Security Packaging Center
Content

Security Packaging Center
Information about our Controller Modules

never stop thinking

Our modules for controller ICs

125 million of our controller modules were produced in FY01/02 - which makes roughly 16% share of the world market.
The modules are designed to be used for all card implantation procedures. The patented heat barrier construction ensures a successful hotmelt implantation, because the IC is protected from the heat of the implantation process.

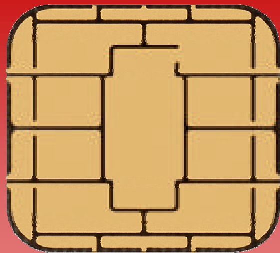
Due to the Nickel Hard Surface (NiHS), the modules have a shiny surface, they can withstand over 100.000 plug cycles, which is 10 times more than industry standard.

Our extensive research and testing, in which we used over 60.000 complete chip cards in envelopes for mailing experiments has given us the know-how to design mailing resistant controller modules.

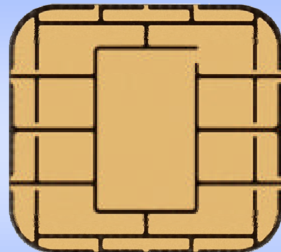
The punching geometry introduced by Infineon has become a de facto industry standard. The modules are of course ISO (including AFNOR) compatible and have higher implanting tolerances than competitor modules.

Security Packaging Center

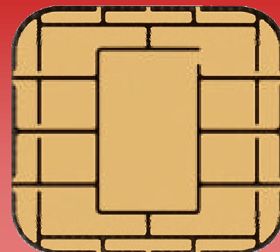
Controller Modules



M 5.1



M 5.2



M 5.3

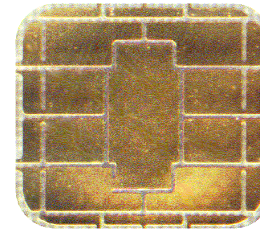
Never stop thinking

Security Packaging Center
Controller Module M5.1

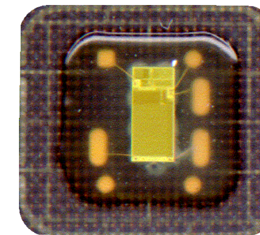
Status: Series

Package Items:

Max. Chip Size:	3.2 x 4.88 mm (15.6 mm²) 2.9 x 5.68 mm (16.472 mm²)
Module Size:	13.0 x 11.8 mm
Max. Thickness:	0.58 mm
Globe Top:	max. 9.3 x 9.8 mm
Pitch:	14.25 mm

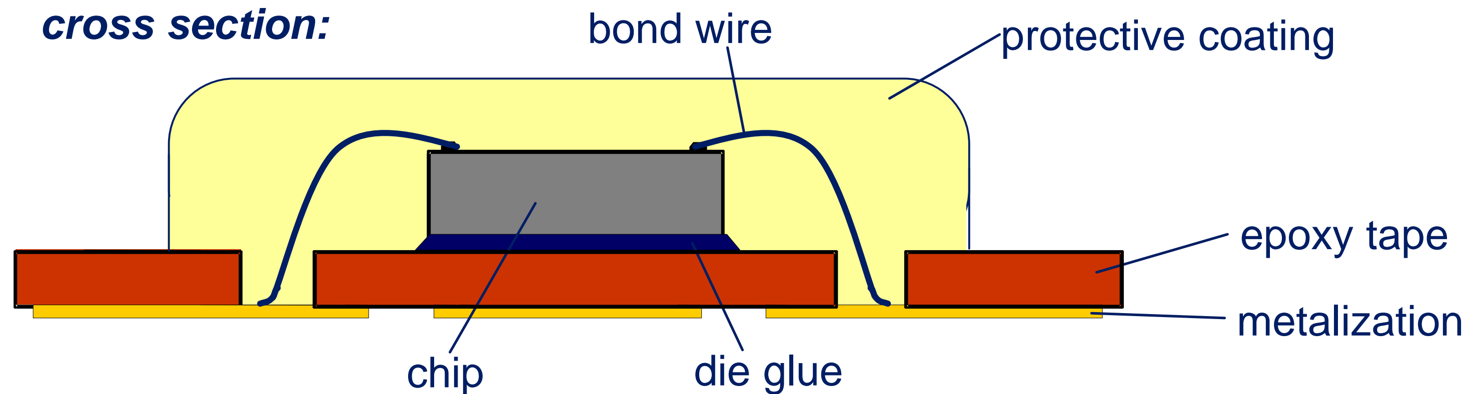


contact side



chip side

cross section:

