

ShinEtsuMicroSi

Coverlays & Bonding Sheets

PROPERTY	UNIT	Condition	CA231	CN231	CA233	CN233	CA333	CN333
Product Composition			Kapton-H	Apical-NPI	Kapton-H	Apical-NPI	Kapton-H	Apical-NPI
Polyimide Film	mil		0.5	0.5	0.5	0.5	1	1
Adhesive	µm		15	15	25	25	25	25
Thickness	µm		28	28	38	38	50	50
Peel Strength	N/cm	C-24/20/60	6.4	6.9	6.9	7.4	9.8	10.3
Resistance to soldering heat	°C	E-0.5/80 C-1/40/90	330 300	330 300	330 300	330 300	330 300	330 300
Dimensional Stability	%	E-0.5/150 +C-4/20/60	MD -0.21 TD -0.06	MD -0.15 TD -0.05	MD -0.25 TD -0.09	MD -0.18 TD -0.06	MD -0.13 TD -0.06	MD -0.11 TD -0.05
Dielectric Constant	-	C-96/20/60	3.6	3.6	3.6	3.6	3.6	3.6
Dielectric Dissipation Factor	-	C-96/20/60	0.03	0.03	0.03	0.03	0.03	0.03
Volume Resistivity	Ω•cm	C-96/20/60	5 x 10 ¹⁴	5 x 10 ¹⁴	5 x 10 ¹⁴	5 x 10 ¹⁴	1 x 10 ¹⁴	1 x 10 ¹⁴
Surface Resistance	Ω	C-96/20/60	1 x 10 ¹⁵	1 x 10 ¹⁵	1 x 10 ¹⁵	1 x 10 ¹⁵	1 x 10 ¹⁵	1 x 10 ¹⁵
Insulation Resistance	Ω	C-24/20/60	2 x 10 ¹³	2 x 10 ¹³	2 x 10 ¹³	2 x 10 ¹³	1 x 10 ¹³	1 x 10 ¹³
Chemical Resistance								
Acetone	-	Dipped for 15 min. at room temperature	Good	Good	Good	Good	Good	Good
Toluene								
MEK								
5% NaOH								
Flame Retardancy UL94 File No: E98177 (Designation)			V-0 (CA-3-1)	V-0 (CB-3-1)	V-0 (CA-3-1)	V-0 (CB-3-1)	V-0 (CA-3-1)	V-0 (CB-3-1)

PROPERTY	UNIT	Condition	CA335	CA338	CA433	CA438	CB334	E33
Product Composition			Kapton-H	Kapton-H	Kapton-H	Kapton-H	Apical-AH	-
Polyimide Film	mil		1	1	2	2	1	-
Adhesive	µm		35	50	25	50	30	25
Thickness	µm		60	75	75	100	55	25
Peel Strength	N/cm	C-24/20/60	9.8	10.8	9.8	12.8	9.8	9.8
Resistance to soldering heat	°C	E-0.5/80 C-1/40/90	330 300	330 300	330 300	330 300	330 300	330 300
Dimensional Stability	%	E-0.5/150 +C-4/20/60	MD -0.15 TD -0.08	MD -0.18 TD -0.09	MD -0.17 TD -0.10	MD -0.19 TD -0.13	MD -0.18 TD -0.07	N/A
Dielectric Constant	-	C-96/20/60	3.6	3.6	3.5	3.6	3.6	3.8
Dielectric Dissipation Factor	-	C-96/20/60	0.03	0.03	0.02	0.03	0.03	0.03
Volume Resistivity	Ω•cm	C-96/20/60	1 x 10 ¹⁴	1 x 10 ¹⁴	1 x 10 ¹⁴	1 x 10 ¹⁴	1 x 10 ¹⁴	1 x 10 ¹⁴
Surface Resistance	Ω	C-96/20/60	1 x 10 ¹⁵	1 x 10 ¹⁵	1 x 10 ¹⁵	1 x 10 ¹⁵	1 x 10 ¹⁵	1 x 10 ¹⁵
Insulation Resistance	Ω	C-24/20/60	1 x 10 ¹³	1 x 10 ¹³	1 x 10 ¹³	1 x 10 ¹³	1 x 10 ¹³	1 x 10 ¹³
Chemical Resistance								
Acetone	-	Dipped for 15 min. at room temperature	Good	Good	Good	Good	Good	Good
Toluene								
MEK								
5% NaOH								
Flame Retardancy UL94 File No: E98177 (Designation)			V-0 (CA-3-1)	V-0 (CA-3-1)	V-0 (CA-3-1)	V-0 (CA-3-1)	V-0 (CB-3-1)	

The above figures are typical data, but not assured by us.

Processing conditions

Temperature: 160°C
 Pressure: 4.9MPa (50kgf/cm²)
 Operation time: 30 minutes