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FUJIKURA KASEI CO.,LTD.

Taking on Challenges and Working Together

Introduction and Business Divisions

Fujikura Kasei produces polymer materials for a variety of applications, developing unique, value-added products based on our decades of accumulated expertise.

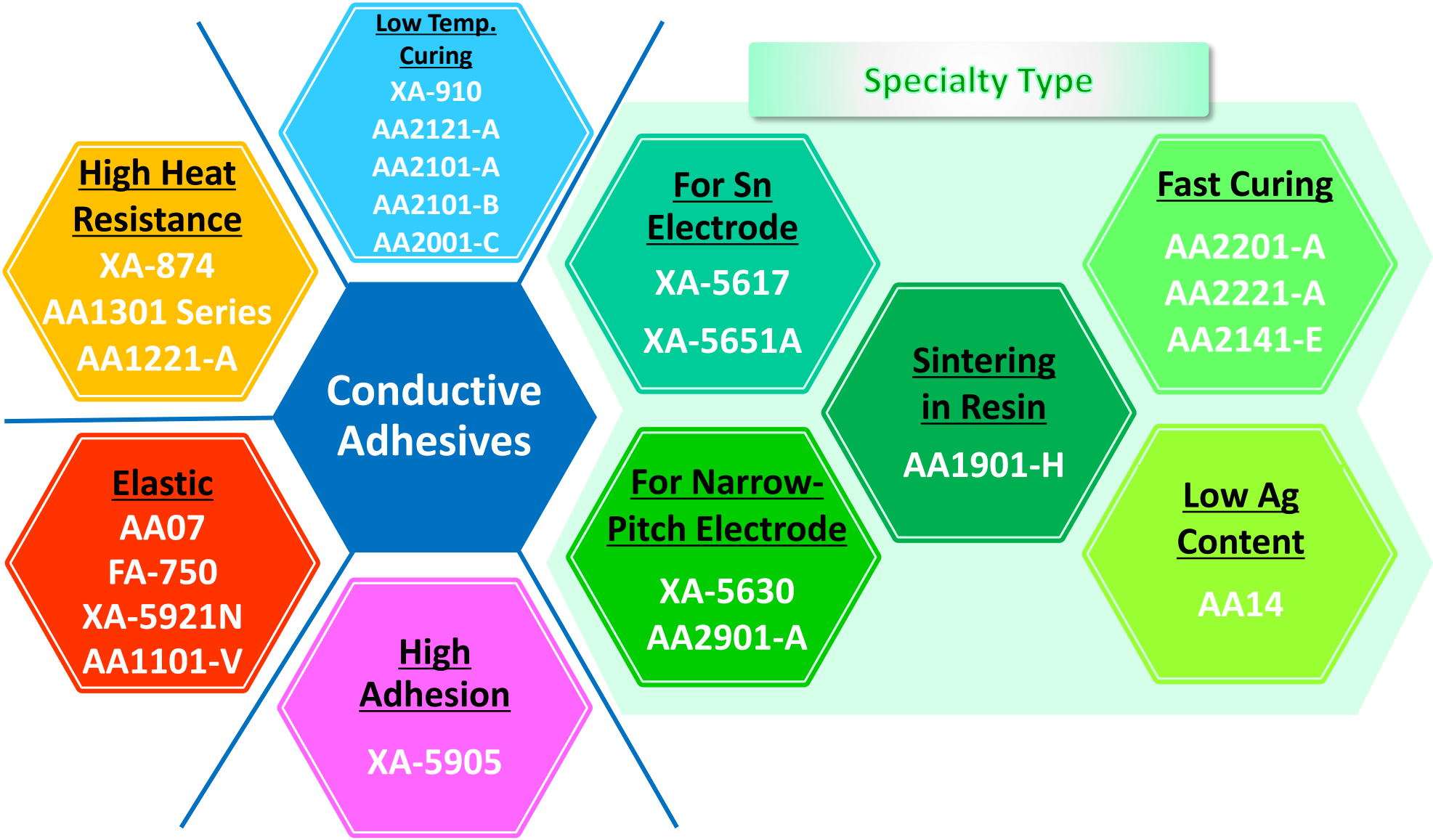
DOTITE Electrically Conductive Pastes

In 1957, we were the first manufacturer in Japan to develop and sell electrically conductive pastes and insulators for electronics under the brand name DOTITE. We have a wide range of inks, adhesives, and EMI shield paints.

