

MATERI TRAINING

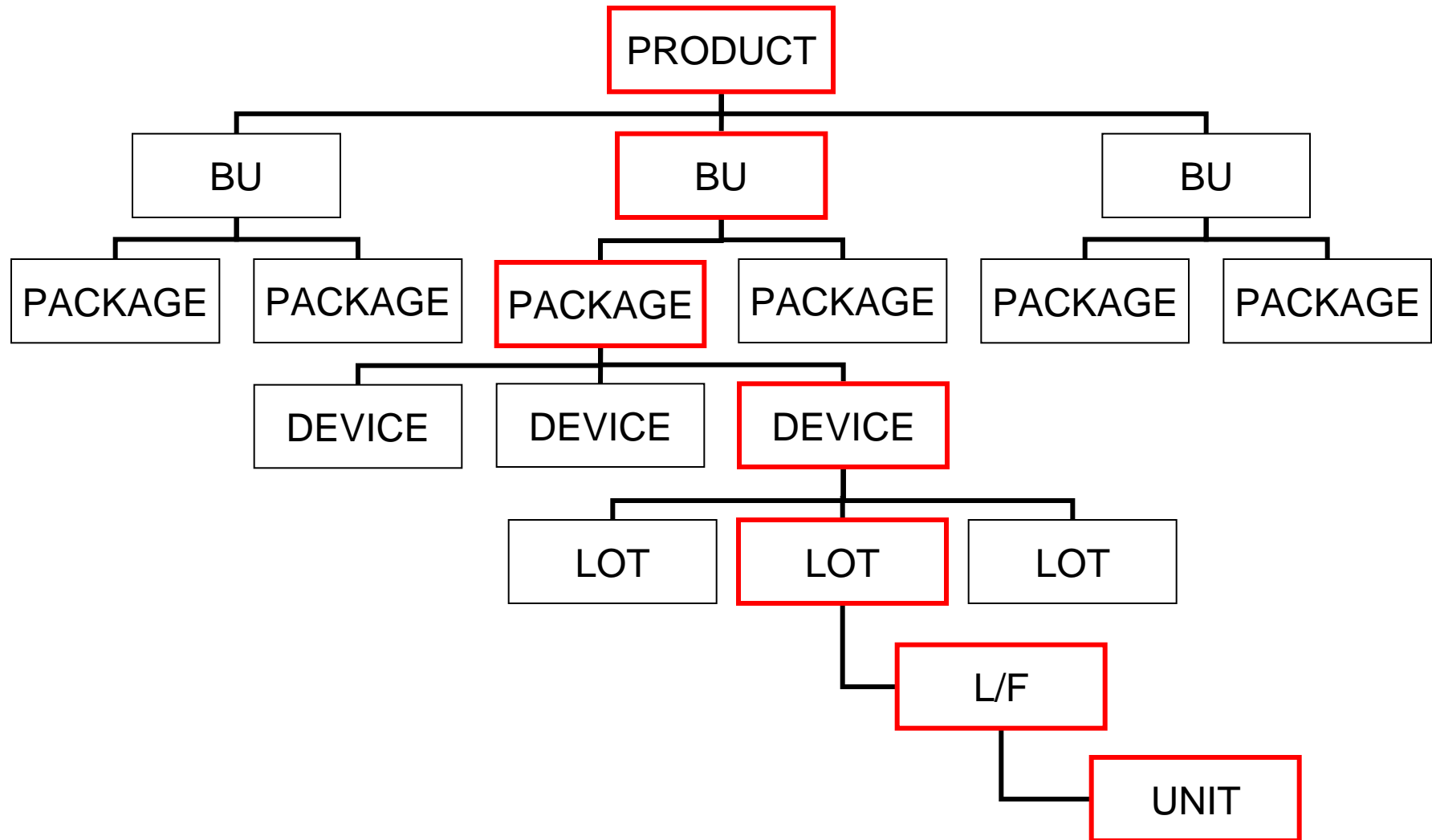
SMART CARD

PENGETAHUAN PRODUK



Prepared by : MUHTAROM ASIDIQ (PRODUCTION TRAINING)

PENGETAHUAN PRODUK



UID Product

PT. UID

BU
(Business Unit)

Package
(Body Size)

Product
(actual)

Product
(description)

A-LSI

MN-DD

MTAG

DISCRETE

INLET

F-LD

SMARTCARD

HSOP034-P-0300
HSOP042-P-0400
HSOP056-P-0300
LQFP032-P-0707
LQFP048-P-0707A
QFH064-P-1414H
QFH080-P-1420I
QFP044-P-1010F
QFP048-P-1X1X
QFP056-P-1010B
QFP064-P-1010A

LQFP064-P-1414
LQFP080-P-1414
LQFP100-P-1414
QFP100-P-1818
TQFP128-P-1414C

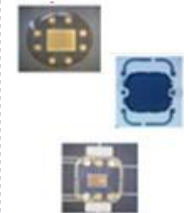
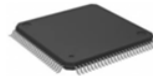
TAG20908C
TAG20908D
TAG23112
TAG3314

IPD
U-PACK
SO8
TO-220D

CARD INLET - 06

Package 15

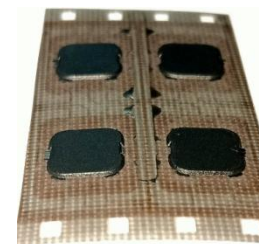
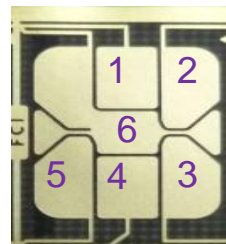
ETAG
CONTACT 6 (C6)
CONTACT 8 (C8)
CONTACTLESS
GLOBTOP
SO10



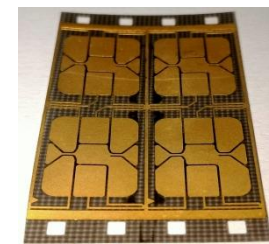
CONTACT 6

1. Contact side
2. Jumlah Contact 6 bagian

[Others package click this link](#)