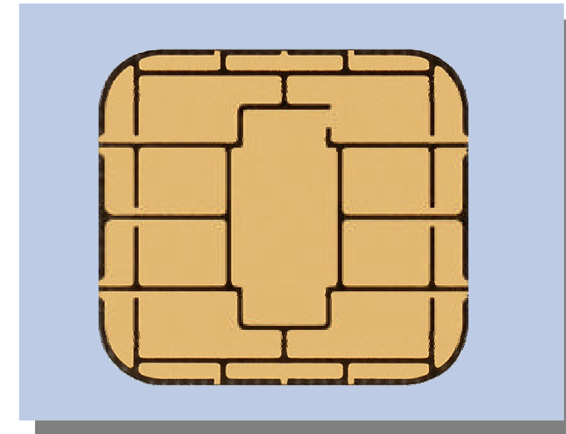


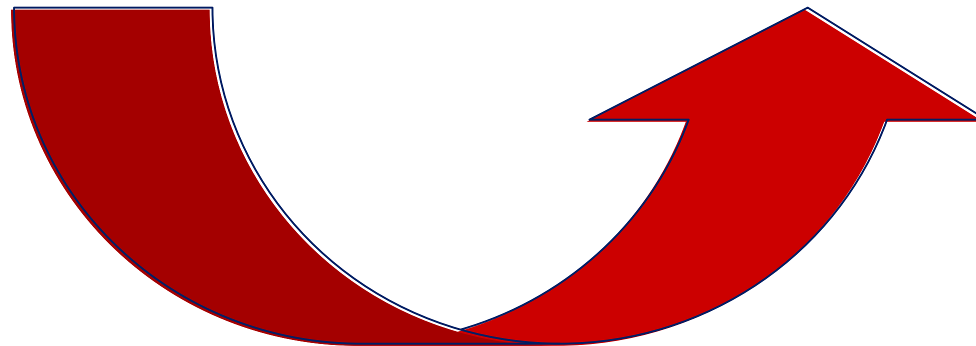
Infineon technologies

Security Packaging Center
ICs - Controller Module M5.1

Controller Modules

SLE 44C20S/U
SLE 44C42S
SLE 44C80S/U
SLE 66C160P
SLE 66C162P
SLE 66CX160P
SLE 66C320P
SLE 66C322P
SLE 66C320PU
SLE 11C001S/U
Customer IC





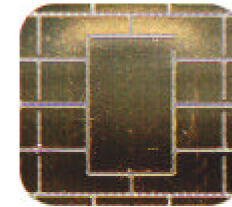
Never stop thinking

Security Packaging Center
Controller Module M5.2

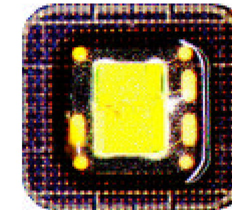
Status: Series

Package Items:

Max. Chip Size:	4.1 x 5.68 mm (23,288 mm²)
Module Size:	13.0 x 11.8 mm
Max. Thickness:	0.58 mm
Globe Top:	max. 9.3 x 9.8 mm
Pitch:	14.25 mm

