

Epoxy Adhesives(环氧树脂粘合剂)

Conductive Adhesives(导电粘合剂)

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1. Ohmex - AG (用于半导体阻焊的热固性-银环氧树脂) Thermosetting Silver for Ohmic Bonding to Semiconductors

Produces Quality Electrical and Mechanical Contacts

FEATURES 特征

- One - part system
- High bond strength
- Ohmic contacts
- Low contact resistance
- Low thermal impedance
- Low thermal stress
- Temperature Stability -65 °C to +275 °C
- Low outgassing

APPLICATIONS 应用

CHIP BONDING - Silicon, germanium and other semiconductor materials - for transistors, diodes, rectifiers, thermistors, integrated monolithic and hybrid circuits. Also bonds to: glass, metals, ceramic, mica, plastics, graphite, and quartz

FOR PRODUCTION AND LABORATORY USE

OHMEX - AG DESCRIPTION

Ohmex-Ag is a conductive silver preparation containing as a bonding constituent silver epoxide. It is supplied in the form of a thin paste, ready to use. Its composition is unique, providing high conductivity and excellent bonding strength after appropriate cure. OHMEX-Ag is used to advantage in place of lead-tin solder or other alloys to avoid flux contamination or exposure to excessive temperature and for process simplification. OHMEX-Ag produces very low resistance ohmic contacts with all metals and bonds as well to most insulators. Ohmic bonds are also produced with semiconductors if the surface is first metallized or if the surface is highly "doped" and lapped. OHMEX-Ag finds extensive use in bonding semiconductor chips, integrated monolithic and hybrid circuits, diodes and transistors, and thin films on ceramic substrates - in all types of package configurations.

PROPERTIES 性质

System	One-Part
Composition 成分	Silver filled epoxy
Density 密度	2.5 g/cc
Viscosity 粘性	90,000 cps.

中电网 EMD (半导体设备与材料部) 网址: www.chinaemnet.com

联系人: 刘健博 电话: (021)61021225-827 传真: (021)52353710
地址: 上海市普陀区宁夏路 201 号绿地科创大厦 21 楼 B、C 座

E-mail: liujianbo@ChinaECNet.com
邮编: 200063

Electrical Resistivity, Nominal 电阻	5×10^{-4} ohm-cm
Thermal Conductivity 导热性	100 BTU/ft ² /hr./°F./in.
Outgassing 除气作用	0.097% @ 100 °C (1250 hours)
	0.7% @ 125 °C (1000 hours)
	< 1.2% @ 160 °C (1000 hours)
Bond Shear Strength 切变强度	> 1000 PSI
Temperature Stability Range 温度稳定范围	-65 °C to + 275 °C (+325 °C intermittent)
Linear Coef. of Therm Expan. 温度膨胀	5×10^{-5} cm/cm/°C
Storage 贮藏	40 °F or below
Shelf Life 保存限期	6 months
Thinner 稀释剂	Butyl cellosolve acetate
Cure Temp. 硫化温度	150 °C (minimum)

INSTRUCTIONS 用法说明

Use OHMEX-Ag as supplied. Special thinner is supplied though thinning is unnecessary for most application. Apply OHMEX-Ag to the parts to be bonded, press lightly, then cure in drying oven at 150° - 160 °C for at least 15 hours or 1 hour at 150 °C followed by at least 1 hour at 265 °C.

Special Thinner available

2. Silver Epoxy Paste (用于阻焊的屏蔽热固性-银环氧树脂) Screenable Thermosetting Silver for Ohmic Bonding

A screenable silver epoxy preparation for developing high quality electrical and mechanical contacts - used in bonding semiconductors and other devices in hybrid microelectronic circuits.

SILVER EPOXY PASTE - TYPE I

Standard screenable conductive epoxy

SILVER EPOXY PASTE - TYPE II

Screenable conductive compliant epoxy

FEATURES 特征

- One component system
- Excellent screening characteristics
- Develops high bond strength
- Low contact resistance
- Very low thermal stress
- Low thermal impedance
- Temperature -65 ° to +250 °C

SILVER EPOXY PASTE DESCRIPTION

Silver Epoxy Paste is a one component system designed as a conductive thermosetting silver preparation for screen printing applications. Its composition is unique, providing high electrical and thermal conductivity with excellent bond strength after appropriate cure. Silver Epoxy Paste is used to advantage in place of lead-tin solders to avoid flux contamination or exposure to excessive temperature and for process simplification by screening on contacts.