This catalogue will introduce our electrically conductive adhesive lineup, including some of our newest developments in electrically conductive adhesives.

DOTITE Conductive Adhesive Lineup

Fujikura Kasei Co., Ltd



DOTITE Electrically Conductive Adhesive Selection Guide ①

Type	Model	Curing Temperature (℃)															Storage		Application Method
		23	50	60	70	80	100	120	130	150	160	180	190	200	210	220	290	Froz.	Refrig.	
Low Temperature Curing	XA-910						60 mins.	30 mins.		15 mins.									2 mos.	DS / SP
	AA2121-A				60 mins.	30 mins.													3 mos.	DS / SP
	AA2101-A			60 mins.		30 mins.	15 mins.												3 mos.	DS
	AA2101-B			60 mins.															3 mos.	DS
	AA2001-C	24 hrs.	2 hrs.		30 mins.													3 mos.		DS
High Heat Resistance	XA-874									30 mins.									3 mos.	DS / SP
	AA1221-A												30 mins.						2 mos. (Tentative)	DS
	AA1301 Series											10 mins.					20mins.		2 mos. (Tentative)	DS
Elastic	AA1101-V										30 mins.			15 mins.					4 mos.	MP
	XA-5921N													60 mins.					6 mos.	DS
	FA-750									60 mins.									4 mos.	DS
	AA07									60 mins.									2 mos.	DS

DS: Dispensing SP: Screen Printing MP: Metal-mask Printing ST: Transference Green Letter: Pre-Drying Time

DOTITE Electrically Conductive Adhesive Selection Guide ②

Type	Model	Curing Temperature (℃)															Storage		Application Method
		23	50	60	70	80	100	120	130	150	160	180	190	200	210	220	290	Froz.	Refrig.	
High Adhesion	XA-5905									30 mins.		10 mins.							3 mos.	DS / ST
For Sn Electrode	XA-5617											60 mins.		10 mins.					2 mos.	MP
	XA-5651A											60 mins.		10 mins.					2 mos.	DS
For Narrow-Pitch Electrode	XA-5630							10 mins.		30 mins.									3 mos.	SP
	AA2901-A								1-3 mins.	0.5-1 mins.	30※ secs.								4 mos.	SP
Sintering in Resin	AA1901-H													60 mins.					1 mos. (Tentative)	SP
Fast Curing	AA2201-A														1 mins.				6 mos.	DS
	AA2221-A															1 mins.			3 mos.	DS
	AA2141-E								4 mins.									3 mos.		DS
Low Ag Content	AA14								60 mins.	30 mins.		15 mins.							3 mos.	DS / SP

DS: Dispensing SP: Screen Printing MP: Metal-mask Printing ST: Transference Green Letter: Pre-Drying Time

※By thermocompression bonding

DOTITE Conductive Adhesive Lineup

Low Temperature Curing Type

Feature	Model	Resin, Filler	Appli-*1 cation	Curing Condition	Storage	Resistivity (Ω·cm)	Adhesion*2 (N/mm²)	Tg (℃)
100℃ Curing On PET film	XA-910	Solventless, 1-component Epoxy, Ag	DS/SP	100℃, 60 mins., on Au/Ag/Cu	Frozen, 2 mos.	2×10^{-4}	16	60
70℃ Curing For substrates with heat endurance as low as 70℃	AA2121-A	Solventless, 1-Component Epoxy, Ag	DS/SP	70℃, 60 mins., on Au/Ag/Cu	Frozen, 3 mos.	1×10^{-3}	10	45
60℃ Curing For substrates with heat endurance as low as 60℃	AA2101-A	1-component Epoxy, Ag	DS	60℃, 60 mins., on Au/Ag/Cu	Frozen, 3 mos.	2×10^{-4}	9	61
60℃ Curing Low temp. curing, low elastic modulus	AA2101-B	1-component Epoxy, Ag	DS	60℃, 60 mins., on Au/Ag/Cu	Frozen, 3 mos.	3×10^{-4}	6	-
23℃ Curing On plastic substrates (PC, ABS)	AA2001-C	Solventless, 2-component Epoxy, Ag	DS	23℃, 24 hrs. 50℃, 2 hrs. 70℃, 30 mins., on Au/Ag/Cu	Refrigerated, 3 mos.	3×10^{-3}	13	31

