



Electronic Market

Electronic Market

- 
- EMS (Electronic Manufacturing Services)
 - Mobile devices
 - Display
 - Battery, relays, connectors, DVD, ...
 - Micro-electronic
 - Smart Card



E.M.S.

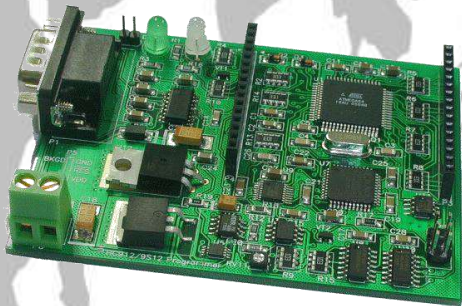
Electronic Manufacturing Services

EMS

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Main actors of the market :

- Hon Hai Precision (Foxcon)
- Flextronics
- Sanmina
- Solectron
- Jabil
- Celestica
- ...



Main Activity : PCB Assembly

EMS

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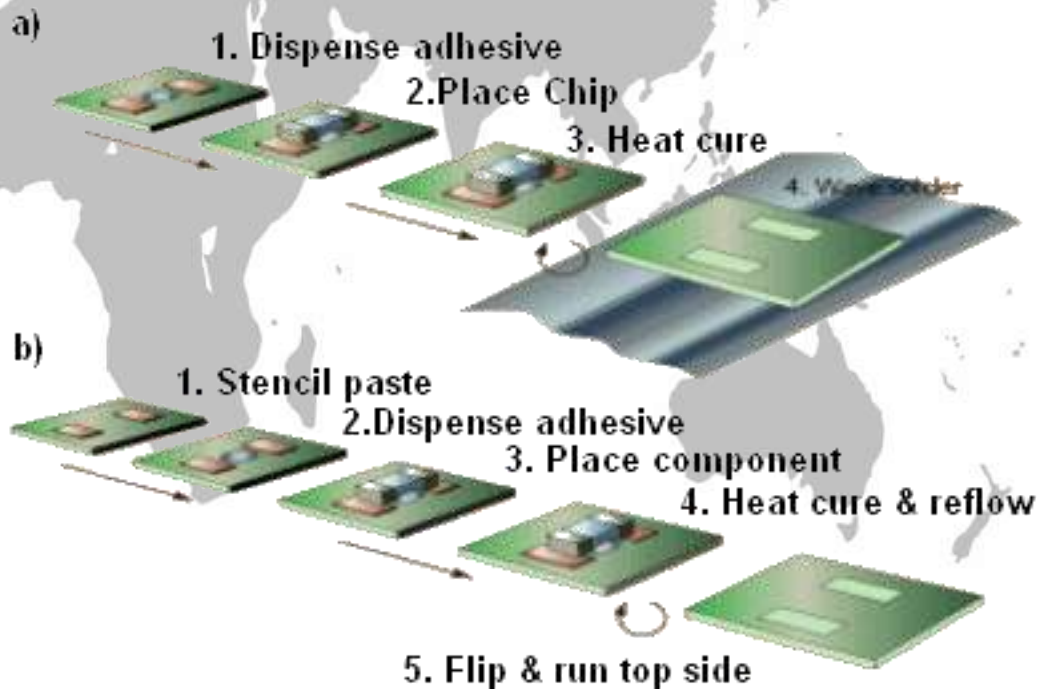
Applications :

- SMT Adhesive
- Underfill
- Electroconductive Adhesives
- Heat conductive Adhesives
- Encapsulant
- Others ...

EMS

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SMT (Surface Mount Technology)



Process of fixing components, e.g. resistors, condensers, on printed circuit board (PCB)

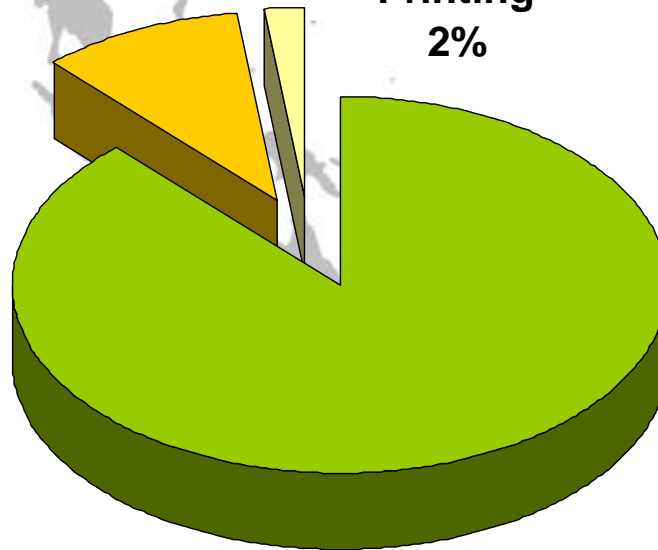
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SMT (Surface Mount Technology)

Pin
Transfer
10%

Screen
Printing
2%



Syringe
Dispensing
88%

EMS

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SMT (Surface Mount Technology)

ThreeBond 2217H

- Good fixing shape
- Stable under working environment
- **Low temperature, fast cure**
- Suitable for high speed dispenser
- Nice Color
- Good Adhesion



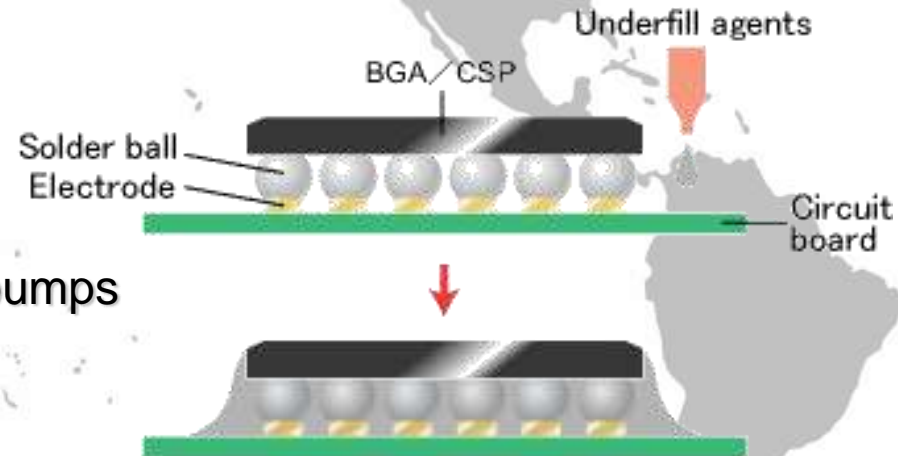
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Underfill

Why underfill ?

- Reduces overall thermal stress
 - Area of die versus area of bumps
- Reduces onset of crack initiation
 - Bump/substrate interface
- Keeps bump in hydrostatic compression
 - At temperature, creep stress of solder exceeded
 - Nowhere for solder to go



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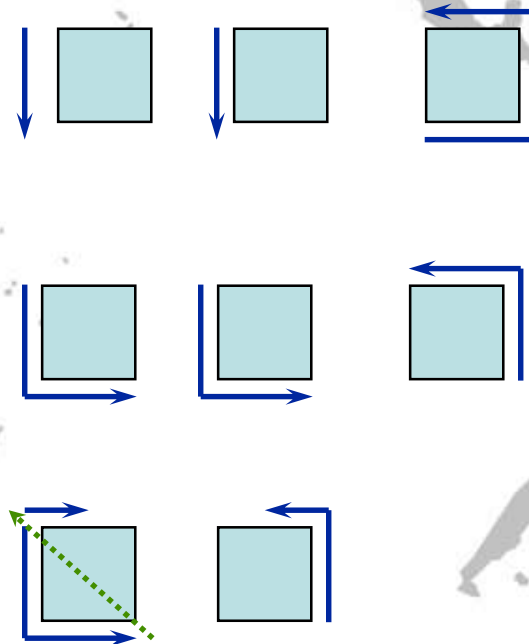
Underfill

Dispensing Methods

Straight line (s)