Silver Epoxy Paste forms ohmic bonds with semiconductors if the surface of the semiconductor is metallized, or if the surface is highly "doped" and lapped. The product finds extensive use in bonding semiconductor chips, integrated monolithic circuits, diodes, transistors and other components in thin film and thick film hybrid microelectronic circuits. It bonds to glass, mica, plastic, graphite, quartz and other materials as well.

PROPERTIES

Silver Epoxy Paste Type I & Type II

System	One-Part
Composition 成分	Silver filled epoxy
Rheology 流变能力	Thixotropic paste
Viscosity 粘性	90,000 cps. ± 5%

Thinner 稀释剂	Butyl carbitol acetate
Cure Temp. 硫化温度	150 °C (minimum)
Electrical Resistivity, nominal 电阻	1×10^{-4} ohm-cm
Thermal Conductivity 导热性	100 BTU/ft ² /hr./°F./in.
Bond Shear Strength 切变强度	1500 PSI
Outgassing 除气作用	0.097% @ 100 °C (1250 hours)
	0.7% @ 125 °C (1000 hours)
	1.2% @ 160 °C (1000 hours)
Temperature Stability Range 温度稳定范围	-65 °C to + 250 °C
Linear Coef. of Therm Expan. 温度膨胀	5×10^{-5} cm/cm/°C
Storage 贮藏	40 °F or below
Shelf Life 保存限期	6 months @ 40 °C

APPLICATION 应用

Follow standard thick film procedures and screen Silver Epoxy Paste onto substrate using 165 or 200 mesh stainless steel screen. Mount parts to be bonded within one half hour and press lightly. Then oven cure at 150 °C followed by at least 1 hour at 200 °C.

3. SILVER-MET (用于非金属材料-银金属涂膜剂)

Silver Metallizations for Non-Metals

Silver-filled, air-drying polymer formulations designed to provide high conductivity metallizations on plastics, paper, mica, ceramic and other non-conductive materials.

SILVER-MET 145

- Brush, dip or spray application

SILVER-MET 170

- Brush, dip or spray application
- High silver density

SILVER-MET 270

- Screen print application

SPECIAL APPLICATIONS 特殊应用:

- Tantalum capacitor terminations
- Shielding against RF/ EMI

SILVER-MET

DESCRIPTION

Transene Silver-Met formulations are silver-filled, air-drying polymers designed to provide high conductivity metallizations on plastics, paper, mica, and other non-conductive surfaces. The silver film allows direct soft-soldering without the use of flux. The film also permits subsequent metallizations through the electroplating process.

Silver-Met is suggested for use in electronics and microwave applications for connectors, contacts, magnetic shielding, capacitor terminations, etc.

The product is most effective for RF /EMI shielding because it reflects as well as absorbs energy. For tantalum capacitors, Silver-Met functions uniquely as terminations for the capacitor.

Properties of Silver-Met 性质

	Type 145	Type 170	Type 270
Application 应用	Dip/ Spray	Dip/ Brush	Screen print
Silver Content 银含量	45%	70%	70%

Viscosity (cps) 粘性	500	45,000	150,000
Thinner 稀释剂	Butyl Acetate	Butyl Acetate	Butyl Carbitol Acetate
Sheet Resistance 薄膜电阻 (milli-ohms/sq/mil)	160	160	160
Service Temperature 工作温度	- 30° to 110° C	- 30° to 110° C	- 30° to 110° C
Drying Time @ 25° C 烘干时间	20 hours	20 hours	N/A
Drying Time @ 80° - 125° C 烘干时间	1 hour	1 hour	1 hour

APPLICATION 应用

SILVER-MET 145 and SILVER-MET 170 may be applied by brush, dip or spray techniques. After application, substances should be allowed to level and air-dry at room temperature for 1/2 hour to 1 hour, then baked at 80° to 100° C for 1 hour to obtain complete drying.

SILVER-MET 270 may be applied by screen printing using standard 180 to 200 mesh screen. After application substrates should be allowed to level for 5 to 10 minutes, then baked at 80° to 125° C for 1 hour to obtain complete drying.

SILVER-MET 170 and 270 provide a metallic base for direct soft-soldering at temperatures up to 190° C. Types 145, 170, and 270 provide a suitable base for further metallization by electroplating.

