ShinEtsuMicroSi®

ShinEtsu Group

Shin-Etsu Packaging Materials

Product Description

Shin-Etsu is a leader in developing advanced, semiconductor packaging materials for encapsulating all types of semiconductor devices. This broad line of products is made of silicone molding compounds and epoxy molding compounds that offer low stress, very low warpage, and high thermal conductivity.

Molding Compounds

- Low Internal Stress
- Stable at High Heat & Voltage
- High Thermally Conductive Formulations

Silicone Die Attach Materials

- Low Internal Stress
- High Adhesive Strength
- Less Contamination

Wafer Backside Coating Materials

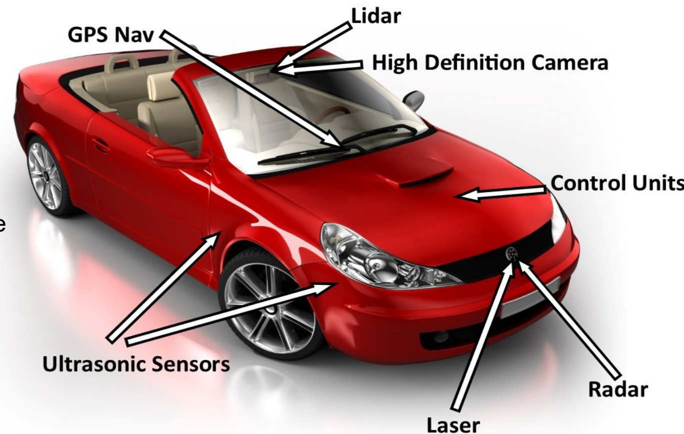
- Smooth Surface After Printing
- Good Dicing Performance
- No Die Motion During Wire Bonding

Polyimide Silicone Chip Coating Materials

- High Adhesive Stability
- High Electrical Insulative Properties

Thermally Conductive Silicone Adhesives

- Thermoset Adhesive
- High Adhesive Strength
- Low Temperature Cure Adhesive
- No Induced Stress by Heating
- Conformal Film Adhesive



Liquid Epoxy Encapsulants

- Low Internal Stress
- Stable in Harsh Environments
- Oil, Chemical & Thermal Shock Resistance

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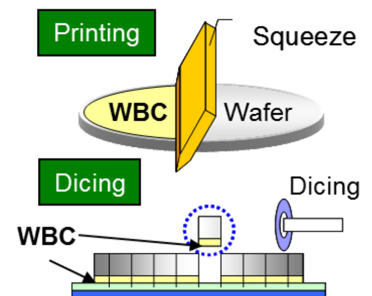
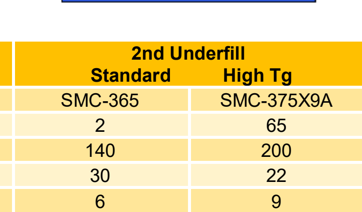
Epoxy Die Attach Materials

Grade	Wafer Backside Coating		Dispense	
	Standard	Low Modulus	Standard	High Tg
	SFX524G2D	SFX524G2C	SFX-530C	SFX-530D
Viscosity (Pa*s)	40	20	65	60
Tg (°C)	190	145	130	220
CTE (ppm/°C)	30	65	40	25
Flexural Modulus GPa)	6	2	6	8



Silicone Die Attach Material

Grade	LPS-8448X	LPS-8420	LPS-8421	KJR-9602-5WH	KJR-9602-5
Color	Transparent	Transparent	Transparent	White	Black
Viscosity (Pa*s)	12	10	10	1,700	1,700
Hardness	D60	A70	A40	A40	A35
Elongation (%)	10	100	120	400	300



Liquid Epoxy Materials

Grade	Standard		High Thermal Conductive (2.5W/mk)	Electrically Conductive	2nd Underfill	
	Potting	DAM			Standard	High Tg
	SMC-762NN	SMC-762D	SMC-762HCLL	SFX-5603-7AQ	SMC-365	SMC-375X9A
Viscosity (Pa*s)	30	250	50	80	2	65
Tg (°C)	145	145	145	150	140	200
CTE (ppm/°C)	14	16	17	35	30	22
Flexural Modulus GPa)	15	12	16	8	6	9

Thermally Conductive Silicone Adhesives

Grade	LPS-AF500TC	LPS-AF500EC	KJR 9080S-6	KJR-9080S-13-1	KJC-5080L-1
Thermal Conductivity (W/mk)	2.9	13	4	3	1.5
Application	Film	Film	Dispense	Dispense	Dispense
Cure Temperature (°C)	150	150	150	150	23
Hardness	D40	D40	D60	A60	A60
BLT (µm)	50	50	90	150	50

Molding Compounds

Grade	KMC-2520L-M1	KMC- 2280H	KMC- 8000X
Flame retardant	Green	Green	Green
Flexural Strength (MPa)	130	100	120
Flexural Modulus (GPa)	20	13	12
Tg (°C)	163	190	225
CTE 1 (ppm/°C)	11	15	16
CTE 2 (ppm/°C)	45	54	38

Polyimide Silicone Materials (Adhesion & Insulation Improvement)

Grade	KJR-651E	KJR-655E	KJR-657E
Features	Standard	Thin Film	Thick Film
Solvent	NM2P	NM2P	NM2P/MeOH
Storage Temp. (°C)	5	5	5
Dielectric Breakdown V/0.1mm	13	13	12
Young's Modulus GPa	2.4	2.4	2.3
Tg (°C)	255	255	230