Single or double L pass

Modified U



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Underfill



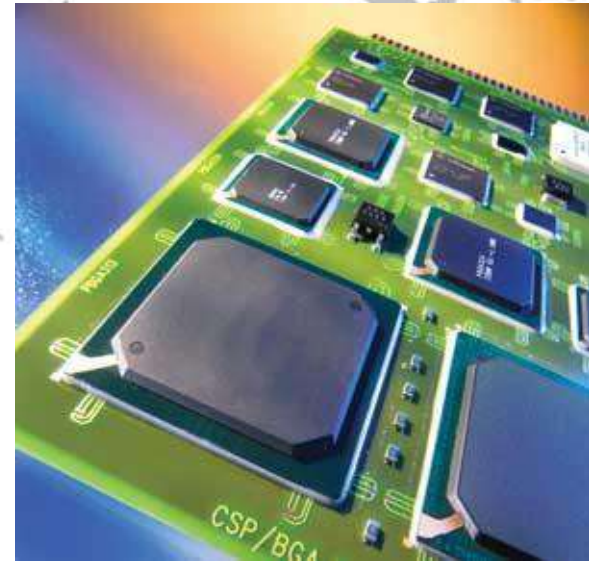
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Underfill

ThreeBond Underfill Agent

- Permanent Cure Type
 - TB22F036B
 - TB22F036
 - TB2202 / 22F034
 - TB2206C
- Reworkable Type
 - TB2274
 - TB2274B
 - TB2274C



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Electroconductive Adhesives

- One-Component Heat-Setting Adhesive Silver base
- Thermocompressive-Bonding Anisometric Conductive Adhesive Underfill
- Two-Component Room-Temperature-Curing Adhesive
- Paste for Screen Printing
- Nonmigration Paste for Screen Printing
- Coating Material

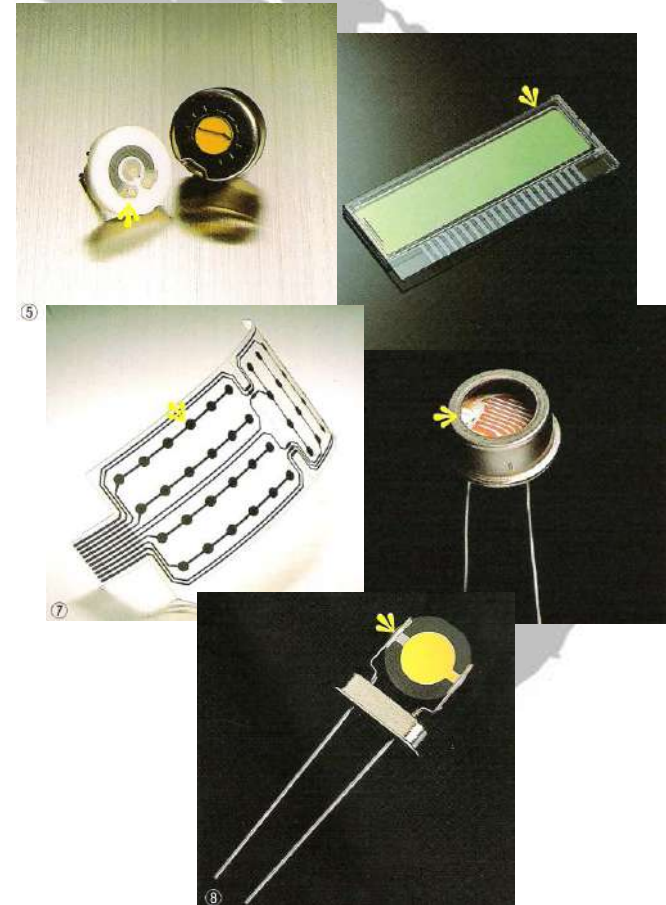
EMS

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Electroconductive Adhesives

Uses :

- Bonding electronic parts
- Spot and plane bonding
- Preventing static electricity and electrification
- Bonding conductive plastic material
- Quartz fixing
- Repairing electric circuits
- Flip Chip Bonding (Bare chip bonding)



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Heat conductive adhesives



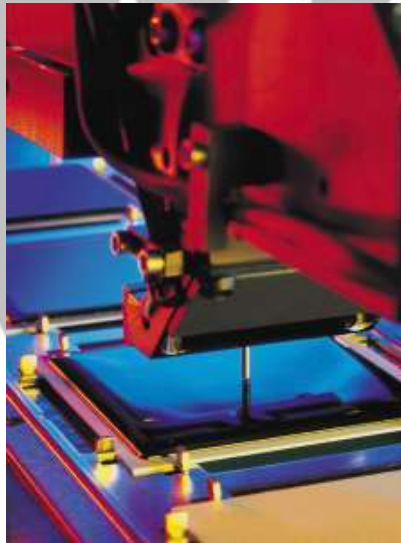
Uses :

- Insulation and heat dissipation for power-switching units
- Insulation and heat dissipation for power ICs
- Heat dissipation from computer CPUs
- Insulation and heat dissipation for inverters for lights
- Thermal conductance and insulation of heaters
- Insulation and heat dissipation for electronic parts
- Substitution for radiative silicone grease

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Encapsulants



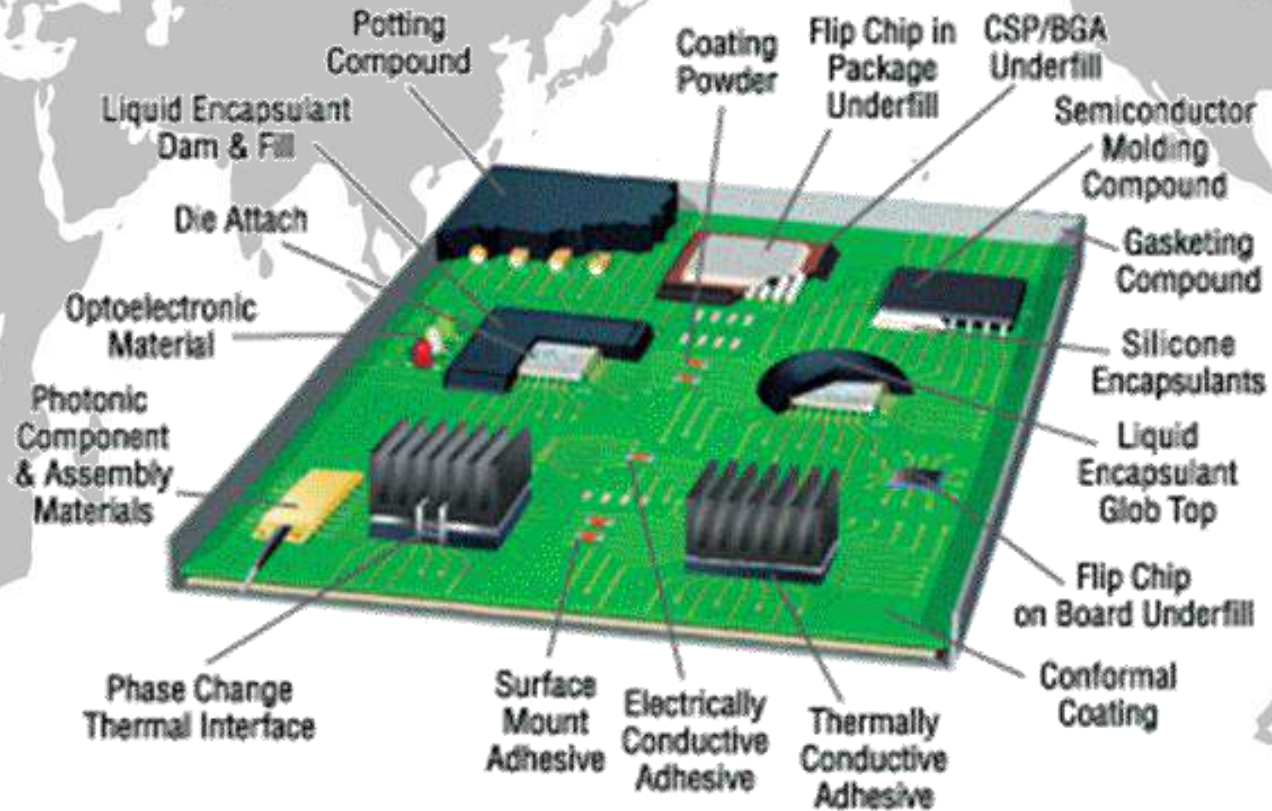
Why use an encapsulation ?