4. Silver Bond (低温热固性-银粘结剂)

Low Temperature Thermosetting Silver

Epoxy silver compositions for conductive bonding in microelectronic assembly applications

SILVER-BOND - TYPE 40

Standard low-temperature cure, high electrical conductivity

SILVER-BOND - Type 50

Fast low-temperature cure, high electrical conductivity 快速低温, 高导电

SILVER-BOND - TYPE 60

Long pot life, fast cure

FEATURES 特征

- Low temperature curing systems 低温固化
- High bond strength 高粘结度
- Electrical resistivity $< 10^{-4}$ ohm-cm 电阻 $< 10^{-4}$ 欧-厘米
- Low outgassing 低气泡
- Long pot life 长活化期
- Adhesive bonding to glass, metal, ceramic, plastics, graphite, quartz

SILVER-BOND

Conductive Adhesive Description

Silver-Bond is a two component, epoxy based conductive adhesive for quality electrical and mechanical contacts. It provides high bond strength and excellent conductivity as well as low-temperature cure and long pot life. The product is designed for conductive bonding applications in microelectronics in place of lead tin solder or other alloys to avoid flux contamination or exposure to excessive temperature, and for process simplification. Silver-Bond Type 40 is especially recommended for bonding applications where it is desirable to keep process temperatures in the 100 °C range. Silver-Bond Type 50 is modified for faster curing applications. Silver-Bond Type 60 provides extended pot-life with fast cure at slightly elevated temperatures.

PROPERTIES OF SILVER-BOND 性质

	Type 40	Type 50	Type 60
Composition 成分	Silver Filled Epoxy	same	same
Consistency 坚固性	Soft Thixotropic paste	same	same
Viscosity 粘性	90,000 cps $\pm$ 10%	same	same
Elect. resistivity 电阻	1×10^{-4} ohm-cm max.	same	same
Lap shear strength 切变强度	1500 psi nominal	same	same

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Temperature stability range 温度稳定范围	-65 °C to + 200 °C	-65 °C to + 175 °C	-65 °C to + 175 °C
Outgassing (postcure) 除气作用	<.01%/100 hr. @ 125 °C	same	same
Thermal conductivity 导热性	80 BTU/in/ft ² hr/°C	same	same
Pot life 罐装限期	6 hrs at 25 °C	2 hrs @ 25 °C	48 hrs @ 25 °C
Shelf life 保存限期	one year @ 25 °C	same	same
Mixing ratio A:B(by wt.) 混合比	100/3.6	100/2.5	100/2.5
Cure (at 100 °C) 硫化	2 hrs	10 minutes	10 minutes
Thinner 稀释剂	Butyl Cellosolve Acetate	same	same
Mixing ratio (A : B) 混合比	100/3.6	100/2.5	100/2.5
Part A	Part B	Part B	Part B
1 gram 克	0.036 gm (1 drop)	0.024 gm (1 drop)	1 drop
5 grams 克	0.180 gm (6 drops)	0.124 gm (4 drops)	4 drops
1 oz. (28.35gm)	1.023 gms (34 drops)	0.76gm (24 drops)	24 drops
Cure schedule (Time: Temperature Relationship) 硫化进度			
50 °C	----	30 minutes	----
75 °C	2 1/2 hrs.	15 minutes	----
100 °C	2 hrs.	10 minutes	10 minutes
125 °C	1 1/2 hrs.	5 minutes	5 minutes
150 °C	1 hr.	----	2 minutes

中电网 EMD (半导体设备与材料部) 网址: www.chinaemnet.com

联系人: 刘健博 电话: (021)61021225-827 传真: (021)52353710
地址: 上海市普陀区宁夏路 201 号绿地科创大厦 21 楼 B、C 座

E-mail: liujianbo@ChinaECNet.com
邮编: 200063

5. Microcircuit Silvers (用于微电子导焊-微电路银) for Conductive Bonding in Microelectronics

One-part thermosetting silver epoxy systems for conductive bonding in microelectronic assembly operations.

MICROCIRCUIT SILVER - TYPE K

Low temperature, fast cure- automatic dispensing

MICROCIRCUIT SILVER - TYPE L

Low temperature, fast cure - screen print

MICROCIRCUIT SILVER - TYPE N

High bond strength - 100% solids

MICROCIRCUIT SILVER - TYPE O

High electrical conductivity - 100% solids

MICROCIRCUIT SILVERS

Microcircuit Silvers are one-part, thermosetting silver-epoxy compositions designed specifically for conductive bonding in microelectronic assembly operations. Recommended applications include the conductive bonding of integrated circuit chips, capacitors, and other active and passive components. Microcircuit Silvers meet Hi-Rel requirements for low outgassing, bond strength, and electrical conductivity.

Microcircuit Silvers withstand temperatures up to 350 °C, allowing ultrasonic and thermal compression bonding of interconnecting wires. Microcircuit Silvers Types K and L, will fully cure in 15 seconds at 300 °C; thus these silver compositions possess the unique ability to cure during thermal compression bonding operations.