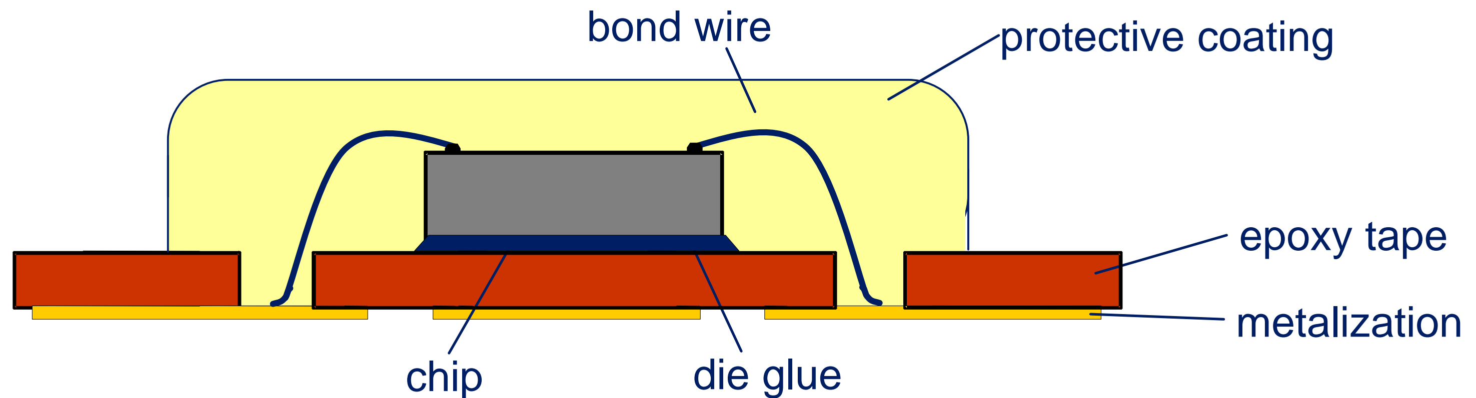


contact side



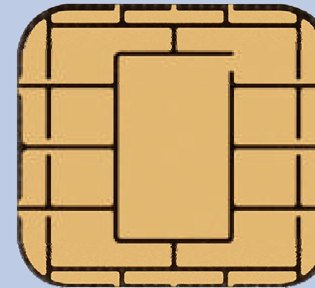
chip side

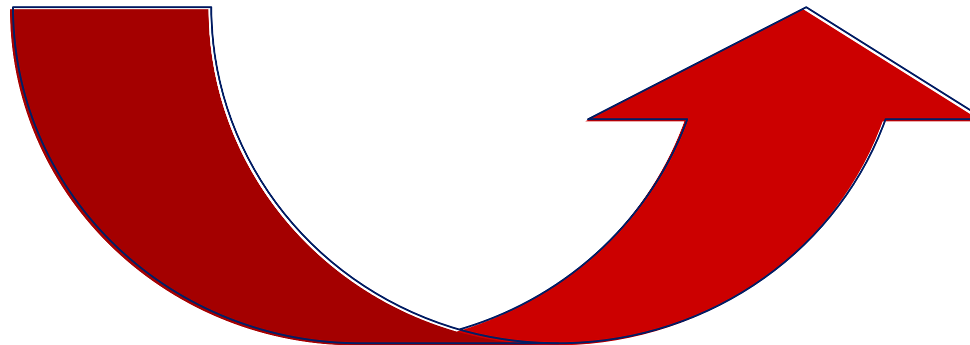
cross section:



Security Packaging Center
ICs - Controller Module M5.2

SLE 66C160S/U
SLE 66CX160S/U
SLE 66CX320P
SLE 66C640P
SLE 66CX640P
SLE 66CX640PU
SLE 66CX320S
Customer IC



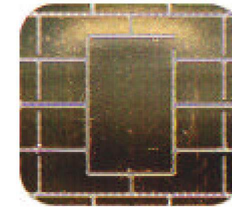


Security Packaging Center
Controller Module M5.3

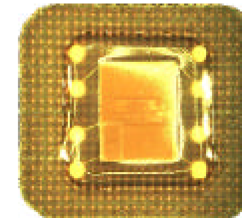
Status: Series

Package Items:

Max. Chip Size:	4.65 x 5.68 mm (26,412 mm²)
Module Size:	13.0 x 11.8 mm
Max. Thickness:	0.58 mm
Globe Top:	max. 9.5 x 10.0 mm
Pitch:	14.25 mm