- To prevent from thermal stress
- To prevent from mechanical stress
- To prevent from chemical attack

EMS

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Summary



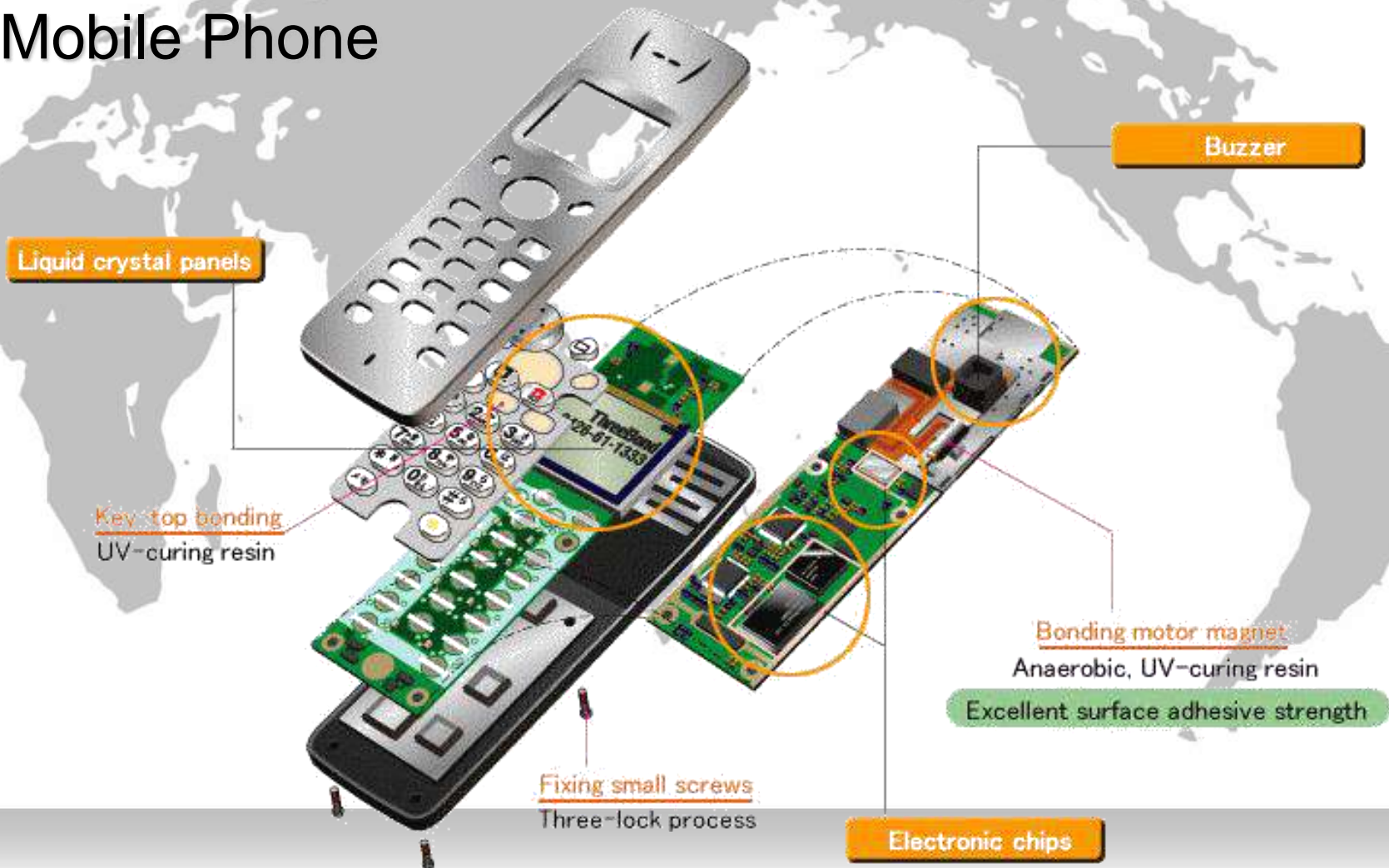


Mobile Devices

Mobile Devices

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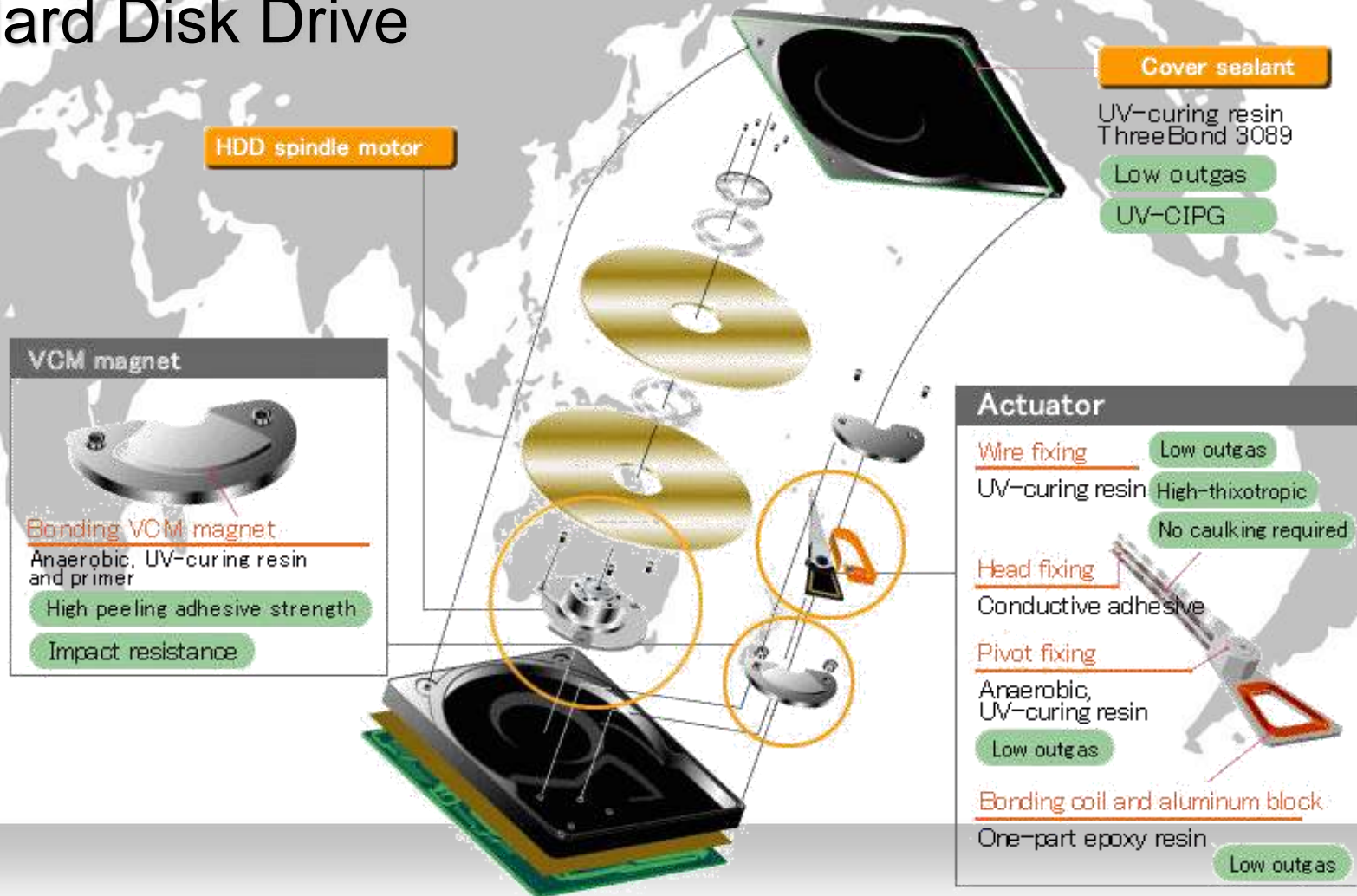
Mobile Phone



