPC-TM-650 2.5.5.5	C-24/23/50, (R/C: 50%, 10GHz)	-	0.012
Volume Resistivity	IPC-TM-650 2.5.17.1	C-96/35/90	MΩ-cm	6.0×10 <sup>8</sup>
Surface Resistivity	IPC-TM-650 2.5.17.1	C-96/35/90	MΩ	8.0×10 <sup>7</sup>
Arc Resistance	IPC-TM-650 2.5.1	D-48/50+D-0.5/23	s	148
Dielectric Breakdown	IPC-TM-650 2.5.6	D-48/50+D-0.5/23	kV	45+kV NB
Peel Strength (1oz)	IPC-TM-650 2.4.8	288°C/10s	N/mm [lb/in]	1.35 [7.71]
Flexural Strength (LW/CW)	IPC-TM-650 2.4.4	A	Mpa	550/430
Water Absorption	IPC-TM-650 2.6.2.1	D-24/23	%	0.09
Flammability	UL94	C-48/23/50	Rating	V-0

Remark:

1. All the typical value is based on the 1.6mm (8\*7628) specimen. The Dk and Df value based on 50% RC.
2. All the typical value listed above is for your reference only, please turn to Shengyi Technology Co., Ltd for detailed information, and all rights from this data sheet are reserved by Shengyi Technology Co., Ltd.

Explanations: C=Humidity conditioning; D=Immersion conditioning in distilled water; E=Temperature conditioning.

The figures following the letter symbols indicate with the first digit the duration of the preconditioning in hours, with the second digit the preconditioning temperature in °C and with the third digit the relative humidity.



# Autolad1GB PREPREG

(UL ANSI: FR-4.1) Bonding Prepreg for Autolad1G

## PREPREG PARAMETERS

Glass fabric type	Resin content (%)	Cured thickness (mm)
106	72	0.051
	75	0.056
	77	0.061
1067	70	0.058
	72	0.064
	75	0.071
1080/1078	65	0.076
	69	0.086
	71	0.094
3313	57	0.102
	60	0.109
	62	0.114

Other type, resin content and size could be available upon request.

## HOT PRESSING CYCLE

- Kissing pressure: 70-100PSI (5-7Kg/cm<sup>2</sup>)
- Full pressure: 350-430PSI (25-30Kg/cm<sup>2</sup>) apply at 80-100°C material temperature.
- Ramp-up rate: 1.5-2.5°C/min (80-140°C)
- Curing condition: 180°C/60min
- Cooling rate: <2°C/min (≤1.5°C/min is preferred)

The hot-pressing parameter is for your reference only. If you need any more detail information, please turn to Shengyi Technology Co., Ltd.

## STORAGE CONDITION

- 3 months when stored at < 23°C and <50% RH.
- 6 months when stored at <5°C. Normalize in room temperature for at least 4h before using.
- Beware of moisture, always keep wrapped in damp-proof material. Kept in normal condition, prepreg might absorb moisture and its bonding strength would be weakened.
- Avoid UV-rays and strong light.