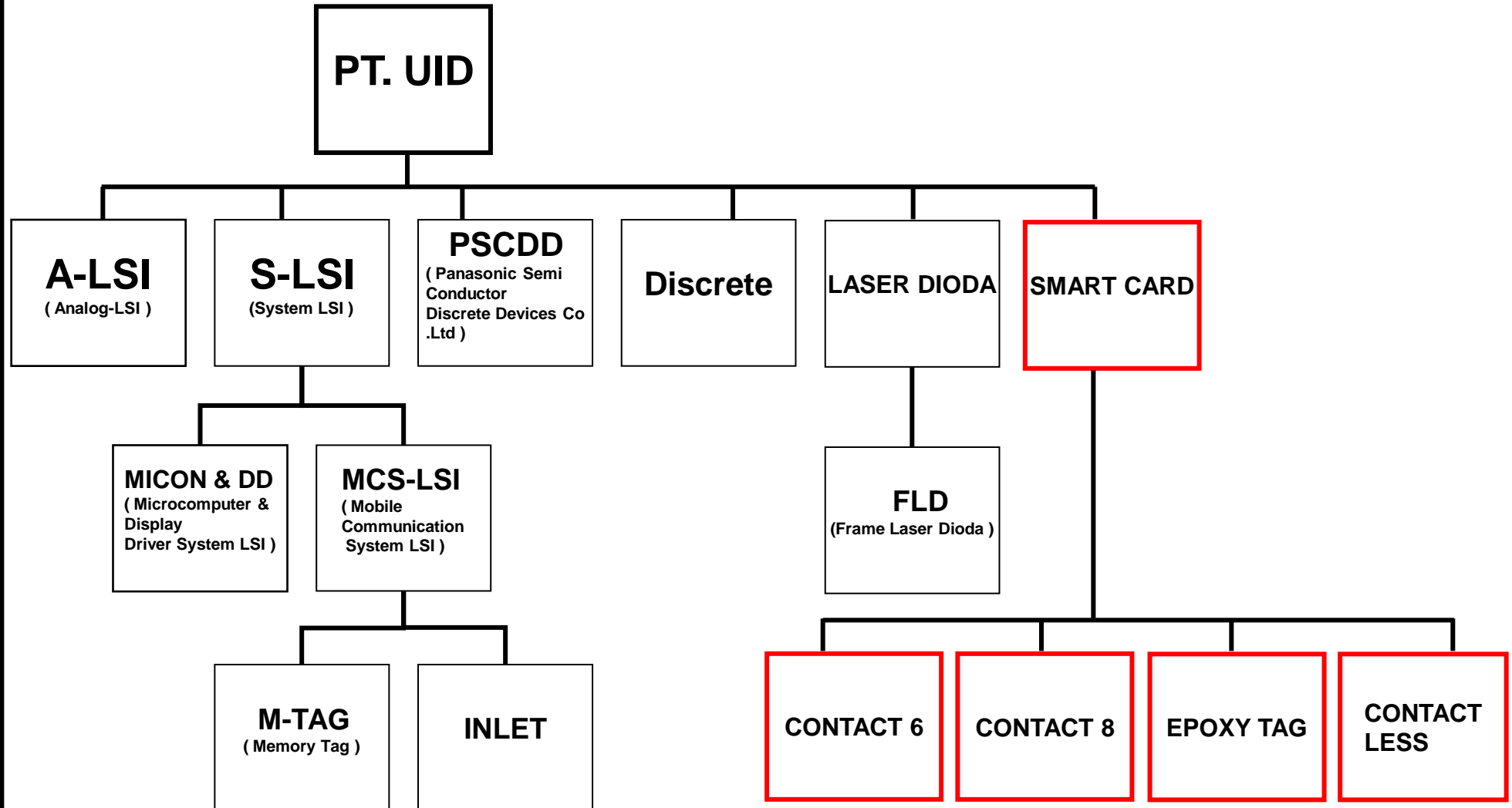
Top side



Contact side

PENGETAHUAN PRODUK

- ❖ **Produk** adalah Material yang di proses
- ❖ **BU (Bisnis Unit)** adalah type produk yang diproses berdasarkan fungsi dari produk tersebut
- ❖ **Package** adalah Kemasan yang berfungsi sebagai pelindung dari perangkat utama (chip dan au wire) agar terhindar dari faktor external.
- ❖ **Device** adalah Identitas atau nama dari perangkat utama
- ❖ **Lot** adalah satuan quantity standar product yang diproses
- ❖ **Lead Frame** adalah material tempat meng-assemble semua komponen semiconductor (Chip, paste, wire, Molding resin) kedalam satu satuan unit
- ❖ **Unit** adalah satuan produk yang utuh

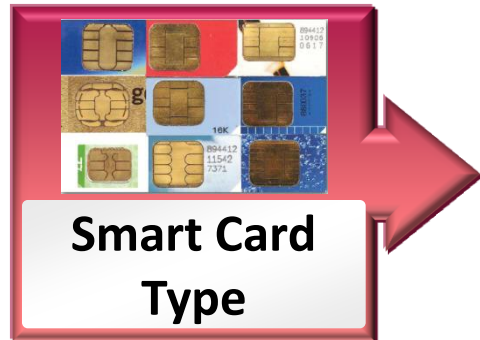
BU (BISNIS UNIT)**PT. UID**

SMART CARD

Smart Card (Indo Kartu pintar) adalah sebuah kartu yang di dalamnya terdapat sirkuit terpadu. Meskipun banyak kegunaannya, namun ada dua pembagian dasar dari kartu ini, yaitu kartu memori dan kartu dengan mikroprosesor. Contoh kegunaan kartu ini yang paling banyak adalah untuk sistem pembayaran elektronik dan dalam kartu SIM



Smart Card Application



Smart Card Type

**Secure Memory
(memory card)**

IC phone card

**Microprocessor
(smart card)**

SIM card/bank card

**MPU+指紋/LCD
(super smart card)**

special

**Contact
(contact type)**

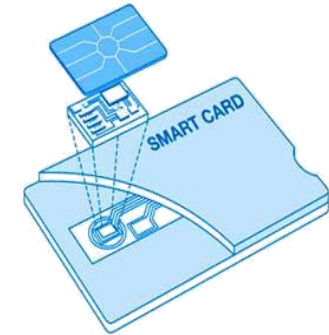
bank card/credit card

**Contactless
(contactless type)**

bench card/easy card

**Multiple-Interface
DI/Combi (2 IN 1)**

(not amount apply yet)

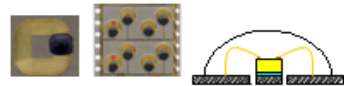


Smart Card Introduction



Tag
Module Type

14 x 14 mm T : 0.6mm
30 x 30 mm T : 0.6mm



125K / 13.56 MHz Tag

φ 26 mm T : 0.6mm



125K / 13.56 MHz Tag

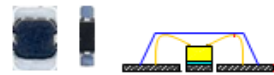
φ 8.5 mm T : 0.6mm
φ 6 mm T : 0.6mm



125K / 13.56 MHz Tag

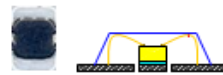
Contactless
Module Type

5.0 x 8.0 x 0.4 mm
2.93 x 10.3 x 0.385 mm



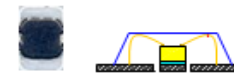
IOA2 Module
ICC1 / ICC2 Module

5.0 x 8.0 x 0.39 mm
5.0 x 8.0 x 0.35 mm



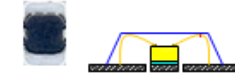
IOA2 Module

5.0 x 8.0 x 0.33 mm



IOA2 Thin Module

5.0 x 8.0 x 0.28/0.25 mm



IOA2 Thin Module



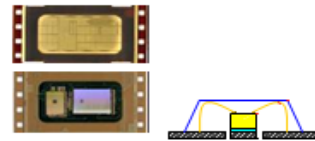
Assembly in UTAC

8.2 x 10.82 x 0.56 mm
11.8 x 13 x 0.58 mm



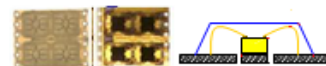
Contact 6 Module
Contact 8 Module

22 x 13 x 0.58 mm



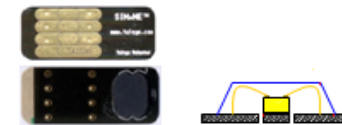
Mega SIM Module

11.8 x 13 x 0.58 mm



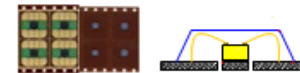
Combi 8 Module

24 x 10 x 0.845 mm



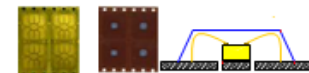
Integrated SIM Module

11.8 x 13 x 0.3 mm



Flip-chip 8 Module
(COST)