Mobile Devices

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Hard Disk Drive



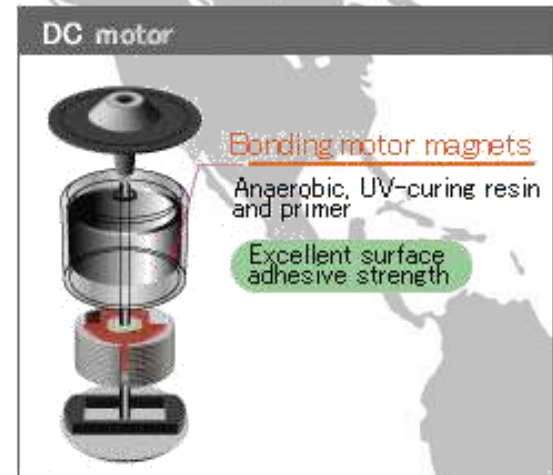
Mobile Devices

(3/5)

Optical Pick Up



Center position of the pickup



Around lens

Bonded DVD
UV-curing resin

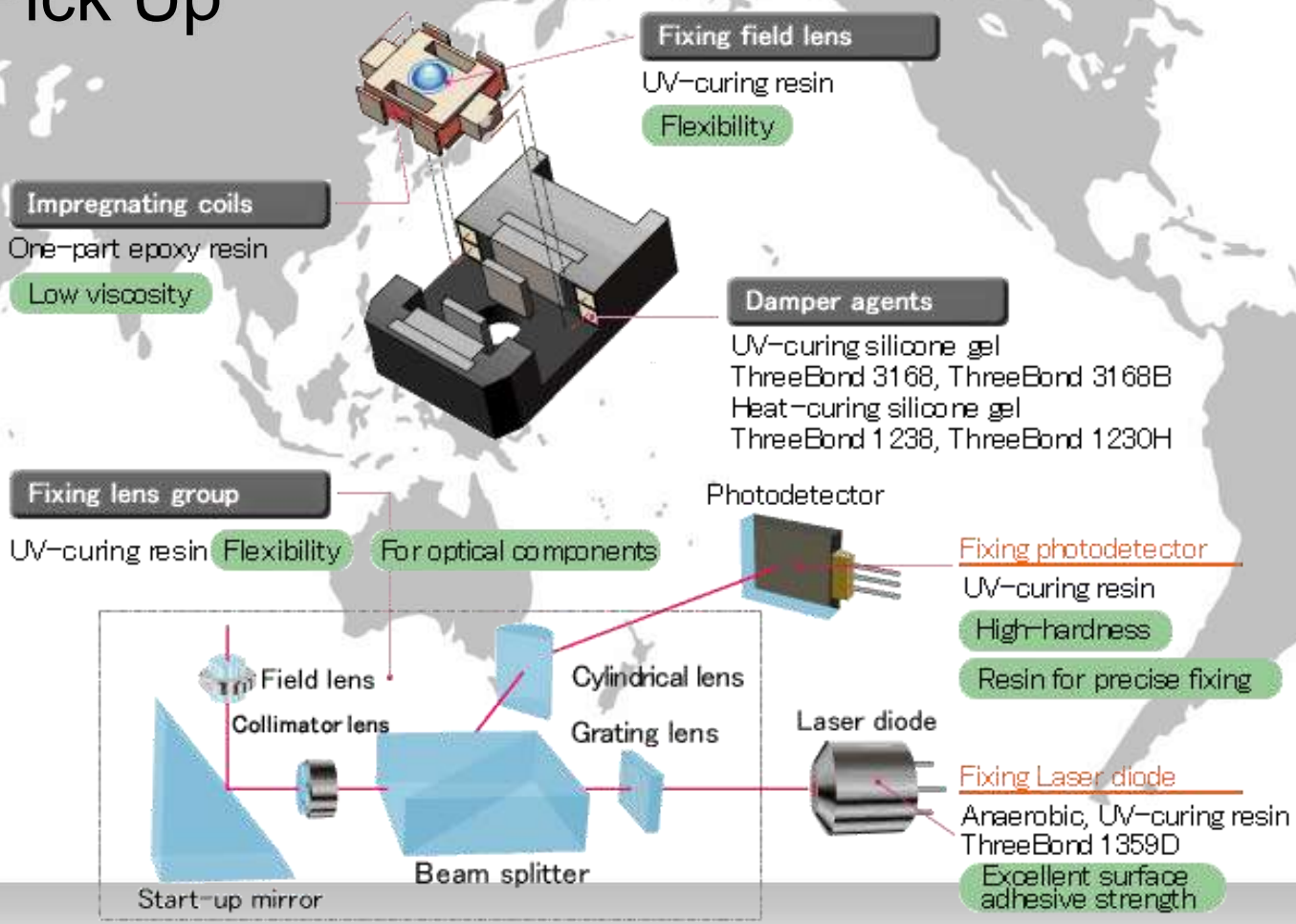


Mobile Devices

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Optical Pick Up

Around the lens

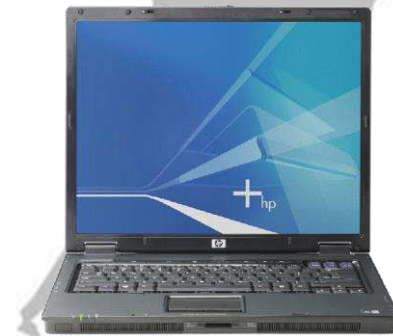


Mobile Devices

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Others :

- MP3 Player
- Lap Top
- Digital Camera
- ...



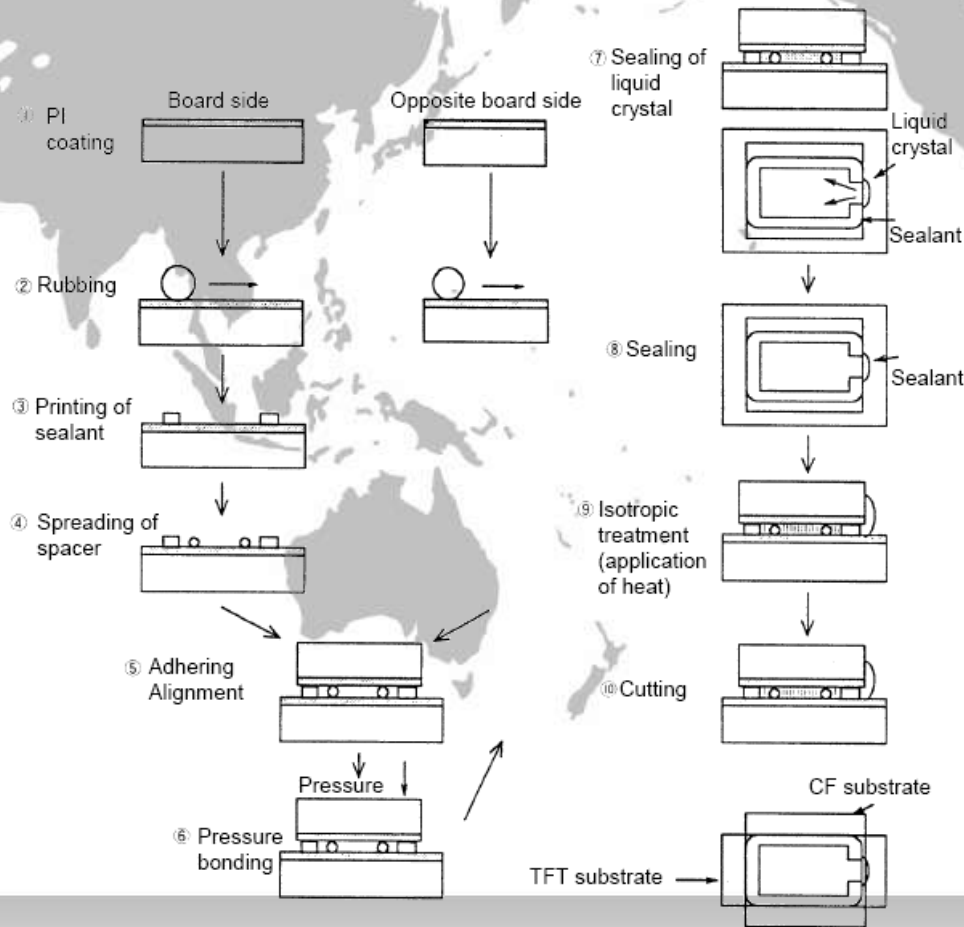


Display Devices

Display Devices

(1/4)