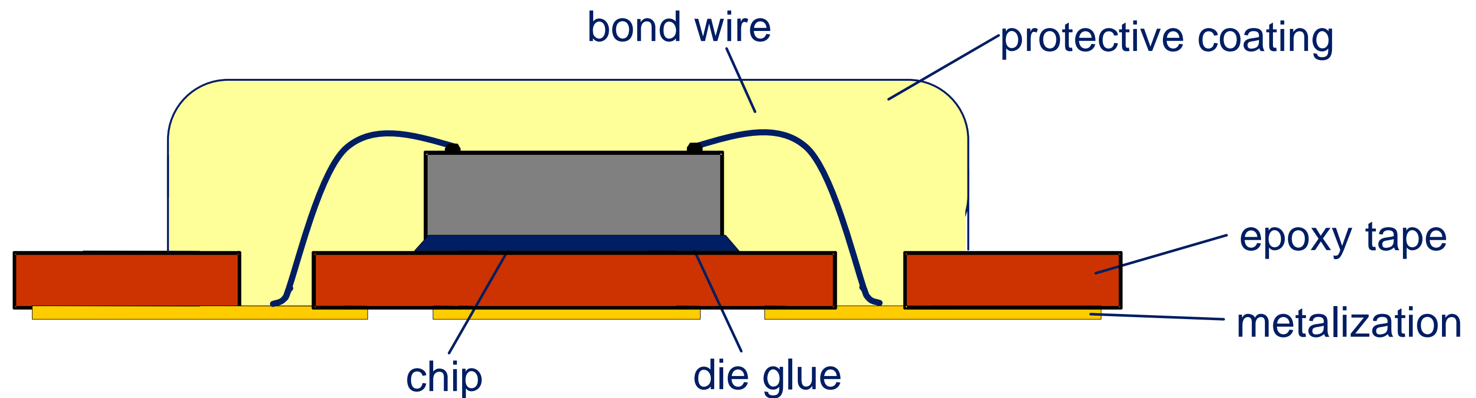


contact side



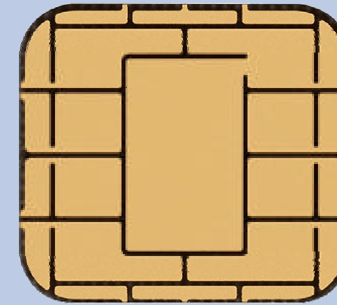
chip side

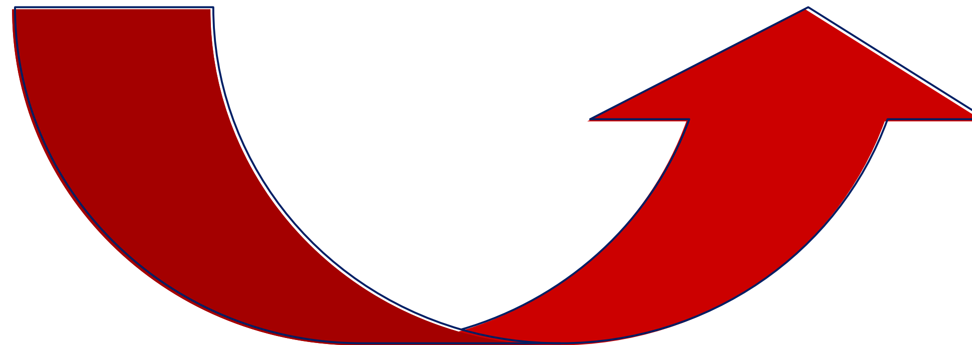
cross section:



Security Packaging Center
ICs - Controller Module M5.3

SLE 88CX720P
SLE 88CX642S
Customer IC





Security Packaging Center
Key customer benefits

- Improvement of mechanical stability (mailing)
- Heat barrier for hotmelt implantation
- Higher tolerances for milling and implanting (contact pads Z1 - Z5) in comparison to M4.x, M6.x
- Usable for max. chiparea: ~30 mm^2
- Contact surface: NiHS (high corrosion and plug cycle resistance)

Never stop thinking

Security Packaging Center
Evaluation Mailing Resistance

Intention:
Regarding mailing there are increasing requirements of customers for a higher mechanical resistance of chip card modules. In order to fulfill these requirements, an improved generation of controller modules was developed - called M5.1/M5.2/M5.3

Testcondition:
Runs have been performed at:
- AEG Mail Sorter at the southern railroad station in Vienna.
- Siemens ElectroCom Sorter at the post center in Munich.
- Also we do correlation on IFX mailing simulation equipment.