11.8 x 13 x 0.3 mm

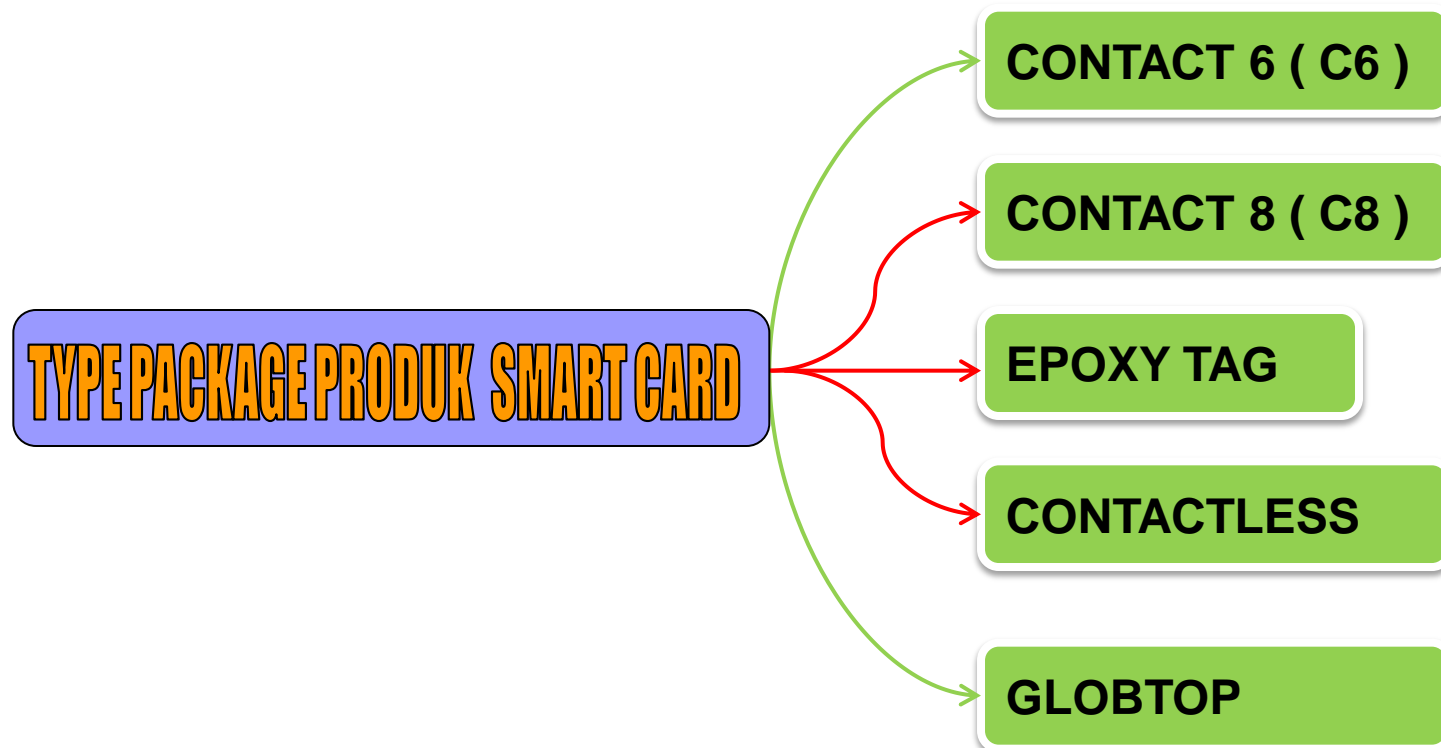


Flip-chip Module

Contact
Module Type

PACKAGE

Package adalah Kemasan yang berfungsi untuk melindungi perangkat utama (chip & wire) agar terhindar dari faktor external. Proses pembentukan package di area Molding dan bentuk package sesuai dengan nama dari packagenya.

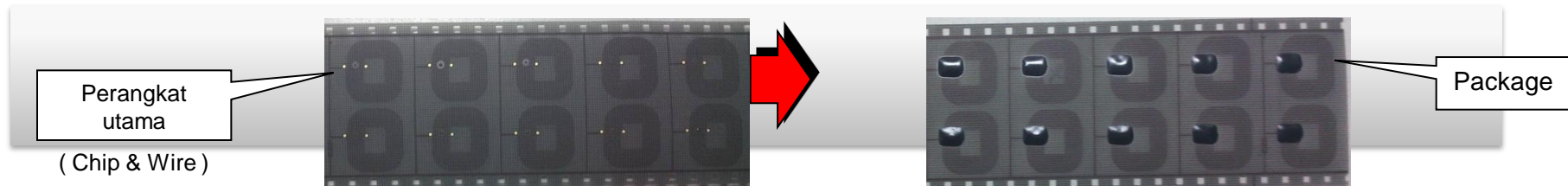


PACKAGE PRODUK SMART CARD

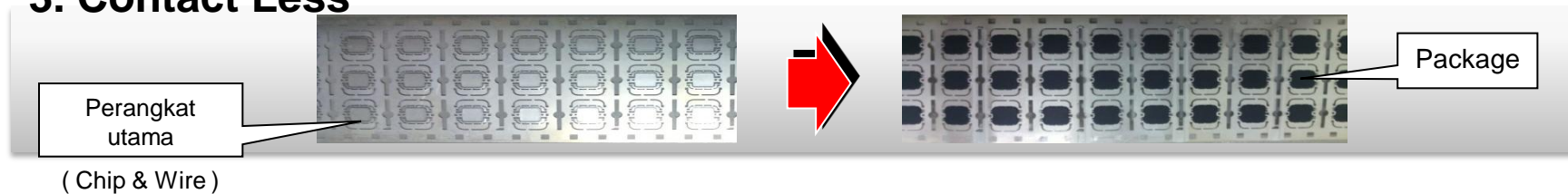
1. Contact 6 & Contact 8

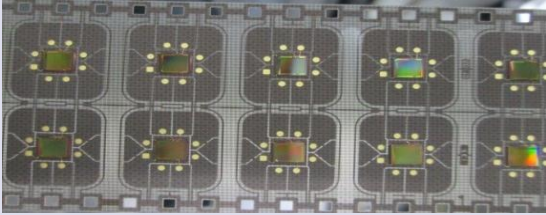


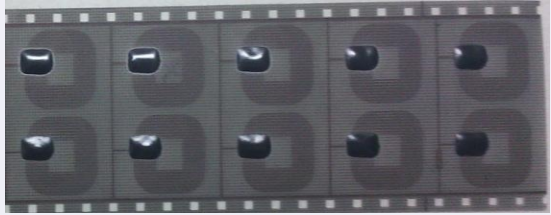
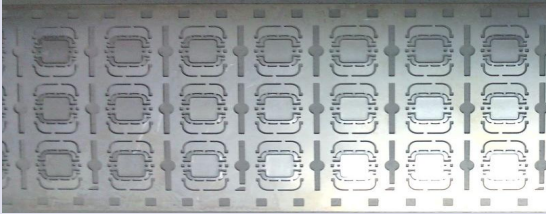

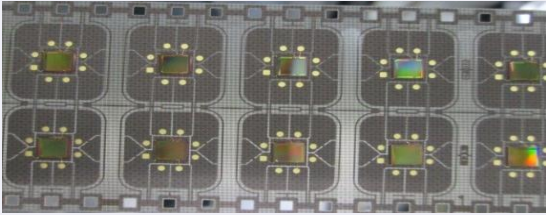
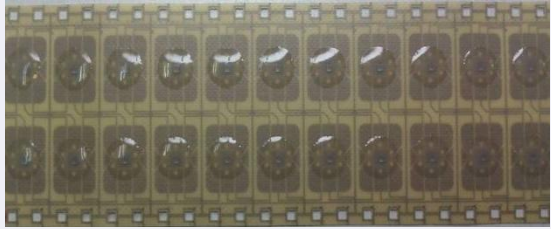