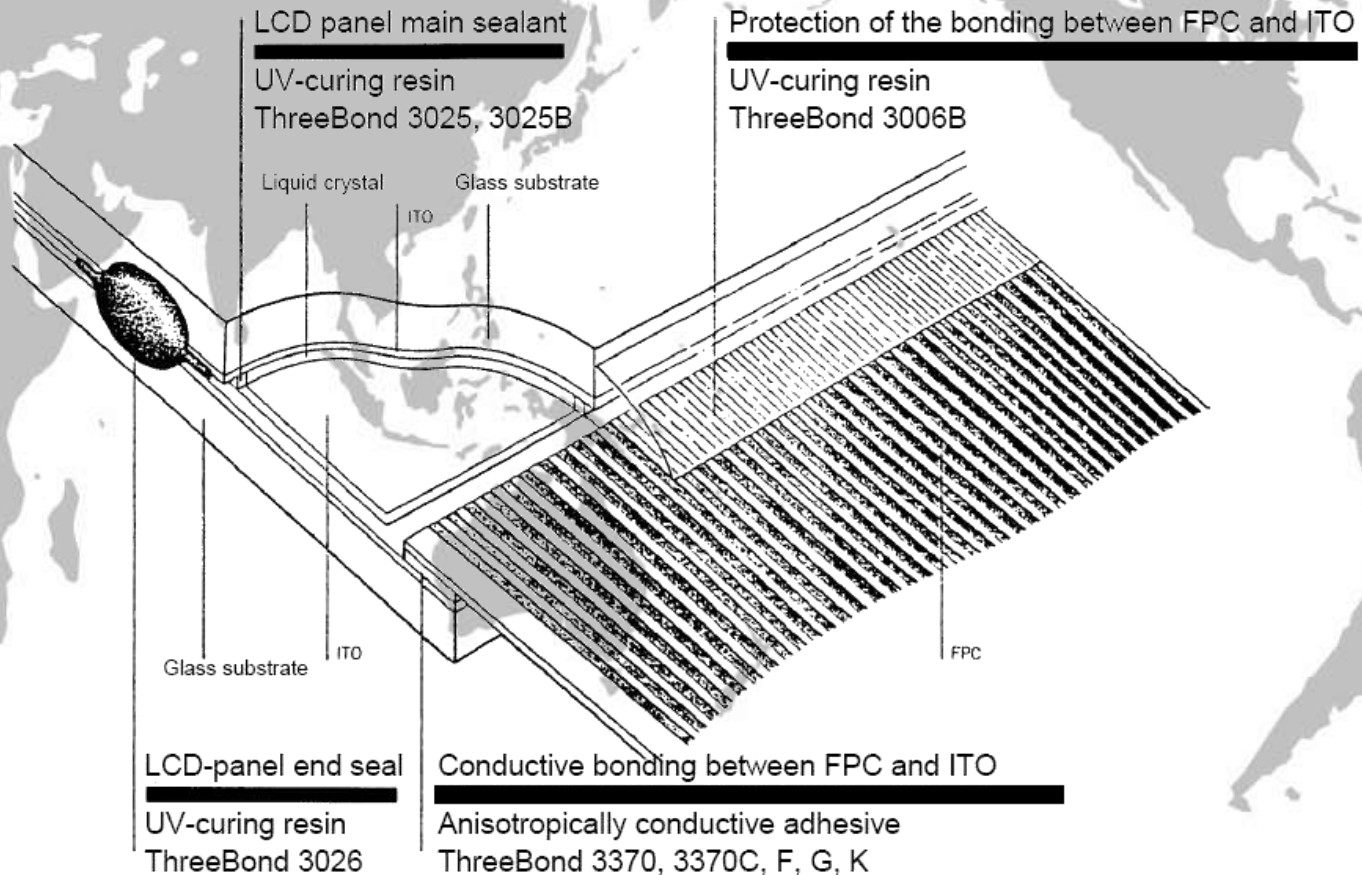
LCD



Display Devices

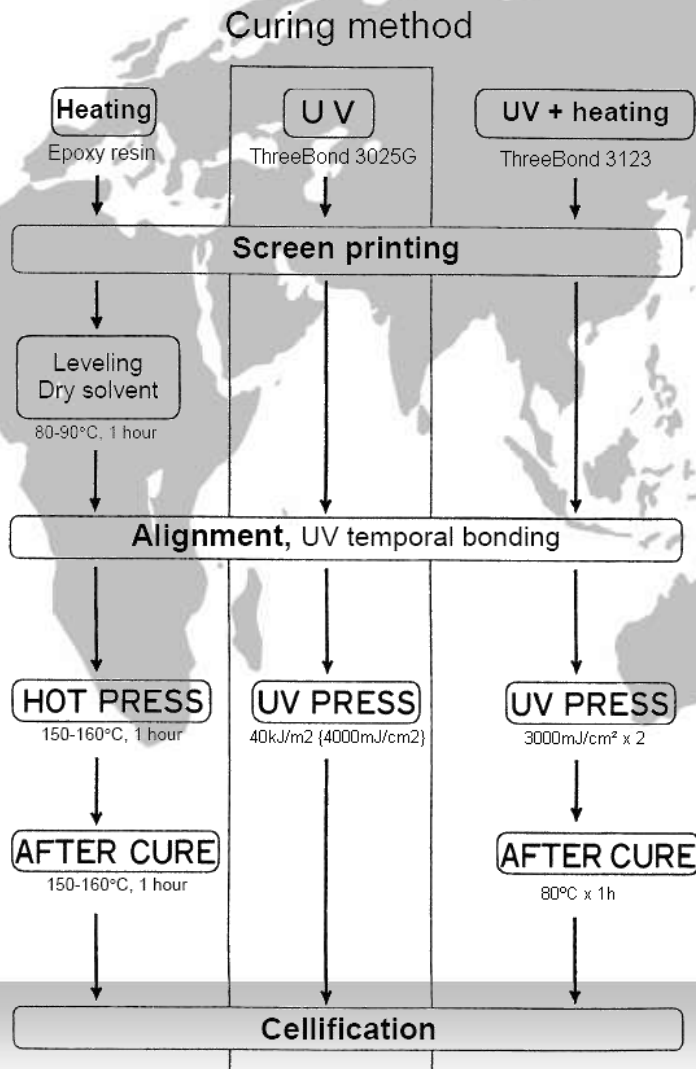
(2/4)

LCD



Display Devices

(3/4)



Main Seal

In function of our customer's process, we can provide different kind of solution.

Our products offer :

- Screen Printing performance
- Fast curing
- Dimensional stability
- High purity
- Moisture permeability

Display Devices

(4/4)

We can propose also product for other kind of display :

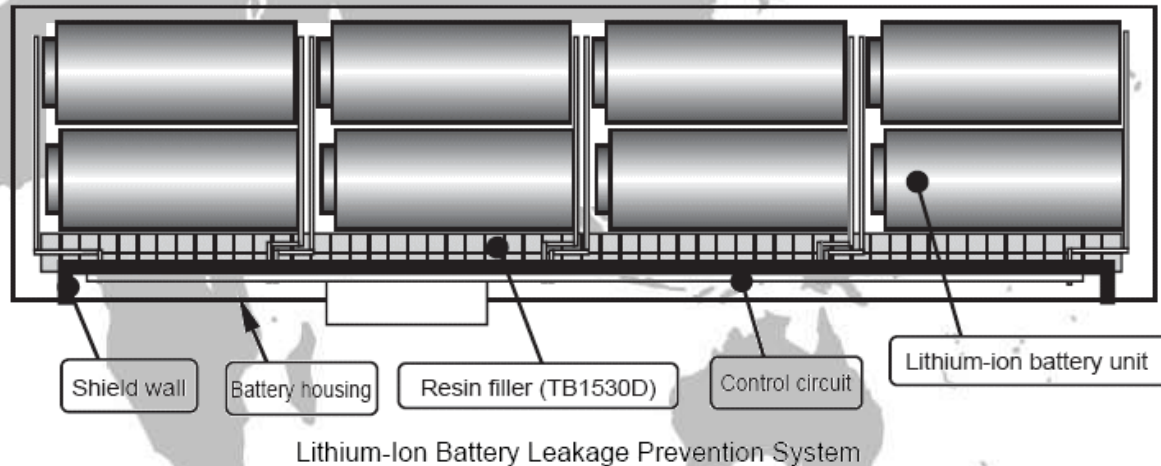
- OLED (Sealing, ACP, ...)
- CRT (Bonding different parts)



Battery, relays, connectors, DVD ...