*1) DS: Dispensing SP: Screen Printing MP: Metal-mask Printing ST: Transference

*2) Die-shear Strength

DOTITE Conductive Adhesive Lineup

High Heat Resistance Type

Feature	Model	Resin, Filler	Appli-*1 cation	Curing Condition	Storage	Resistivity (Ω・cm)	Adhesion *2 (N/mm²)	Tg (℃)
320℃ Pyrolysis 3,000 hrs. durability at 150℃, ideal for automotive	XA-874	Solventless, 1-component Epoxy, Ag	DS/SP	150℃, 30 mins., on Au/Ag/Cu	Frozen, 3 mos.	8×10^{-5}	20	78
360℃ Pyrolysis For die-attach on ceramic substrate	AA1221-A	Solventless, 1-component Epoxy, Ag	DS	190℃, 30 mins., on Au/Ag/Cu	Frozen, 2 mos. (Tentative)	4×10^{-4}	25	100
400℃ Pyrolysis (in N_2) High heat resistant polyimide, for ceramic substrate	AA1301 Series	1-component Polyimide, Ag	DS	180℃, 10 mins. + 290℃, 20 mins., on Au/Ag	Frozen, 2 mos. (Tentative)	8×10^{-5}	2.5 *3	300

*1) DS: Dispensing SP: Screen Printing MP: Metal-mask Printing ST: Transference

*2) Die-shear Strength

*3) Pull-up Strength

DOTITE Conductive Adhesive Lineup

Elastic Type

Feature	Model	Resin, Filler	Appli-cation *1	Curing Condition	Storage	Resistivity (Ω・cm)	Adhesion (N/mm²) *2	Tg (℃)
Elastic Modulus 25MPa On silicone sheet	AA1101-V	Solventless, 1-component Silicone, Ag	MP	160℃, 30 mins., on Au/Ag	Frozen, 4 mos.	5×10^{-4}	1.0 *3	-120℃
Elastic Modulus 400MPa For crystal devices	XA-5921N	1-component Silicone, Ag	DS	200℃, 60 mins., on Au/Ag	Frozen, 6 mos.	3×10^{-4}	2.0 *3	-120℃
Elastic Modulus 600MPa For crystal devices	FA-750	1-component Epoxy/Urethane, Ag	DS	150℃, 60 mins., on Au/Ag	Refrigerated, 4 mos.	3×10^{-4}	3	6℃
Elastic Modulus 900MPa For SAW filter, for automotive applications	AA07	Solventless, 1-component Epoxy, Ag	DS	150℃, 60 mins., on Au/Ag/Cu	Frozen, 2 mos.	2×10^{-4}	12	25℃

*1) DS: Dispensing SP: Screen Printing MP: Metal-mask Printing ST: Transference

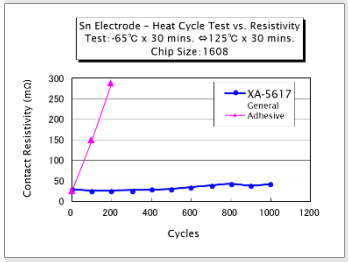
*2) Die-shear Strength
*3) Pull-up Strength