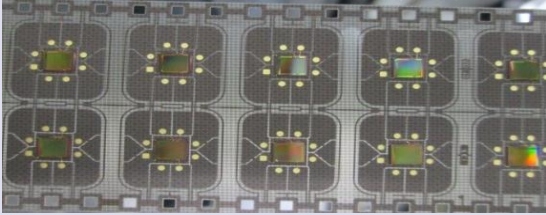
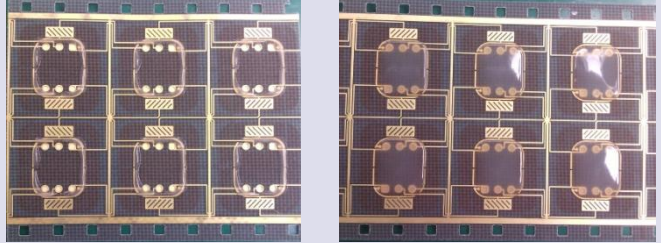
2. Epoxy Tag



3. Contact Less



NAME	MATERIAL	PACKAGE
Contact 6 Contact 8		
Epoxy Tag		
Contactless		
GlobTop Fill & Fill		

NAME	MATERIAL	PACKAGE
Globtop Dam & Fill		

CUSTOMER SMARTCARD

CODE CUSTOMER	NAMA CUSTOMER	
IS	<i>Inside secure</i>	
PE	<i>Presto engineering</i>	
TM	<i>Trisakti Mustika</i>	
PB	<i>Pura Barutama</i>	
SI	<i>SoftOrb Technology Indonesia (STI)</i>	
AH	<i>Advanide</i>	
DNP	<i>DNP</i>	
LI	<i>Linxens</i>	
IC	<i>ICK</i>	
YS	<i>Yosun</i>	
SR	<i>Smartrac Technology</i>	

PACKAGE CODE PRODUK SMART CARD

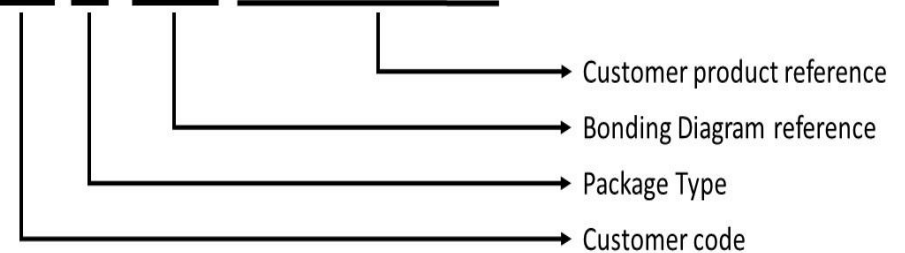
No	Package Type	Package Code
1	Contact 6	A
2	Contact 8	B
3	Contact Less	C
4	Epoxy Tag	D
5	<i>Dual Interface C8 Encap Dam & Fill</i>	<i>E</i>
6	<i>Contact 6 Encap Dam & Fill</i>	<i>F</i>
7	<i>Contact 8 Encap Dam & Fill</i>	<i>G</i>
8	<i>Contact 6 Encap Fill & Fill</i>	<i>H</i>
9	<i>Contact 8 Encap Fill & Fill</i>	<i>I</i>

DEVICE

Device adalah Identitas atau nama dari perangkat utama (Chip). Nama Device dibedakan menurut type BU nya.

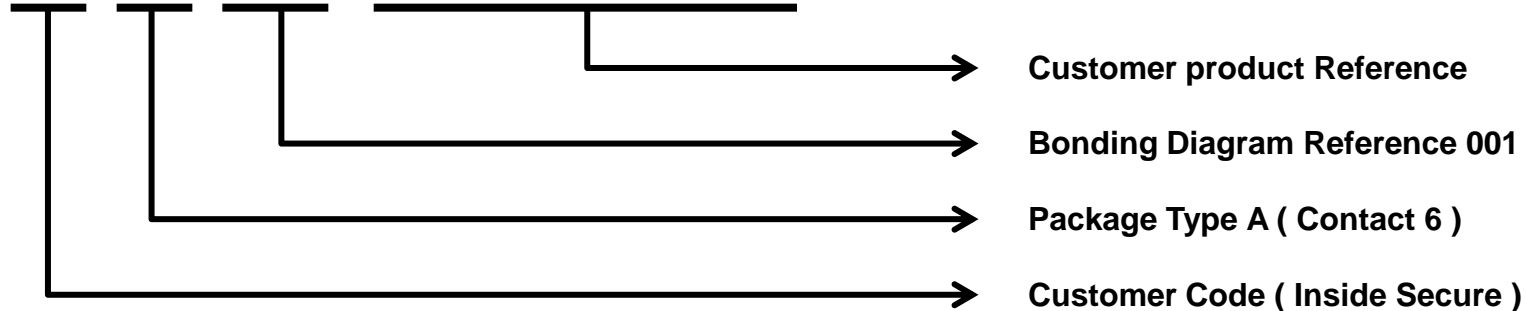
STANDAR DEVICE PRODUK SMART CARD

XX X 000 XXXXXX-00



CONTOH DEVICE

IS A 001 59U11E-37S



INFORMASI PRODUK

Berikut adalah Informasi produk dari Customer (PRESTO/INSIDE SECURE) untuk UID.

Die Ref	Package type	ChipBond Ref	UID Ref
59U11	Contacts 8 - Gold	R-MM083_A	R-MM092_A
	Contacts 6 - Gold	R-MM085_A	R-MM094_A
59Z06	Contacts 8 - Gold	R-MM083_A	R-MM092_A

APLIKASI PRODUK

Berikut adalah penggunaan produk dalam kehidupan sehari-hari

Die Ref	Package	Aplikasi
59U11	Contact 8	untuk Produk pembayaran
	Contact 6	untuk produk pembayaran
59Z06	Contact 8	Untuk produk TV berbayar

DEVICE PRODUK SMART CARD

Contac 6	Contact 8	Contact Less	Epoxy Tag
59U11E-36	58Z61F-05	SRF66V10STA-01	IC215HU15-30
59U11E-37	59Z06B-09	AA001A-02	IC215HU15-31
59Z13C-23	59Z13C-21	IC215HU15-3200	
59Z13C-24			
ISA00259U11E-36	ISB00358Z61F-05	ISC001SRF66V10STA-01PP	ISD001IC215HU15-30
ISA00159U11E-37	ISB00459Z06B-09	PEC001AA001A-02	ISD001IC215HU15-31
ISA00559Z13C-23	ISB00759Z13C-21	ISC003IC215HU15-3200	
ISA00659Z13C-24			

DEVICE PRODUK SMART CARD

PRODUCT #	PRODUCT #	UID PKG
ISB00358Z61F-05PP	58Z61F/05	8C_Gold
ISA00259U11E-36	59U11E/36	6C_Gold
ISA00259U11E-36PP	59U11E/36	6C_Gold
ISA00159U11E-37PP	59U11E/37	6C_Palladium
ISA00259U11E-4200	59U11E/42	6C_Gold
ISA00259U11E-4300	59U11E/43	6C_Palladium without Release Agent
ISA00259U11E-4400	59U11E/44	6C_Gold without Release Agent
ISA00259U11E-4800	59U11E/48	6C_Gold without Release Agent
ISB00459Z06B-09PP	59Z06B/09	8C_Gold
ISB00759Z13C-21PP	59Z13C/21	8C_Gold
ISA00559Z13C-23	59Z13C/23	6C_Gold
ISA00559Z13C-23PP	59Z13C/23	6C_Gold
ISA00659Z13C-24PP	59Z13C/24	6C_Palladium
ISA00559Z13C-2900	59Z13C/29	6C_Gold without Release Agent
PEC006AC001A-01PP	AC001	Contactless
PEC011AK001A-01	AK001	Contactless
PEC013AM001J-0100	AM001	Contactless
PEC016AM002D-0100	AM002	Contactless
PEC01059Z18J-20	59Z18J/20	Contactless
ISC003IC215HU15-3200	IC215HU15/32	Contactless
PEC001AA001A-02	AA001	Contactless
PEC002AA002A-0100	AA002	Contactless
PEC014AA003A-0100	AA003	Contactless
ISD001IC215HU15-3000	IC215HU15/30	Epoxy Tag
ISD001IC215HU15-3100	IC215HU15/31	Epoxy Tag