Battery, relays, connectors, DVD ... (1/5)

Battery



Main actors :

- Duracell
- Varta
- Panasonic
- Energizer
- ...

We can also provide solution for Alkaline battery (Sealing, Nylon coating, ...)

Battery, relays, connectors, DVD ... (2/5)

Connectors

Many applications :

- Sealing
- Bonding
- Potting
- Gasketing

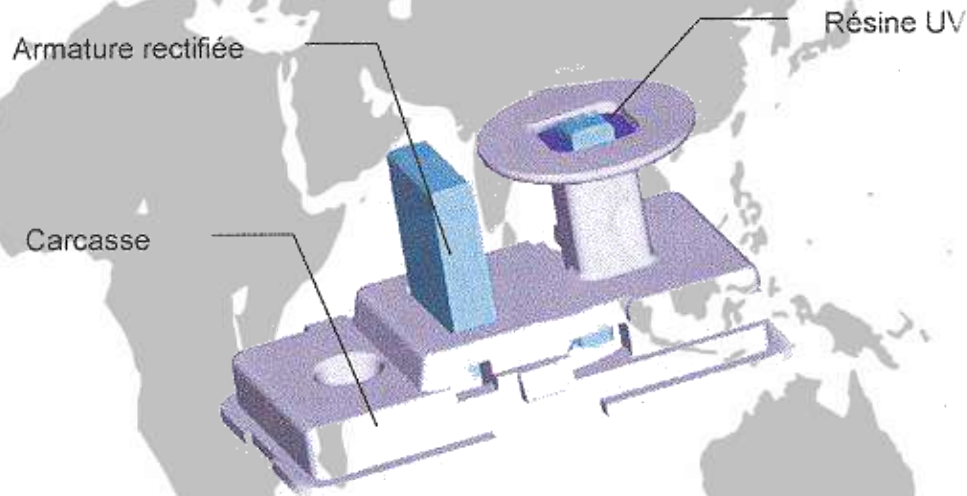
Many actors :

- Molex
- FCI connectors
- Tyco Electronics
- ...



Battery, relays, connectors, DVD ... (3/5)

Relays



Applications :

- Bonding
- Sealing
- Potting

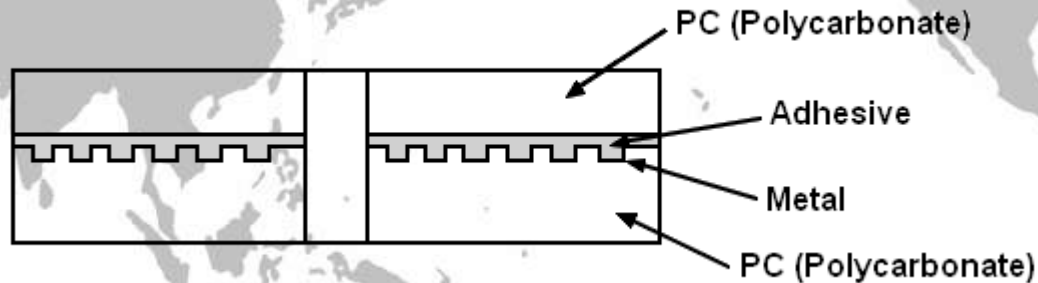
Main Actors :

- Legrand
- Hager
- ...



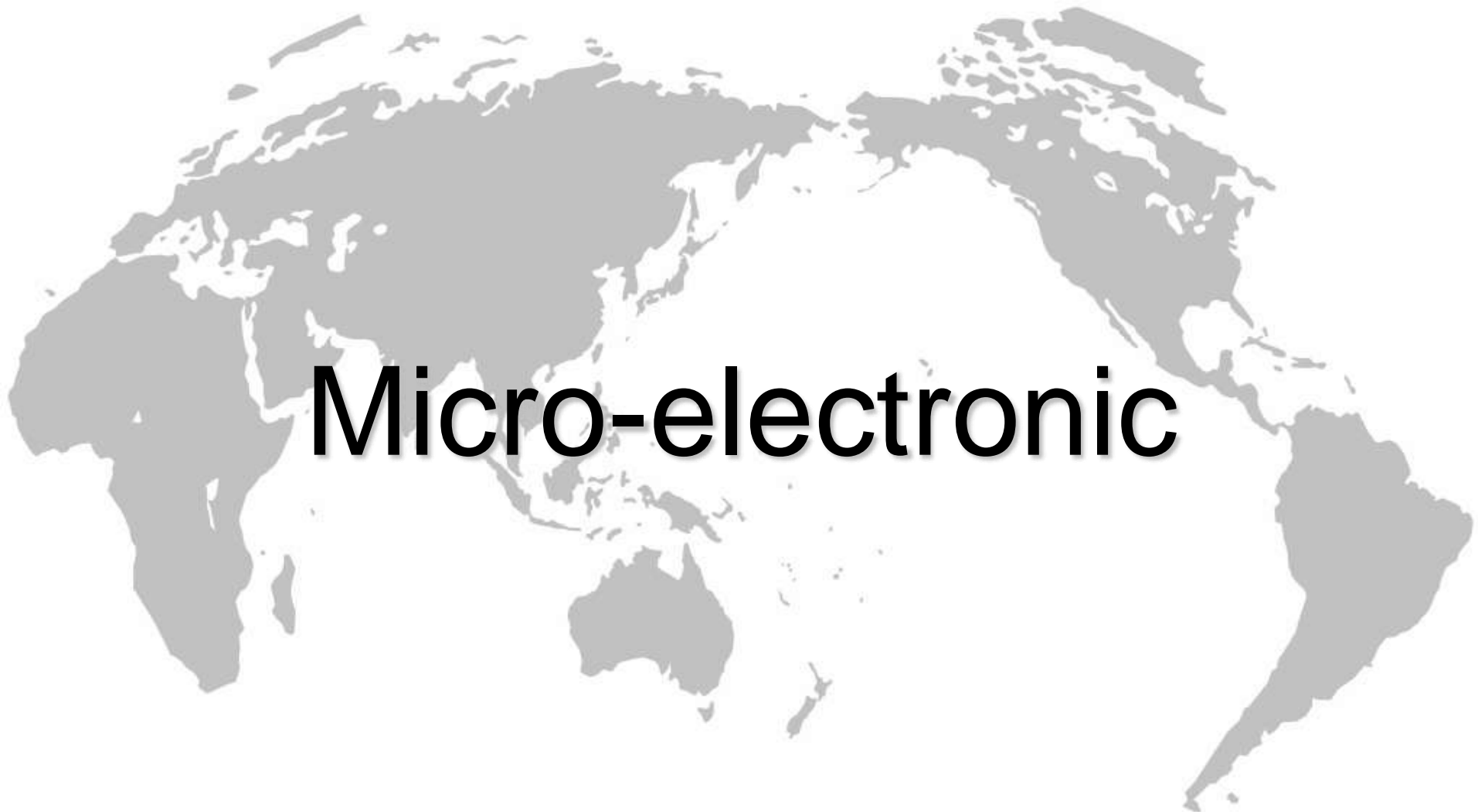
Battery, relays, connectors, DVD ... (4/5)