DOTITE Conductive Adhesive Lineup

High Adhesion Strength Type

Feature	Model	Resin, Filler	Appli-cation *1	Curing Condition	Storage	Resistivity (Ω・cm)	Adhesion *1*2 (N/mm²)	Tg (℃)
Adhesion Strength 45N/mm² For metal-cap of electronic parts	XA-5905	Solventless, 1-component Epoxy, Ag	DS/ST	150℃, 30 mins., on Au/Ag/Cu	Frozen, 3 mos.	4×10^{-4}	45	75

For Sn Electrode

Feature	Model	Resin, Filler	Appli-cation *1	Curing Condition	Storage	Resistivity (Ω・cm)	Adhesion *2 (N/mm²)	Tg (℃)
Stable Resistivity (65℃⇔125℃ HC) 	XA-5617	Solventless, 1-component Epoxy, Ag	MP	200℃, 10 mins. 180℃, 60 mins., on Au/Ag/Cu	Frozen, 2 mos.	3×10^{-4}	17	90
	XA-5651A	1-component Epoxy, Ag	DS					

*1) DS: Dispensing SP: Screen Printing MP: Metal-mask Printing ST: Transference

*2) Die-shear Strength

DOTITE Conductive Adhesive Lineup

For Narrow Pitch Electrode

Feature	Model	Resin, Filler	Appli-cation *1	Curing Condition	Storage	Resistivity (Ω·cm)	Adhesion (N/mm²) *1	Tg (℃)
For 0402 Chip Mounting (by B-stage curing)	XA-5630	Solventless, 1-component Epoxy, Ag	SP	120℃, 10 mins. + 150℃, 30 mins., on Au/Ag/Cu	Frozen, 3 mos.	1×10^{-4}	12	78

Feature	Model	Resin, Filler	Appli-cation *1	Curing Condition	Storage	Resistivity (Ω·cm)	Adhesion (N/mm²)	Tg (℃) *3
Epoxy ACP For connector bonding	AA2901-A	1-component Epoxy, Ag plated resin beads (20μm)	SP	Pre-curing: IR oven 130℃, 60~180 secs. Post Curing: Pressure: 2~5MPa 160℃, 20~30 secs.	Frozen, 4 mos.	1.6 (ITO glass 10Ω/□)	3.5	0.3/0.3

*1) DS: Dispensing SP: Screen Printing MP: Metal-mask Printing ST: Transference

*2) Die-shear Strength

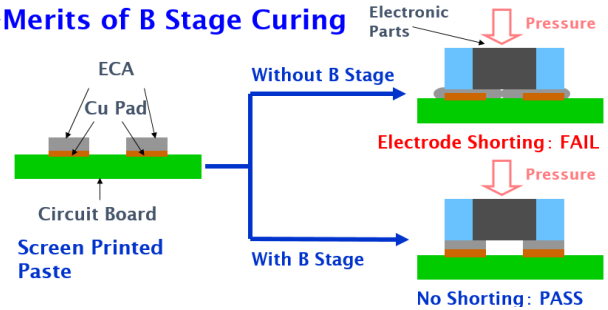
*3) L/S=Line/Space

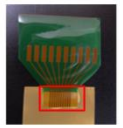
◆What is B Stage Curing?

Heat-cured resin half-curing

◆Merits of B Stage Curing

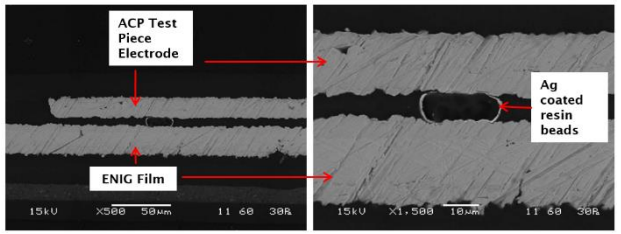
Usage of XA-5630





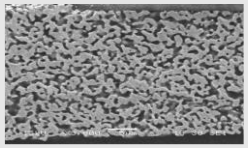
◆ACP Test Piece (L/S=0.5mm/0.5mm)/ENIG Film
Method : IR 130℃, 120 secs. + 3MPa 160℃, 20 secs.
Cross-Section View: SEM