LOT

Lot adalah satuan quantity standar satu kali proses material. Satuan quantity material dari maker (Suplier) disebut diffusi. 1 diffusi terdiri dari beberapa wafer dan 1 wafer terdiri dari beberapa chip. Pada saat proses Die Bonding qty material dalam 1 diffusi di pisahkan dengan jumlah qty standar yang ada di UID, dan qty standar tersebut disebut Lot. Dan setiap lot di beri identitas No yang disebut NO LOT ID.

Quantity standar untuk type package adalah 1 Reel :

❑ CONTACT 6

1 LOT = 1 Reel
1 Reel = 10 K
= 10000 pcs

❑ CONTACT 8

1 LOT = 1 Reel
1 Reel = 8 K
= 8000 pcs

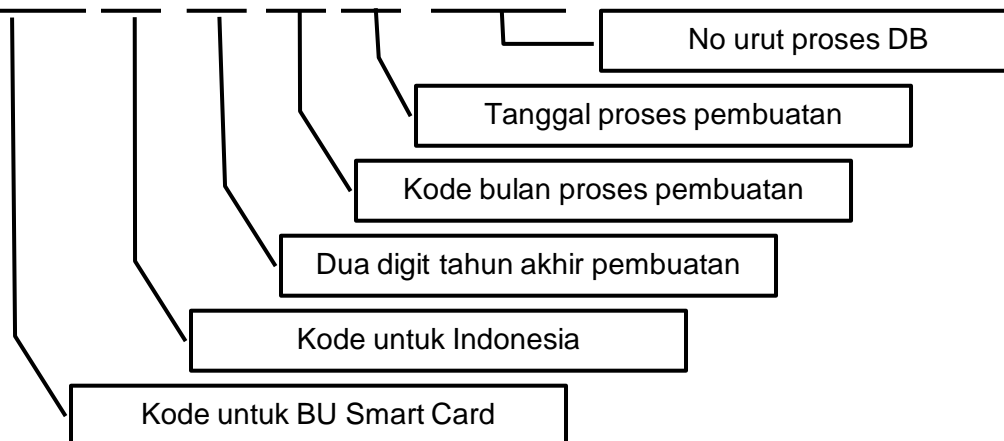
STANDART LOT SMARTCARD

Package	1 Lot /K	1 Lot / pcs
CONTACT 6	10K	10000 pcs
CONTACT 8	8K	8000 pcs
CONTACTLESS	15K	15000 pcs
E-TAG	2.5K	2500 pcs
CONTACTLESS NXP	20K	20000 pcs
GLOBTOP	10K	10000 pcs

Jika 1 lead frame tidak terisi semua (quantity chip pada wafer terakhir tidak cukup) maka pada sisi lead frame untuk unit tersebut akan diberi tanda marker di area DB dan unit tersebut disebut Dummy.

Dummy adalah Unit yang tidak ada chipnya / penggenap saat masih berbentuk lead frame

LT25 C 10 C 10 0021



LT25... = Smart Card

Catatan : Karena kode bulan hanya disediakan 1 digit maka untuk bulan Oktober, November dan Desember diganti dengan huruf A, B dan C

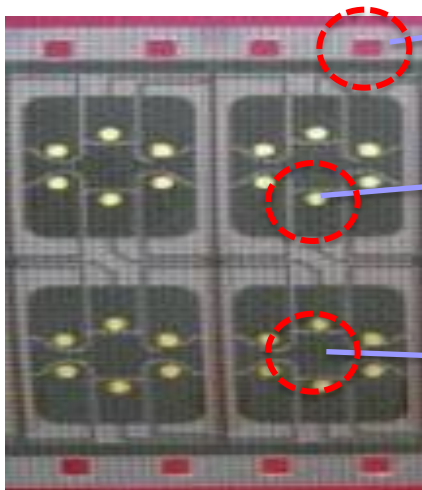
DATA KODE NO LOT ID BERDASARKAN BU

KODE	BU
LT11...	MNDD
LT31...	A-LSI
LT21...	M-TAG
LT22...	INLET
LT40...	DISCRETE
LT49...	FLD
LT49...	HYBRID
LT9A...	PSCDD
LT92...	GAN
LT25...	SMART CARD

BAGIAN-BAGIAN DARI LEAD FRAME TAPE

Lead frame Tape adalah tempat meng-assemble semua komponen semiconductor (chip, wire dan mold compound) menjadi satuan unit yang utuh.

TAMPAK ATAS (MOLD BODY SIDE)



a.Sprocket hole / Pin Hole

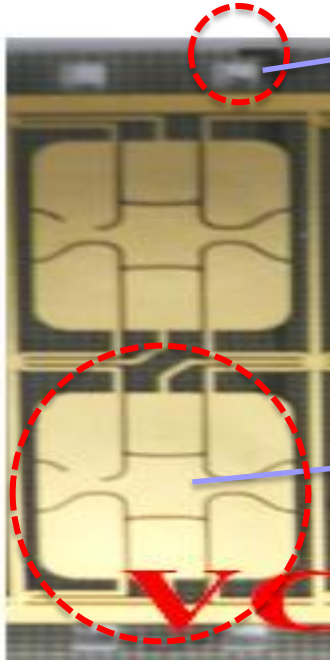
Berfungsi untuk lubang Pin, guna membantu pergerakan LF dimesin

b.Lead pad

Berfungsi untuk tempat pembondingan Wire di LF pada proses Wire Bonding

c.Die Pad

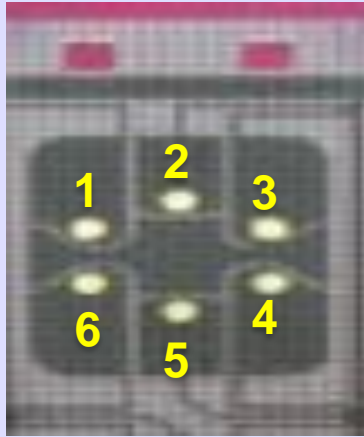
Berfungsi sebagai tempat penempelan Chip di LF

TAMPAK BAWAH (CONTACT SIDE / METAL SIDE)**a.Sprocket hole / Pin Hole**

Berfungsi untuk lubang Pin, guna membantu pergerakan LF dimesin

b.Metal side / electrode

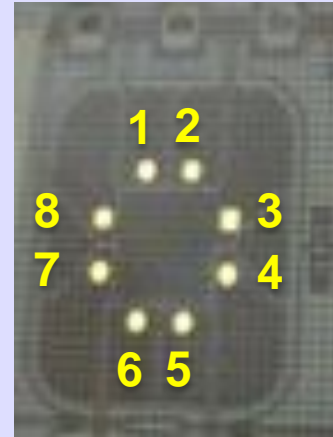
Berfungsi untuk mengalirkan fungsi dari material