DVD



Application : Bonding of the layers

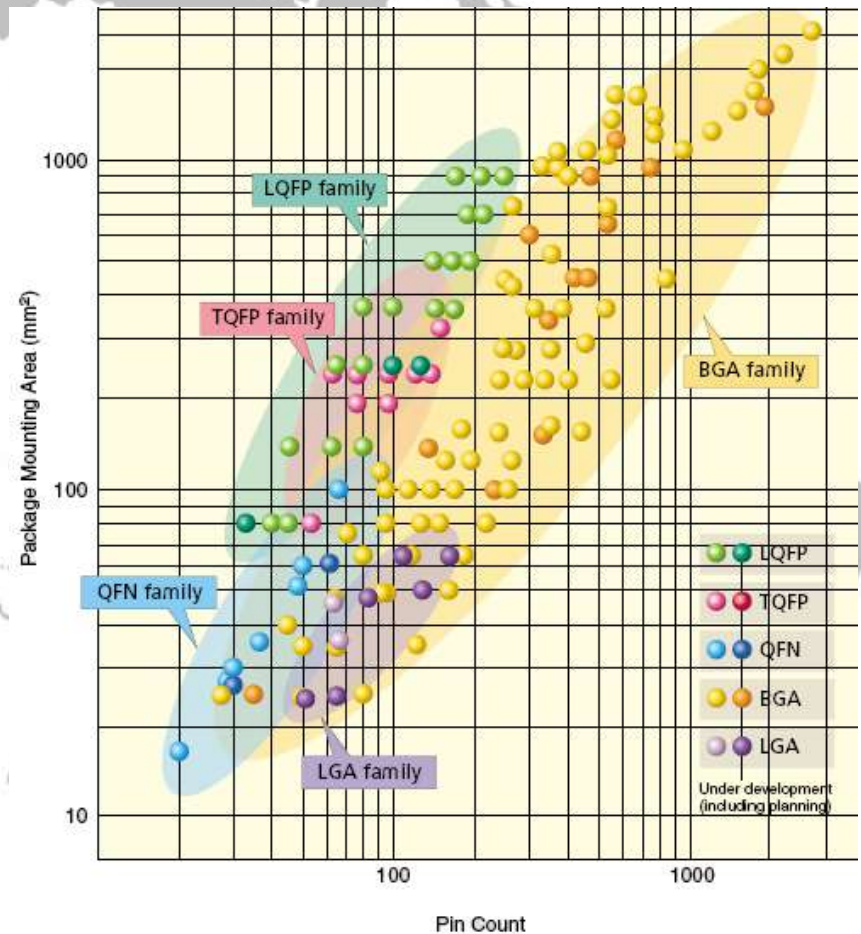
Same kind of application on CD



Micro-electronic

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Main applications for ThreeBond products in Micro-electronic is semiconductor packaging.

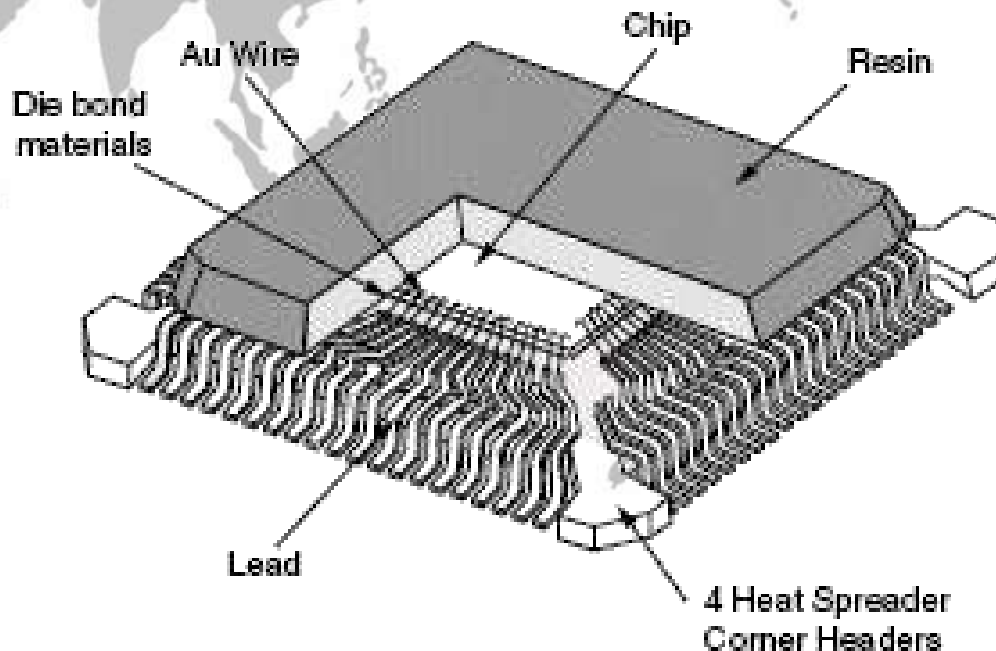


Micro-electronic

(2/7)

Exemples of Packaging :

HQFP (Quad Flat Package)

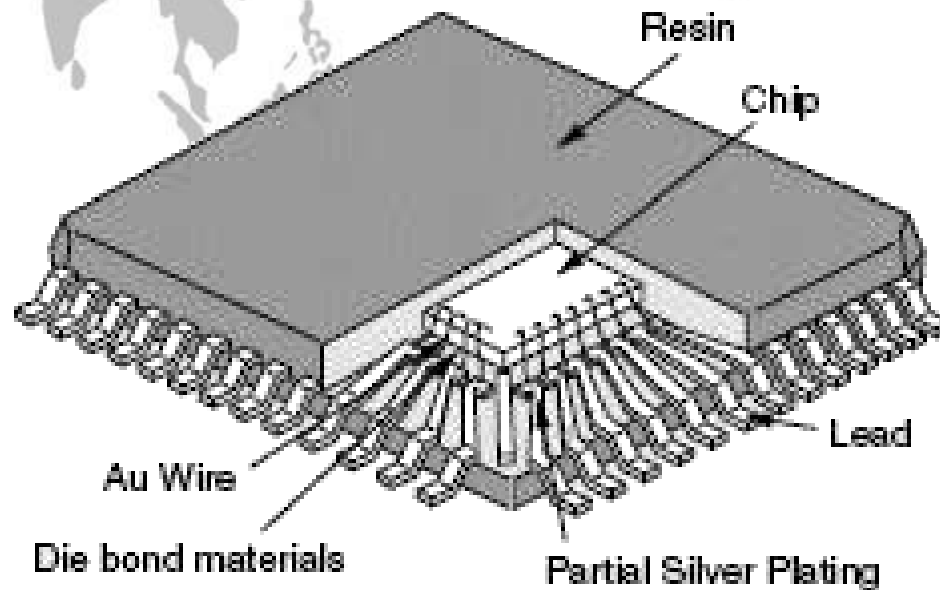


Micro-electronic

(3/7)

Exemples of Packaging :

LQFP (Low profile Quad Flat Package)

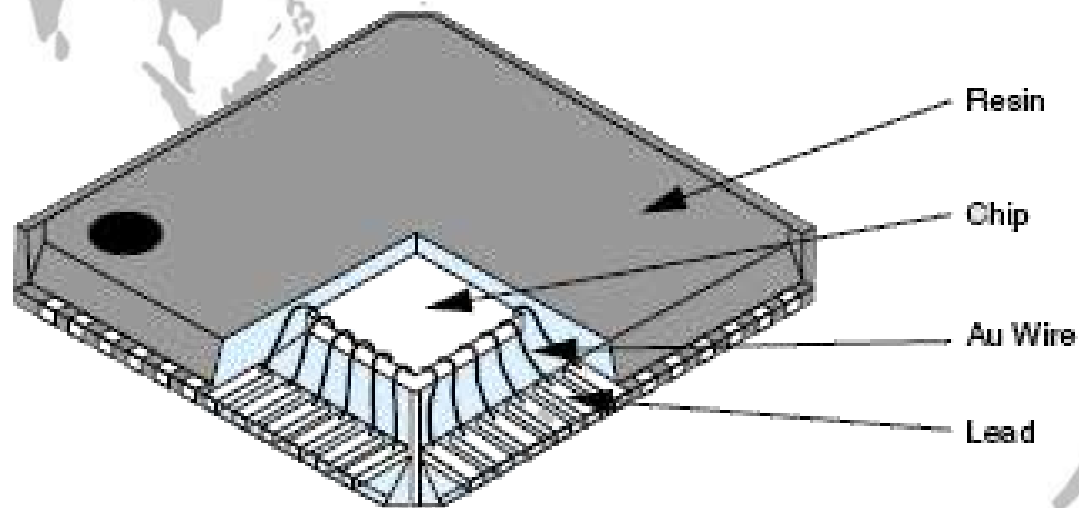


Micro-electronic

(4/7)