AA2901-A Cross-Section



DOTITE Conductive Adhesive Lineup

Sintering in Resin Type

Feature	Model	Resin, Filler	Appli-cation*1	Curing Condition	Storage	Resistivity (Ω·cm)	Adhesion*2 (N/mm²)	Tg (℃)
 Cured film cross-section SEM	AA1901-H	1-component Epoxy, Ag	SP	200℃, 60 mins., on Au/Ag/Cu	Frozen, 1 mo. (Tentative)	7.0×10^{-6}	25	-

Fast Curing Type

Feature	Model	Resin, Filler	Appli-cation*1	Curing Condition	Storage	Resistivity (Ω·cm)	Adhesion*2 (N/mm²)	Tg (℃)
210℃, 1 Min. Curing Epoxy type	AA2201-A	Solventless, 1-component Epoxy, Ag	DS	Hotplate 210℃, 1 min., on Au/Ag/Cu	Frozen, 6 mos.	2×10^{-4}	8	120
210℃, 1 Min. Curing Acrylic epoxy type	AA2221-A	Solventless, 1-component Acrylic Epoxy, Ag	DS		Frozen, 3 mos.	5×10^{-4}	25	-
130℃, 4 mins. Curing Elastic modulus 27/MPa	AA2141-E	Solventless, Urethane, Ag	DS	130℃, 4 mins. On Au/Ag/Cu	Refrigerated, 3 mos.	8×10^{-4}	1.5	-12

*1) DS: Dispensing SP: Screen Printing MP: Metal-mask Printing ST: Transference

*2) Die-shear Strength

DOTITE Conductive Adhesive Lineup

Low Ag Content Type

Feature	Model	Resin, Filler	Appli-cation *1	Curing Condition	Storage	Resistivity (Ω・cm)	Adhesion (N/mm²) *2	Tg (℃)
Ag Content 30 wt%	AA14	Solventless, 1-component Epoxy, Ag/Ni	DS/SP	150℃, 30 mins., on Au/Ag/Cu	Frozen, 3 mos.	3 x 10^{-4}	10	59