CONTACT 6

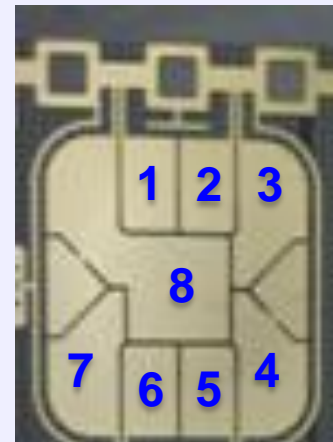
Lead Pad = 6 pcs



Electrod = 6 pcs

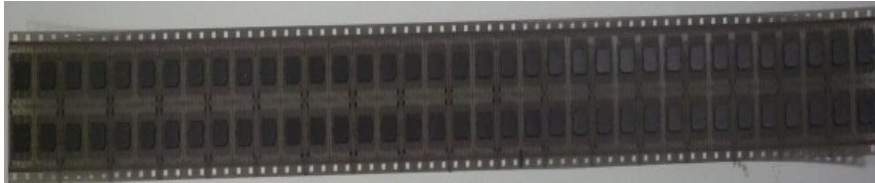
CONTACT 8

Lead Pad = 8 pcs



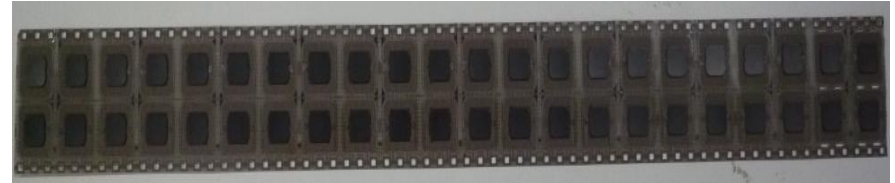
Electrod = 8 pcs

JENIS-JENIS PACKAGE



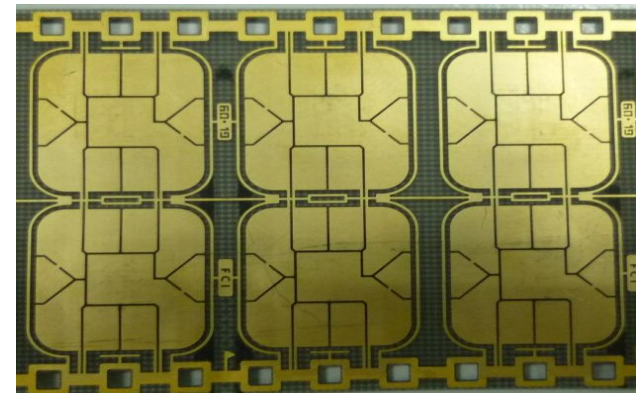
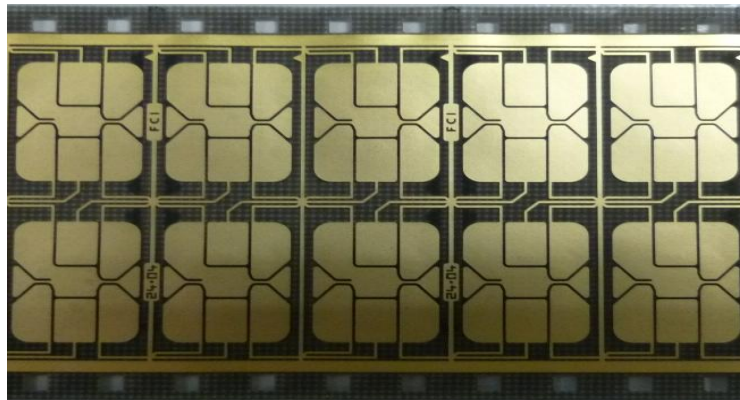
Business Unit (BU) ; Smart Card
 Nama Package ; Contact 6
 Jumlah Lead dalam unit ; 6 Lead
 Jumlah unit dalam Lead Frame ; 72 Unit / Shot Molding
 Jenis material ; Contact Tape

 Jenis Lead frame ; Substrate



Business Unit (BU) ; Smart Card
 Nama Package ; Contact 8
 Jumlah Lead dalam unit ; 8 Lead
 Jumlah unit dalam Lead Frame ; 48 Unit / Shot Molding
 Jenis material ; Contact Tape

 Jenis Lead frame : Substrate

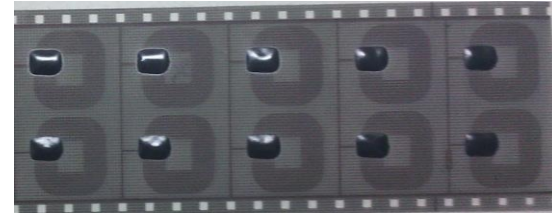


JENIS-JENIS PACKAGE



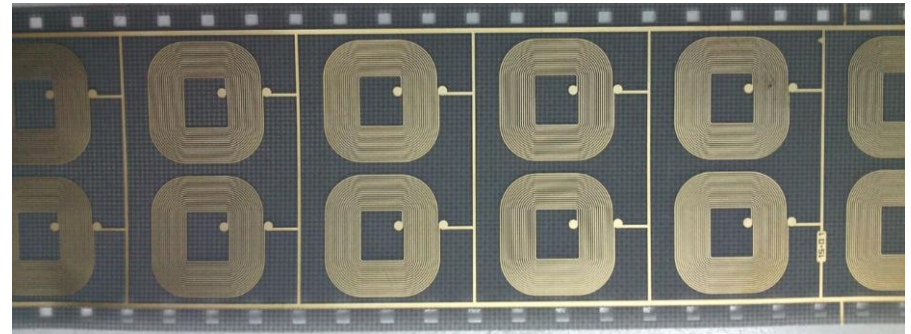
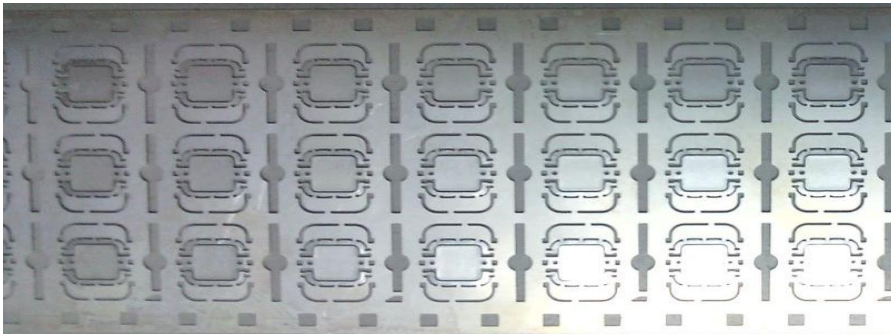
Business Unit (BU) ; Smart Card
 Nama Package ; Contactless
 Jumlah Lead dalam unit ; 2 Lead
 Jumlah unit dalam Lead Frame ; 108 Unit / Shot Molding
 Jenis material ; Contactless

 Jenis Lead frame ; Substrate



Business Unit (BU) ; Smart Card
 Nama Package ; Epoxy Tag
 Jumlah Lead dalam unit ; 2 Lead
 Jumlah unit dalam Lead Frame ; 12 Unit / Shot Encap
 Jenis material ; Epoxy Tag