Several modifications of Microcircuit Silvers are offered. Types K and L exhibit low temperatures and fast cures. Types N and O are 100% solid systems which provide high electrical conductivity. Microcircuit Silvers Type K,L,N, and O are designed for screen printing or automatic dispensing applications.

Properties of Microcircuit Silvers 性质

	Type K	Type L	Type N	Type O
Uncured 未硫化				
Per Cent Silver	75	73	70	77
Solids (%)固体	98	98	100	100
Viscosity cps 粘性	60,000	80,000	100,000	125,000
Shelf Life-70 °F 保存限期	> 6 months	> 6 months	6 months	6 months

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Application 应用	Automatic dispense	Screen print/dispense	Screen print/dispense	Screen print
Cured 硫化				
Serv. Temp Range 温度范围	-50 °C to + 175 °C (325 °C intermittent)	same	-60 °C to + 200 °C (325 °C intermittent)	same
Electrical Resistivity 电阻	5 x 10 ⁻⁴	5 x 10 ⁻⁴	2 x 10 ⁻³	6 x 10 ⁻⁴
Linear Coef. Therm Exp. (cm/cm°C) 温度膨胀	5 x 10 ⁻⁵	same	same	same
Thermal Conductivity (BTU hr/ft ² /°F/in.) 导热性	21	20	20	22
Outgassing 除气作用				
1000 hrs @ 100 °C	0.05%	.05%	.09%	.08%
1000 hrs @ 125 °C	0.2%	.2%	.7%	.6%
Bond Shear Strength 切变强度 (psi) after cure	1500	>1500	3500	1500
aged 200 hrs @ 175 °C	>1000	>1000	2750	1000
Cure Schedule 硫化进度	(Select Temp.)			
115 °C	1 1/2 hrs	1 1/2 hrs	----	----
125 °C	1 hr.	1 hr.	----	----
135 °C	30 min	30 min	5 hrs	5 hrs.
150 °C	15 min	15 min	1 1/2 hrs.	1 1/2 hrs.
175 °C	5 min	5 min	30 min	30 min
300 °C	15 sec.	15 sec.	----	----

6. Nanopoxy 60 (纳米环氧树脂)

Electrically Conductive Epoxy for Nanoscale Applications

DESCRIPTION

Nanopoxy 60 is a two component, epoxy-based conductive adhesive for nanoscale electrical contacts. Nanopoxy 60 provides excellent bond strengths, long pot life, low temperature cure, low resistivity, and minimal outgassing. A micron-scale conductive flake is employed to provide good conductivity for nanotubes and other nano materials. Nanopoxy 60 is ideal for SEM environments, offering long pot life and quick cure for ease of handling.

PROPERTIES 性质

Appearance 外观	Silver filled epoxy paste
Viscosity 粘性	80,000 - 100,000 cps
Electrical Resistivity 电阻	1×10^{-3} ohm-cm
Outgassing (postcure) 除气作用	< 0.01%/100 hr @ 25 °C
Thermal Conductivity 导热性	80 BTU-in/ft ² hr/°C
Pot Life 罐装限期	48 hrs @ 25 °C
Shelf Life 保存限期	1 year @ 25 °C
Temp. Stability Range 温度稳定范围	-65 °C to 175 °C
Thinner 稀释剂	Butyl Cellosolve Acetate

MIXING RATIO (A:B) 混合比

by wt. 100:2.5

Part A	Part B
1 gram	1 drop
5 grams	4 drops
1 oz (28.35 grams)	24 drops

CURE SCHEDULE 硫化进度

Temperature	Time
100 °C	10 min.
125 °C	5 min.
150 °C	2 min.

APPLICATIONS 应用

Nanopoxy 60 is designed to facilitate electrical conductivity measurements of nanotubes. With a mean particle size below 3 microns, Nanopoxy 60 is effective at providing electrical contacts even for nanotubes with diameters under 30 nanometers. The epoxy resin system provides excellent adhesion to most nano materials such as carbon or tungsten disulfide nanotubes, nanowires, and other nano device components. Also available as Nanopoxy 50 for faster cure, lower temperature applications.

7. Gold - Epoxy Paste (用于阻焊的热固性-金环氧树脂膏)

THERMOSETTING GOLD FOR OHMIC BONDING

Produces quality electrical and mechanical contacts for semiconductor and hybrid circuits applications.