*1) DS: Dispensing SP: Screen Printing MP: Metal-mask Printing ST: Transference

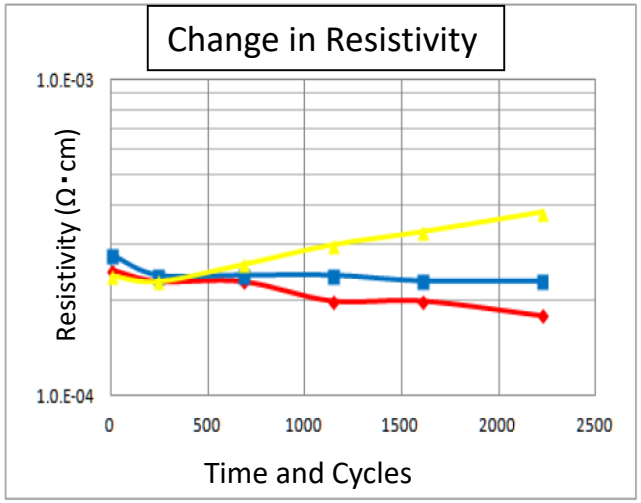
*2) Die-shear Strength

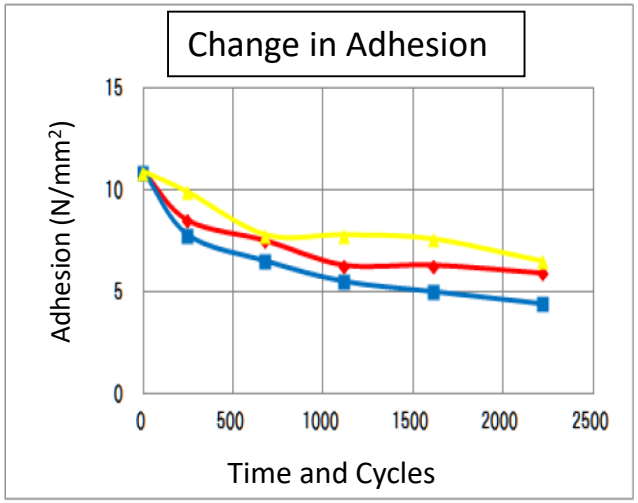
【AA14 Reliability Test】

Heat Resistance : at 150℃

Humidity Resistance : at 85℃/85%RH

Heat Cycle : at -65℃ ⇔125℃, 30 mins. each



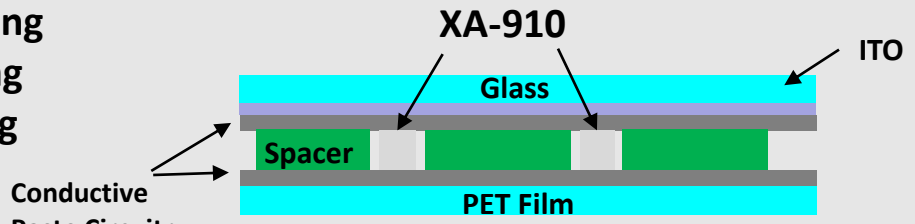


◆ Heat Resistance ■ Humidity Resistance ▲ Heat Cycle

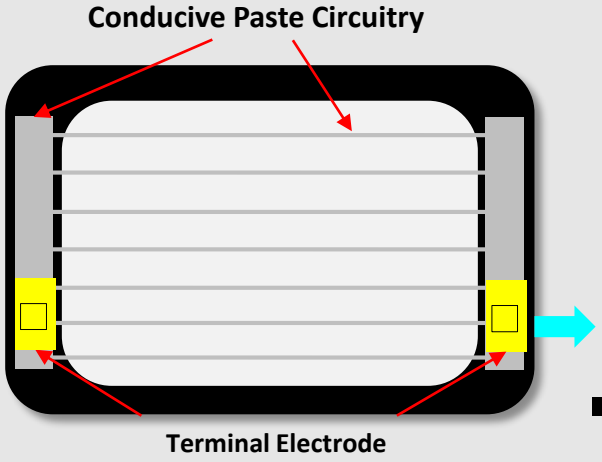
DOTITE Conductive Adhesives - Applications

Low Temperature Curing Type

Model	Application
XA-910 AA2121-A AA2101-A AA2101-B AA2001-C	•Touch panel transfer electrode bonding •Flexible circuit board device mounting •Camera module circuit board bonding •Defroster electrode bonding