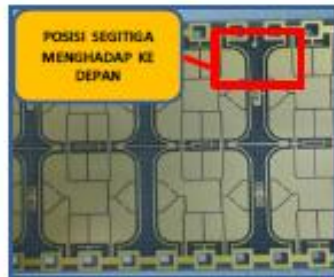
 Jenis Lead frame : Substrate



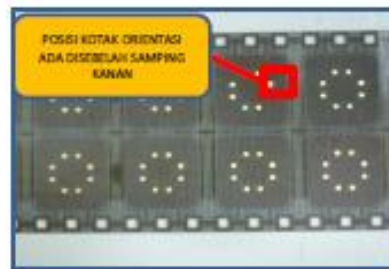
LEADFRAME TAPE INFORMATION

CONTACT 8

C8-Gold Li 9X160-19 CA NXTL



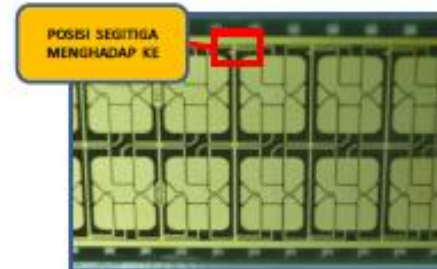
CONTACT SIDE



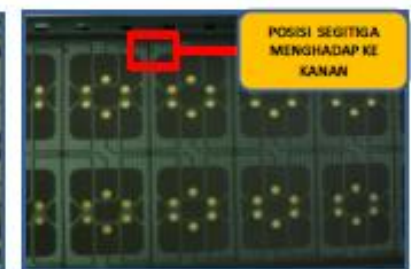
MOLD BODY SIDE

CONTACT 6

C6-Gold Li 9X124-06 CA NXTL



CONTACT SIDE



MOLD BODY SIDE

C8-Gold Li 9X160-02 FA NXTL

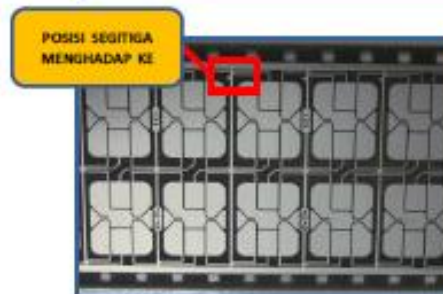


CONTACT SIDE

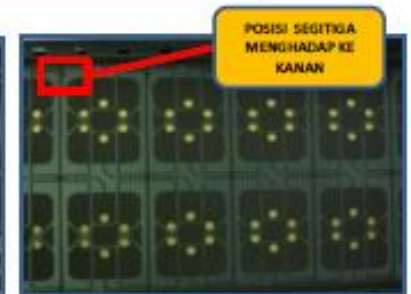


MOLD BODY SIDE

C6-Pd Li 9X124-06 EA NXTL-Pd

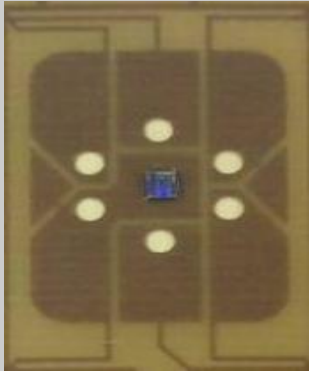

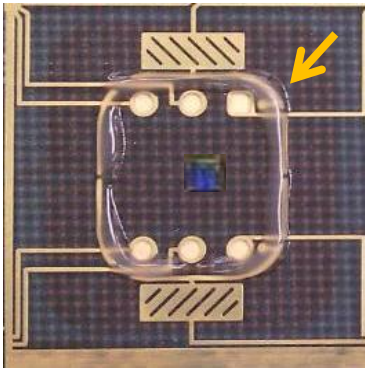
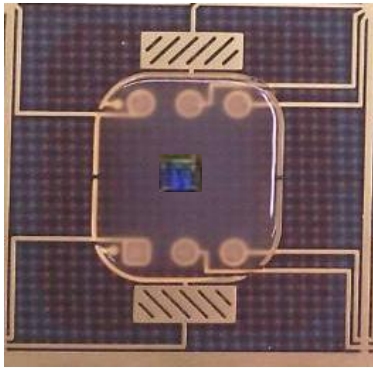


CONTACT SIDE

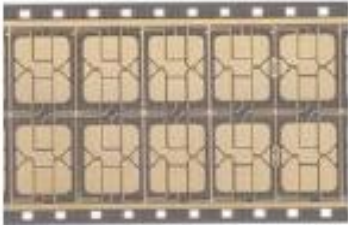
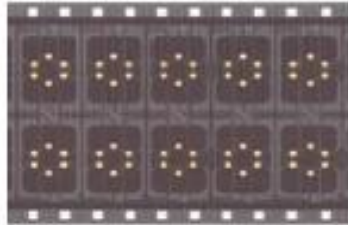
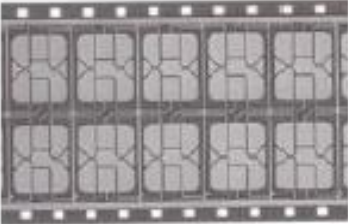
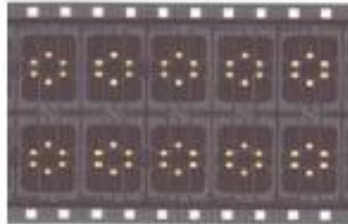
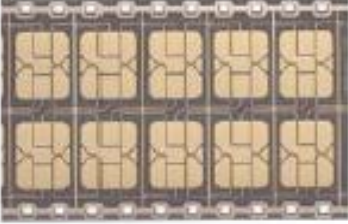

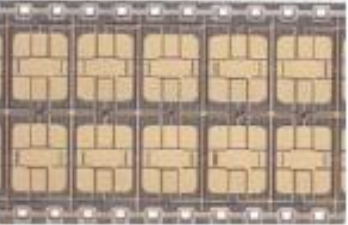
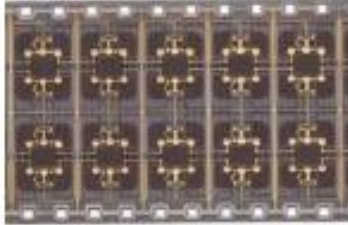




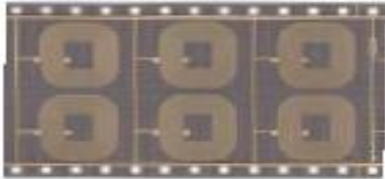
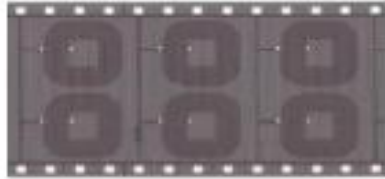

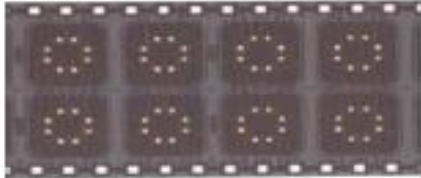
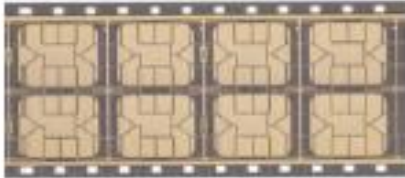
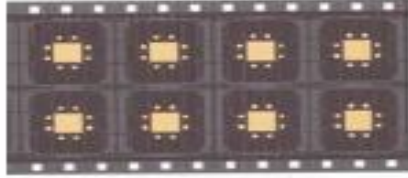
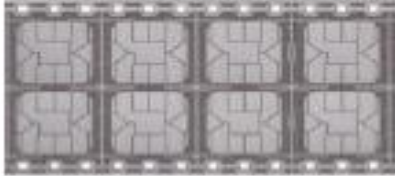
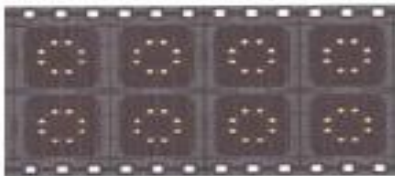
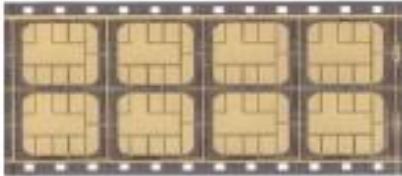
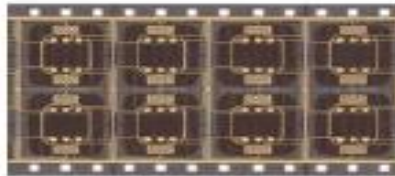
MOLD BODY SIDE