GOLD-EPOXY PASTE, TYPE GE-10

One-part system, economical

GOLD-EPOXY PASTE, TYPE GE-20

Two-part system, low temperature cure

GOLD EPOXY PASTE, TYPE GE-30

Two-part system, fast cure

GOLD-EPOXY PASTE, TYPE GE-40

Two-part system, fast cure, long pot life

GOLD EPOXY PASTE DESCRIPTION

Gold-Epoxy Pastes are gold-filled conductive bonding preparations exhibiting high electrical conductivity and bond strength.

The Gold Pastes are easily applied by manual techniques, machine dispensing or screen printing and cured with relatively low applied heat in bonding operations. Gold-Epoxy Pastes are used to advantage in place of tin-lead solders to avoid flux contamination or exposure of components to excessive heat. The gold products are used in preference to silver-epoxy or other silver preparations to avoid silver migration problems.

Gold-Epoxy Pastes bond well to alumina ceramic substrates, phenolic circuit boards and transistor headers. They are useful in a variety of applications in solid state and hybrid circuits including:

1. Attachment of discrete semiconductor devices and integrated circuits. Ohmic contacts are produced with diodes and transistors, in all package configurations, if the semiconductor surface is first metallized or the surface is highly "doped" and lapped.
2. Bonding of other active devices, heat sinks and capacitor ships.

Top electrodes for crossovers and interconnections for parallel and multipurpose circuits.

Gold-Epoxy Paste, Type GE-10 is more economical to use since it is a one-part system with waste eliminated in actual use. Types GE-20 and GE-30 are two-part systems and cure more rapidly and at lower temperatures. Type GE-30 is especially recommended for repair of microcircuitry. Type GE-40 is formulated for long pot life and fast cure. It is recommended for screen print applications. All of the Gold-Epoxy Pastes are designed for low outgassing and for continuous use up to 175 °C.

PROPERTIES OF GOLD-EPOXY PASTES 性质

	Gold Epoxy GE-10	Gold Epoxy GE-20	Gold Epoxy GE-30	Gold Epoxy GE-40
Composition 成分	88% Gold	88% Gold	88% Gold	88% Gold
System	One-part epoxy	Two-part epoxy	Two-part epoxy	Two-part epoxy
Viscosity(cps) 粘性	175,000	175,000	175,000	175,000
Rheology 流变能力	Thixotropic paste	Thixotropic paste	Thixotropic paste	Thixotropic paste
Pot Life (25 °C) 罐装限期	6 months	6 hours	2 hours	2 days
Shelf Life 保存限期	6 months	1 year	1 year	1 year
Application 应用	Screen printing or dispensing	Screen printing or dispensing	Dispensing	Screen printing or dispensing
Thinner 稀释剂	Butyl carbitol acetate or butyl cellosolve acetate	Butyl carbitol acetate or butyl cellosolve acetate	Butyl cellosolve acetate	Butyl carbitol acetate or butyl cellosolve acetate
Cure 硫化	15 hours. @ 150 °C, or 1 hr. @ 150 °C plus 2 hrs @ 200 °C	4 hrs @ 50 °C, or 2 1/2 hrs @ 75 °C or 2 hrs @ 100 °C	1/2 hr @ 50 °C or 15 min @ 75 °C or 5 min @ 125 °C.	10 min @ 100 °C or 5 min @ 125 °C or 2 min @ 150 °C
Elec. Resist.(Ohm-cm) 电阻	4×10^{-4}	7×10^{-4}	7×10^{-4}	6×10^{-4}
Bond Shear Str. (psi) 切变强度	1000	1000	1000	1000
Outgassing (postcure) 1000 hrs @ 125 °C 除气作用	0.70%	0.30%	0.35%	0.30%
Serv. Temp Range	-65 ° to + 200 °C	-65 ° to + 175 °C	-65 ° to + 175 °C	-65 ° to + 175 °C
Mixing Ratio (a/b)	-----	(100/1.8)	(100/1.3)	(100/2.7)
		A : B 1.25 gm : 1 drop 10 gm : 7 drops 1 oz. : 22 drops	A : B 2 gm : 1 drop 10gm : 5 drops 1 oz. : 16 drops	A : B 2 gm : 2 drops 10gm : 9 drops 1 oz. : 24 drops

APPLICATION 应用:

Gold-Epoxy Pastes are applied by screening using a 200 mesh stainless steel screen or by other methods of application such as dotting with a needle or by use of automatic dispensing equipment. Parts to be bonded are mounted and pressed lightly, then over-cured under the appropriate conditions of time and temperature.