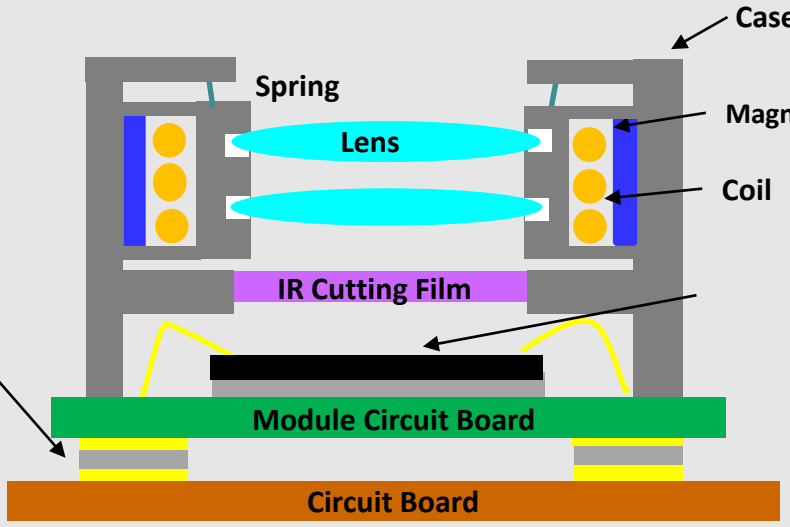


Touch Panel Transfer Electrode Bonding



Defroster Terminal Bonding

AA2121-A
AA2101-A
AA2101-B
AA2001-C



Camera Module Circuit Board Bonding

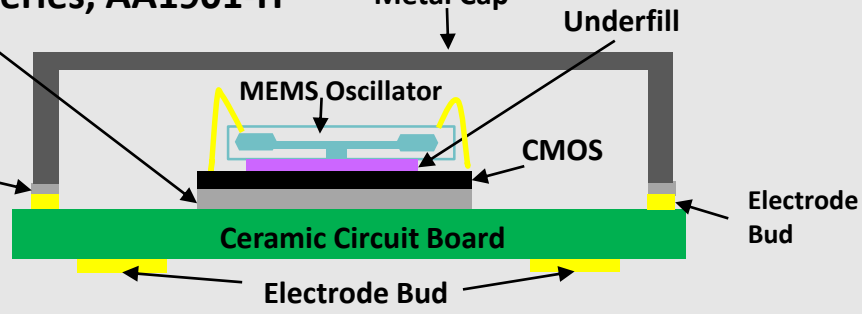
DOTITE Conductive Adhesives - Applications

High Heat Resistance Type・High Adhesion Type Sintering in Resin Type

Model	Application
XA-874 AA1221-A AA1301 Series XA-5905 AA1901-H	•Automotive actuator •Die attach •MEMS •Metal cap bonding •Capacitor cathode bonding

XA-874, AA1221-A, AA1301 Series, AA1901-H

XA-5905

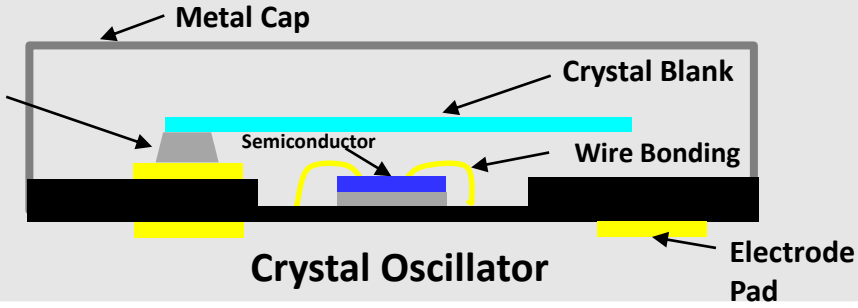


MEMS Oscillator

Elastic Type

Model	Application
AA1101-V XA-5921N FA-750 AA07	•Flexible circuitry component mounting •Ceramic oscillator •Crystal oscillator •Sensor components •SAW filter

XA-5921N, FA-750
AA1101-V

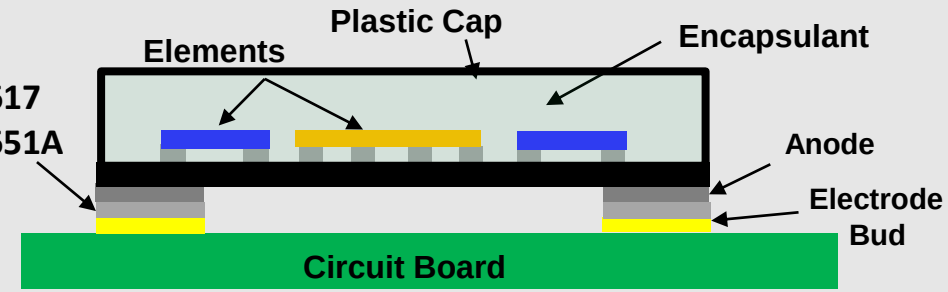


Crystal Oscillator

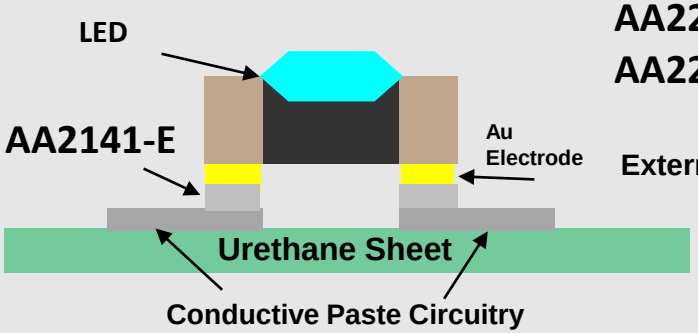
DOTITE Conductive Adhesives - Applications