Exemples of Packaging :

QFN (Quad Flat Non-Lead Package)

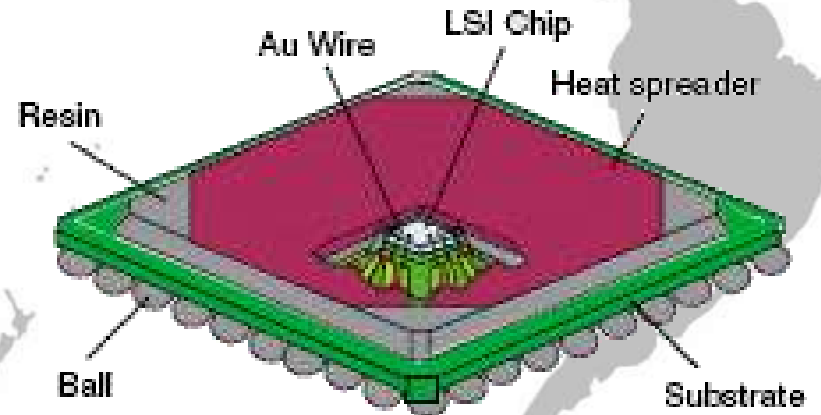
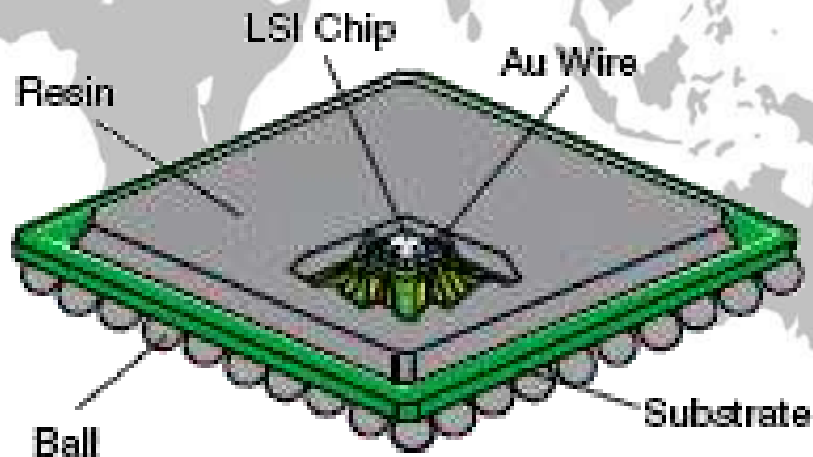


Micro-electronic

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Exemples of Packaging :

BGA (Ball Grid Array)

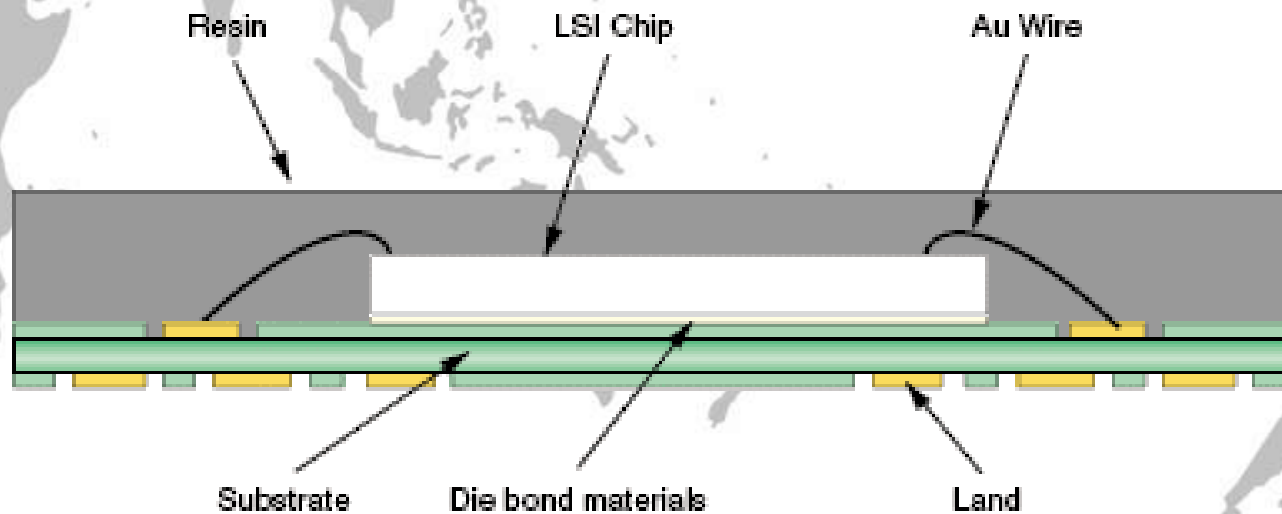


Micro-electronic

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Exemples of Packaging :

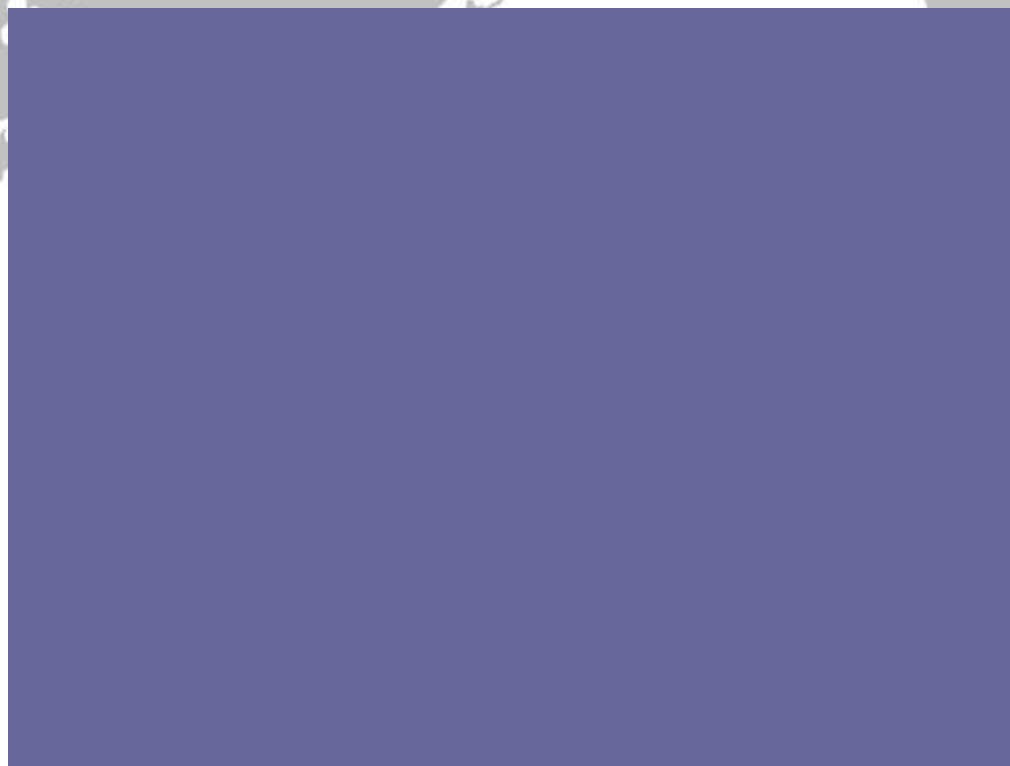
LGA (Land Grid Array)



Micro-electronic

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Video of Dam & Fill Process





Smart Card

Smart Card

(1/2)

What has your SmartCard done for you lately ?

- banking (e.g. debit/credit transactions)
- retail (e.g. electronic cash, loyalty schemes)
- telecommunications (e.g. SIM cards)
- security (e.g. access control)
- health (e.g. patient records, pharmaceuticals)
- transport (e.g. road tolls, parking fees, bus fees)
- government services delivery (e.g. electronic funds transfer for social security concessions).

Smart Card

(2/2)

Applications :