8. Polyimide Die Attach Adhesives

Low Mobile Ion, Silver-filled Adhesive for IC Chip Bonding

(聚酰亚胺膜粘结剂-用于集成电路芯片焊的填充粘合剂)

DESCRIPTION

One-component, silver-filled TRANSENE POLYIMIDE DIE ATTACH ADHESIVES are heat-cured to provide unparalleled high temperature performance (to 500 °C) and excellent electrical conductivity ($< 1 \times 10^{-4}$ ohm-cm). These ultra-pure polyimide-based adhesives exhibit extremely low levels of extractable ionic impurities (Cl, Na, K) less than 10 ppm.

TRANSENE POLYIMIDE DIE ATTACH ADHESIVES maintain high electrical conductivity, high thermal conductivity and outstanding adhesive strengths to 500 °C (375 °C) for 200 hrs. Under severe moisture conditions, the polyimide based adhesives exhibit less corrosivity than epoxies. These polyimide die attach adhesives are fluoride and phosphate free, allowing compatibility with aluminum metallization.

	METHOD 方法	% SILVER 银	VISCOSITY 粘性
TRANSENE PDA S-500	SCREEN/STAMP	72	90,000 ± 10%
TRANSENE PDA D-500	DOT DISPENSER	68	60,000 ± 10%

PROPERTIES 性质

Consistency 坚固性	Soft smooth paste
Filler 装填物	Pure silver flake
Resin type 树脂类型	Polyimide
Thermal Conductivity 导热性	90 BTU/ft ² /hr/°F/in
Volume resistivity: 体积电阻率 -35 °C to + 400 °C 300 hrs. @ 370 °C	1×10^{-4} ohm-cm 1×10^{-4} ohm-cm
Bond Shear Strength 切变强度	ñ 2,000 psi @ 25-150 °C, ñ 1,500 psi @ 300 °C
Ionic Impurities 离子杂质	Cl á 10 ppm, Na á 5 ppm, K á 5 ppm
Operating Temperature 工作温度	Continuous: -45 to + 375 °C Intermittent: 500 °C

Non-Corrosive 非腐蚀性	No fluorides or phosphates
Cure 硫化	150 °C for 15 min. PLUS 270 °C for 30 minutes
Shelf Life 保存限期	25 °C -2 months, 0 °C - 6 months

APPLICATION 应用:

TRANSENE POLYIMIDE DIE ATTACH ADHESIVES applications include: IC chip bonding on plastic and ceramic substrates, DIP memory chips and other electronic and aerospace assemblies requiring high temperature capability. Adhesive strengths (@ 300 °C) of greater than 1500 PSI are typically achieved. Subsequent processing temperatures to 500 °C (ceramic package sealing and brazing operations) will cause no adverse effects to die attach performance. Apply PDA adhesive by screen/stamp or "dot" technique. Place die, chip or component in place and commence two-step cure. Initial cure temperature will dissipate solvent, the higher temperature will imidize the resin system.

9. Surface Mount Adhesives (表面贴装粘合剂)

Low cost, high density packaging of integrated circuits, lead-less chip carriers, and chip component attachment for ceramic substrates and PC Boards

(用于陶瓷衬底和印刷电路的集成电路\无铅芯片载体\芯片元件附件低成本,高密度封装)

TRANSENE SMA EPOXY ADHESIVES are formulated specifically for precision mounting of flat pack semiconductor devices, chip capacitors and resistors in the production of complex hybrid circuits. Preliminary physical attachment (staking) prior to wave soldering leaded devices or the direct mounting of discrete components and microwave devices (dual-in-line pack) is feasible for both electrically conductive and non-conductive attachment.

TRANSENE SMA EPOXY ADHESIVES include 1 and 2 part systems, color coded as required, supplied in customized packages to interface application techniques for auto-dispensing or screen printing. The various formulations offer non-corrosive systems with good handling characteristics: thixotropy resistant to trailing/stringing and adequate body to fill gaps and crevices. Quick cure, good adhesion, ability to withstand mechanical and thermal stress, wave soldering temperatures and clean-up solvents provide for wide application.

Color customizing available

PROPERTIES OF SURFACE MOUNT ADHESIVES 性质

	SMA-100	SMA-200	SMA-300	SMA-400	SMA-500	SMA-600	SMA-700
Feature 特征	High Thermal Conductivity	Low Moisture absorption	Staking Compound-Quick Cure	High Thermal Low Temp Cure	Standard	Low Temp Cure	Long Pot Life
Application 应用	Auto-Dispensing	Auto-Dispensing	Dispense	Auto-Dispense	AutoDispense-Screen Print	Auto Dispense	Auto Dispense Screen Print
Composition 成分	1 part/filled	1 part/filled	2 part/unfilled	2 part/filled	1 part	2 part	2 part
Color 颜色	Red	Green	Amber	Black	Smooth silver paste	Smooth silver paste	Smooth silver paste
Viscosity 粘性	100,000 cps	90,000 cps	20,000 cps	70,000 cps	80,000 cps	90,000 cps	90,000 cps
Shelf-Life @ 25 °C 保存限期	6 months	6 months	6 months	6 months	6 months	12 months	12 months
Thermal Cond. BTU/hr/ft ² /in/°F 导热性	12	4	--	10	75	80	80
模 量	23	30	--	20	50	60	60

