



# HF-140/PP-HF140 Line up Electrical Properties

## 1) CORE (HF-140)

Thickness (mil)±10%	Thickness (mm)±10%	Layup	Dk±0.2				Df±10%			
			1GHz	2GHz	5GHz	10GHz	1GHz	2GHz	5GHz	10GHz
3.0	0.076	1080×1	4.2	4.1	4.1	4.0	0.014	0.015	0.016	0.017
3.5	0.089	3313×1	4.5	4.4	4.4	4.3	0.013	0.014	0.015	0.016
4.0	0.102	2116×1	4.6	4.5	4.5	4.4	0.012	0.014	0.014	0.016
4.5	0.114	2116×1	4.5	4.5	4.4	4.3	0.013	0.014	0.015	0.016
5.0	0.127	2165×1	4.6	4.5	4.4	4.4	0.013	0.014	0.015	0.016
5.5	0.140	1506*1	4.7	4.6	4.6	4.5	0.012	0.013	0.014	0.015
6.0	0.152	1506*1	4.6	4.6	4.5	4.4	0.012	0.013	0.014	0.015
7.5	0.191	7628*1	4.6	4.6	4.5	4.5	0.012	0.013	0.014	0.015
8.0	0.203	7628*1	4.6	4.5	4.4	4.4	0.012	0.014	0.014	0.016
10.0	0.254	2165*2	4.5	4.5	4.4	4.4	0.013	0.014	0.015	0.016
12.0	0.305	1506×2	4.7	4.6	4.6	4.5	0.012	0.013	0.014	0.015
15.0	0.381	7628*2	4.6	4.6	4.5	4.5	0.012	0.013	0.014	0.015
18.0	0.457	7628×2+1080×1	4.6	4.5	4.5	4.4	0.012	0.014	0.014	0.016
21.0	0.533	7628*3	4.7	4.6	4.6	4.5	0.012	0.013	0.014	0.015
25.0	0.635	7628*3	4.5	4.5	4.4	4.4	0.013	0.014	0.015	0.016
30.0	0.762	7628*4	4.6	4.6	4.5	4.5	0.012	0.013	0.014	0.015
35.0	0.889	7628*5	4.7	4.6	4.6	4.5	0.012	0.013	0.014	0.015
40.0	1.016	7628*5	4.6	4.5	4.4	4.4	0.012	0.014	0.014	0.016
47.0	1.194	7628*6	4.7	4.6	4.5	4.5	0.012	0.013	0.014	0.015
59.0	1.499	7628*8	4.7	4.6	4.6	4.5	0.012	0.013	0.014	0.015



# HF-140/PP-HF140 Line up

## Electrical Properties

### 2) PREPREG (PP-HF140)

Glass style	Thickness (mil) ±10%	Thickness (mm) ±10%	RC%	Dk±0.2				Df±10%			
				1GHz	2GHz	5GHz	10GHz	1GHz	2GHz	5GHz	10GHz
1080/1078	2.80	0.071	60	4.3	4.2	4.2	4.1	0.014	0.014	0.015	0.016
	3.00	0.076	62	4.2	4.2	4.1	4.0	0.014	0.015	0.016	0.016
	3.20	0.081	64	4.2	4.1	4.0	4.0	0.014	0.015	0.016	0.017
1086	3.50	0.089	64	4.3	4.2	4.1	4.1	0.014	0.015	0.016	0.016
	3.80	0.097	66	4.2	4.2	4.1	4.0	0.014	0.015	0.016	0.017
	4.10	0.104	68	4.2	4.2	4.1	4.0	0.014	0.015	0.016	0.017
3313	3.50	0.089	52	4.5	4.4	4.4	4.3	0.013	0.014	0.015	0.015
	3.80	0.097	55	4.4	4.4	4.3	4.3	0.013	0.014	0.015	0.015
	4.50	0.114	58	4.4	4.3	4.2	4.2	0.013	0.014	0.015	0.016
2116	4.70	0.119	50	4.5	4.4	4.4	4.3	0.013	0.014	0.015	0.015
	4.90	0.124	52	4.5	4.4	4.3	4.3	0.013	0.014	0.015	0.015
	5.20	0.132	54	4.4	4.4	4.3	4.2	0.013	0.014	0.015	0.015
2165	5.70	0.145	52	4.5	4.5	4.4	4.4	0.012	0.013	0.013	0.014
	6.20	0.157	55	4.5	4.4	4.4	4.3	0.012	0.013	0.014	0.014
	6.80	0.173	58	4.4	4.4	4.3	4.3	0.013	0.014	0.014	0.015
1506	6.30	0.160	44	4.7	4.6	4.5	4.5	0.012	0.013	0.014	0.014
	6.60	0.168	46	4.6	4.6	4.5	4.4	0.012	0.013	0.014	0.014
	6.90	0.175	48	4.6	4.5	4.4	4.4	0.012	0.013	0.014	0.015
7628	7.80	0.198	43	4.7	4.6	4.5	4.5	0.012	0.013	0.014	0.014
	8.20	0.208	45	4.6	4.5	4.5	4.4	0.012	0.013	0.014	0.015
	8.70	0.221	47	4.5	4.5	4.4	4.4	0.013	0.013	0.014	0.015