For Sn Electrode Type･Fast Curing Type

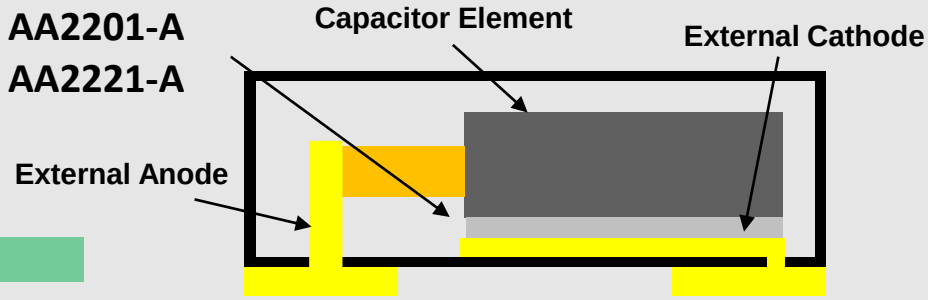
Model	Application
XA-5617 XA-5651A AA2201-A AA2221-A AA2141-E	•Sn coated component mounting •Capacitor cathode bonding •Flexible circuitry mounting



Module Mounting



Flexible Circuitry Mounting

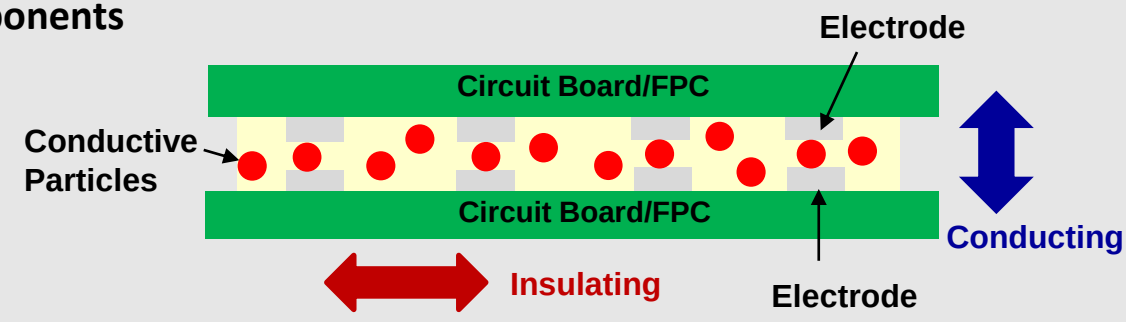


Capacitor Element Cathode Bonding

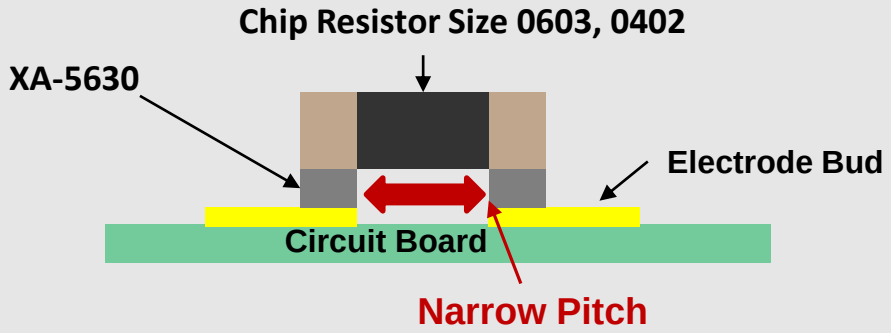
DOTITE Conductive Adhesives - Applications

Narrow-Pitch Electrode Type

Model	Application
XA-5630 AA2901-A	•Mounting miniature components •Connector bonding •FPD driver IC connection •RFID IC chip



Connector Bonding（AA2901-A）



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