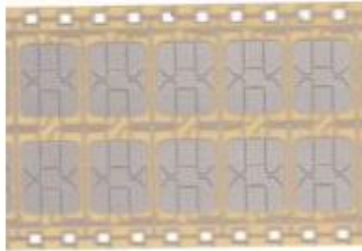
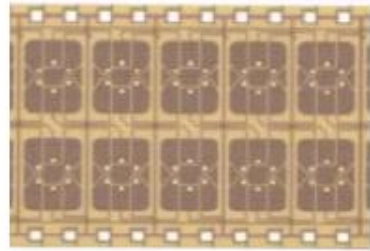
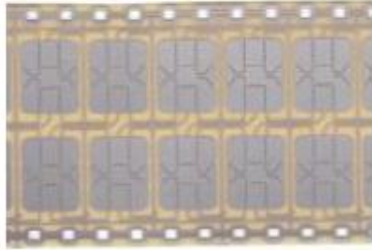
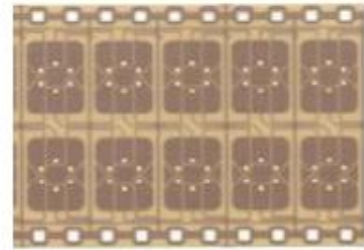
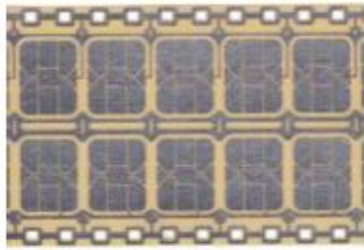
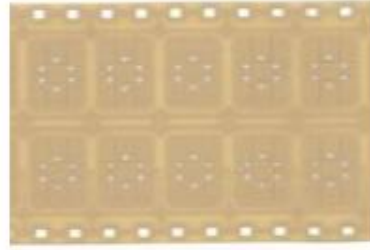
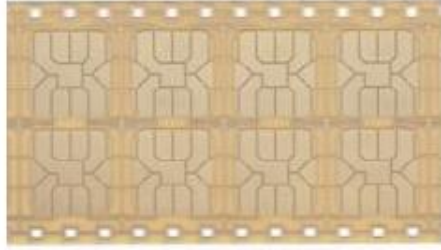
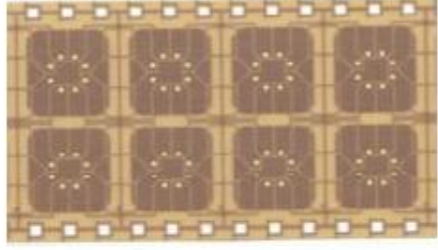
>> JENIS PROSES GLOBTOP

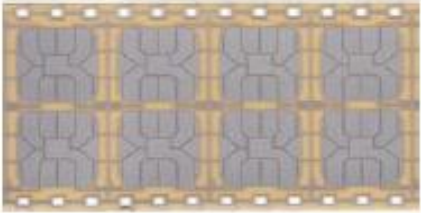
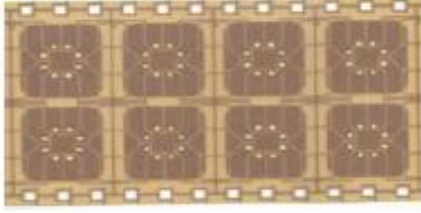
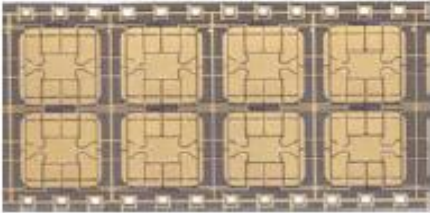
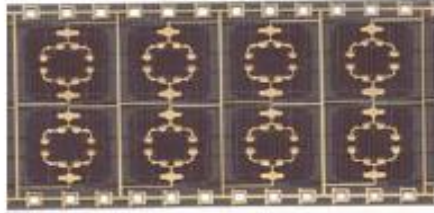
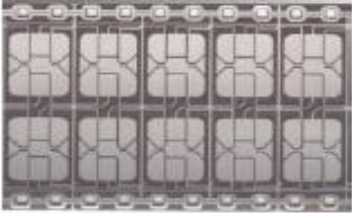


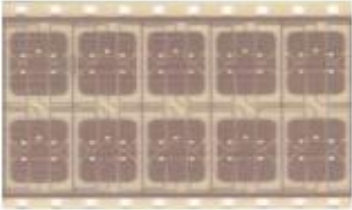
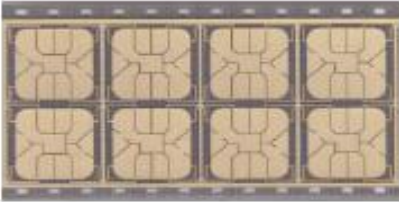
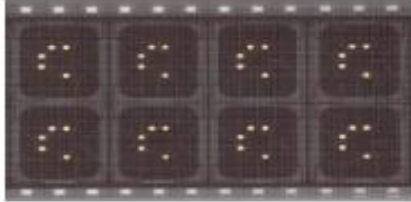
	STEP 1	STEP 2	COATING PASTE
1.FILL & FILL			1.FILL & FILL → Menggunakan Coating Paste type : Delo - Katiobond 4670
2.DAM & FILL			1.DAM → Menggunakan Coating Paste type : Delo - Katiobond DF698 (DAM) 2.FILL → Menggunakan Coating Paste type : Delo - Katiobond 4670 (FILL)

FRAME SMART CARD PICTURE

NO	Frame Tape name	Package	Backside	Top Side
1	Linxens 9X12406CA	C6 Gold		
2	Linxens 9X12406EA	C6 Pd		
3	Linxens 91600101A	C6 Gold		
4	Linxens 90151501A	C6 Dual interface		

5	XOA2 CONTACTLESS LF 3.4MM x 3.7MM	Contactless		
6	Linxens 90151501 NXT-A	Epoxy Tag		
7	Linxens 9X16019CA	C8 Gold		
8	Linxens 9X16002FA	C8 Gold		
9	Linxens 9X16003JAU	C8 Pd		
10	Linxens (1P) 90841503F	C6 Dual interface		

NO	Frame Tape name	Package	Backside	Top Side
1	Agencomm SS6BN00-AE	C6 Gold Plating		
2	Agencomm SD6AN00-EE	C6 Pd Plating		
3	Agencomm SS6BN00-FP	C6 Al Plating		
4	Agencomm SS8DN00-AP	C8 Gold Plating		

5	Agencomm SD6AN00_EE	C8 Pd Plating		
6	Agencomm SD8DN00-AE	C08 Dual- Std-Plating		
7	Agencomm SS6BN00EE	C6 - Black Epoxy		
8	HENGHUI HH-40021-HT	C6 Gold Plating		
9	HENGHUI HH-50007-AL	C8 Gold Plating		

TERIMA KASIH