美国仟思公司 Transene CO INC 网址: www.transene.com

美国仟思(Transene)公司制造半导体工业和电子工业的高纯度化学品

exp(in/in/°C×10 ⁻⁶) 温度膨胀							
Lap shear 切变强度	1500 psi	2000 psi	2000 psi	2000 psi	1500 psi	1500 psi	1500 psi
Moisture Absorption	0.14%	0.05%	--	0.17%	--	--	--
(7 day imm.@ 25 °C							
Vol resistivity(ohm/cm)	1 x 10 ⁻¹⁶	1 x 10 ⁻¹⁵	1 x 10 ⁻¹⁵	1 x 10 ⁻¹⁵	1 x 10 ⁻⁴	1 x 10 ⁻⁴	1 x 10 ⁻⁴
Dielectric strength v/mil 绝缘强度	500	450	400	450	---	---	---
Mix Ratio	---	---	1:1	100:7	---	100:3.6	100:2.5
CURE 硫化	115 °C-30min	115 °C-30 min	25 °C-1hr	50 °C-20 min	125 °C-1hr	50 °C-30 min	100 °C-10 min
	135 °C-1 min	135 °C-15min	----	75 °C-10min	150 °C-5min	75 °C-15min	125 °C-5min
Pot Life	---	---	10 min	3 hrs	---	2 hrs	40 hrs

中电网 EMD (半导体设备与材料部) 网址: www.chinaemnet.com

联系人: 刘健博 电话: (021)61021225-827 传真: (021)52353710
地址: 上海市普陀区宁夏路 201 号绿地科创大厦 21 楼 B、C 座

E-mail: liujianbo@ChinaECNet.com
邮编: 200063

10.CONDUCTIVE VIA FILL CVF-6030 导电孔道填充粘结剂

DESCRIPTION:

Conductive Via Fill CVF-6030 is a two-part filled epoxy system designed to provide electrical and thermal conductivity in PWB and PBGA applications. Applied via stencil, CVF-6030 is an effective, economical fill for vias. When planarized, CVF-6030 is receptive to plating and soldering. Because the via fill exhibits no shrinkage, electrical and thermal conductivity are retained during curing. Vias up to 0.75 mm diameter may be filled with excellent results. The long pot life of CVF-6030 enhances clean-up while its fast cure reduces processing time. Because CVF-6030 is a two-part system, material may be left at room temperature for extended periods, further enhancing processing.

APPLICATION 应用:

ITO films are best prepared by first depositing a film of indium-tin. The indium-tin film is then oxidized in an oxygen plasma or at elevated temperatures in an oxygenating atmosphere. When etched, indium is solublized as a trivalent aquocomplex $[\text{In}(\text{H}_2\text{O})_6]^{3+}$ while tin forms a $[\text{SnCl}_6]^{2-}$ anion.

PROPERTIES 性质:

System	Two-Part
Composition 成分	Silver filled epoxy
Viscosity 粘性	110,000-140,000 cps
Thinner 稀释剂	CVF-6030 Thinner
Electrical Resistivity 电阻	nominal 3×10^{-4} ohm-cm
Shelf Life 保存限期	>100 BTU / ft ² / hr. / °F. / in.
Outgassing 除气作用	< 0.01% / 100 hours @ 125 °C/hr.
Stencil Type	3-4 stainless steel
Aspect Ratio (depth:diameter)	6:1
Clean-up Solvent	Iso-propyl alcohol; acetone
Temperature Stability Range	-65 °C to + 175 °C
Storage	Room Temperature
Shelf Life	1 year @ 25 °C

Pot Life Mixing Ratio	48 hours @ 25 °C
Mixing Ratio	4 drops (0.124 grams) Part B per 10 grams Part A
Cure Schedule	100 °C for 30 minutes <i>Or</i> 125 °C for 20 minutes <i>Or</i> 150 °C for 15 minutes

INSTRUCTIONS:

CVF-6030 may be applied via stencil to drilled, plated through holes and is then cured as instructed. The stencil heads of the cured via fill may be removed by planarization to yield a smooth, uniform surface. It is then possible to electroplate prior to printing and etching or proceed directly to the print and etch process.