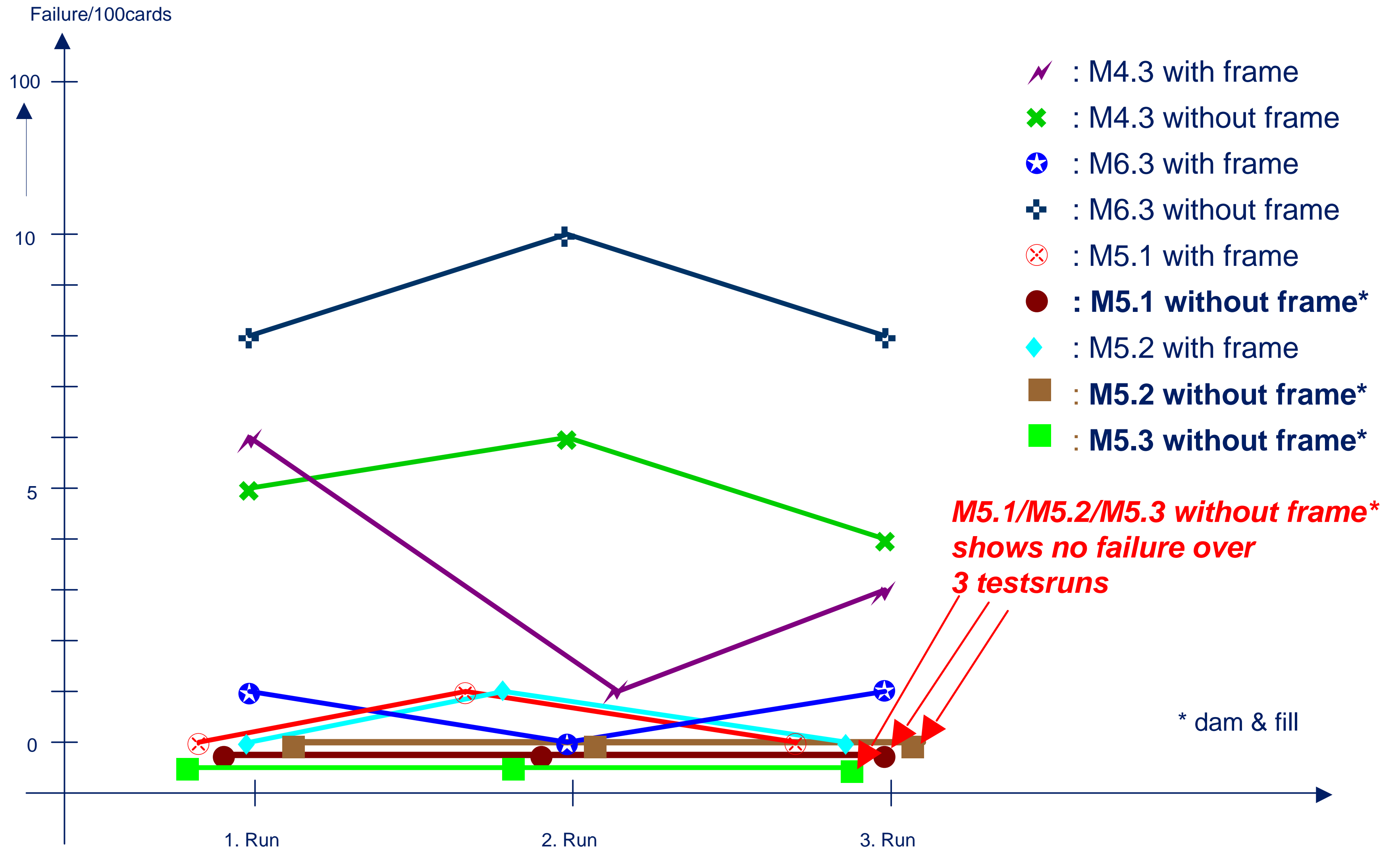
Altogether about 64623 cards enclosed in envelopes have been tested.
The position of the card in the envelope is on the right of the envelope window on the same level. Typical parameter settings were used.

Failure Analysis:
M6.3: Broken chips only.
M4.3: Broken wire bonds only.

Infineon technologies

Security Packaging Center Results Mailing

Controller Modules



Never stop thinking