Special Thinner included

11.RADIATION CURABLE MATERIALS (防辐射粘合剂)

TUV-100 Adhesive and TUV-200 Conformal Coating are solvent-free, single component liquids which cure to hard solids when exposed to ultraviolet (UV) radiation. TUV-100 is a high T_g adhesive with fast cure and excellent adhesion to a wide range of materials. Curable up to 20 mil thick, TUV-100 tolerates wave soldering without degradation. TUV-100 is ideal when a secondary heat cure is desired.

TUV-200 is a hard, transparent coating with excellent environmental properties, resistant to thermal and electrical shock as well as impact. TUV-200 is wave solderable and responds to UV light over a range of wavelengths.

PROPERTIES:

	TUV-100	TUV-200
Viscosity	14,800 cp @ 25°C	7,200 cp @ 25°C 550 cp @ 60°C
Tensile Strength (psi)	1620	3640
Elongation (%)	0.7	6
Tg (°C)	303	260
Durometer, Shore D	85	78
Water Immersion	No effect	60 min @ 25°C
Cure Thickness	To 20 mil	To 20 mil
Cure Time	< 1 to 20 seconds	< 1 to 30 seconds
Wavelength response (nm)	240-250, 320-335, 360-365, 405	240-250, 320-335, 360-365, 405
Secondary Heat Cure	30 min @ 110°C	----
Heat Stability	Wave Solderable Stable 1 hr @ 100°C	Wave Solderable Stable 1 hr @ 100°C
Performance	Hard, clear, hybrid cure	Thermal, electrical, impact resistant

APPLICATION:

TUV-100 may be applied via syringe and cured in 1-20 seconds depending on lamp intensity. High viscosity allows for delay between application and cure. Secondary cure may be effected by heating at 110°C for 30 minutes.

TUV-200 may be applied by syringe or flood coating, particularly when warmed to 50-60°C. Cure requires 1-30 seconds depending on thickness and lamp intensity.

TRANSENE CUSTOMERS(TRANSENE 公司客户)

- GOVERNMENT(政府) < 5%
 - NIST, NREL , SANDIA, OAK RIDGE, LNL
- ACADEMIC(学院) < 5%
 - MIT (美国)麻省理工学院, HARVARD 美国哈佛大学,
 - UniVersity of California, Berkeley,美国加利福尼亚-伯克利大学
 - Simon Fraser University(Canada)
 - California Institute of Technology 加利福尼亚理工学院
- INDUSTRIAL (工业) > 90%
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 - Osram Opto Semiconductor 欧斯朗光电子半导体, Unipac in Taiwan 台湾联友光电股份有限公司

TRANSENE PRODUCTS(TRANSENE 公司产品)

- 一.Cathode Coatings(阴极涂层剂)
- 二.Conformal Coatings for Electronic Packaging (用于电子封装的保形涂料/涂层)
- 三.Electroplating chemical (电镀化学品)
 - Electroplating chemical Cleaners(电镀化学清洗剂)
 - Electroplating chemical—Electroless(电镀化学品-无电镀,化学镀,非电解镀)
 - Electroplating chemical—Electrolytic(电镀化学品-电解液)
- 四.Encapsulants for Electronic Packaging(电子封装密封剂)
 - Epoxies for Potting(用于封装的环氧树脂)
 - High Purity Passivation Materials (高纯度钝化材料)
 - Resistor Coatings(电阻涂料)
 - Flip Chip Underfill(倒装晶片底层填料)
 - Silicone for Potting and Encapsulation(用于封装和包封的硅酮)
- 五.Epoxy Adhesives(环氧粘合剂)
 - Insulative Epoxy Adhesives(绝缘环氧树脂粘合剂)
 - Conductive Adhesives(环氧树脂粘合剂)
- 六.Semiconductor and Thin Film Etchants for Microelectronic Circuits
用于微电子电路的半导体和薄膜蚀刻剂
- 七.SILICON NITRIDE ETCHING APPARATUS(氮化硅蚀刻仪器)
- 八.Photoresist Materials(光刻胶,其他译名:光致抗蚀剂\感光性树脂\光阻材料)
- 九.Printed Circuit Board Manufacturing Chemicals(印刷电路板制造化学品)
- 十.Semiconductor Materials(半导体材料)
 - Cleaning and Polishing(清洗剂和抛光剂)
 - Diffusants (扩散剂)
 - Heat Sinks and Vacuum Oil (吸热油脂和真空油)
 - Junction Coatings(结合涂料)