

A new range of CCM03 connectors have been developed to interface with SIM/SAM cards as defined by GSM11-11 and ENV1375-1. The connectors are available with either hinged covers or fixed covers and have been designed to minimize the amount of space needed for PCB mounting.

## Features

### Hinged Cover

- Available with 6 or 8 contacts, with or without PCB locating pegs.
- Available with insulated card presence switch.
- The cover springs open when unlocked while the card is in place.
- The molding is polarized so that the cover can only be closed if the card is correctly inserted.
- The cover can be replaced without removing the connector from the PCB.
- Inspection slots allow an electrical test to be made without opening the cover.
- The overall height of the connector is only 2,5 mm. The amount of space needed to mount the connector is just 29,65 mm x 17,2 mm.

### Fixed Cover

- Available with 6 or 8 contacts.
- The overall height of the connector is 2,85 mm max. Only 25,5 mm x 17,2 mm of board space is required to mount the connector.

### General

- With tape and reel packaging as standard, the connectors are designed to be automatically pick-and-placed.
- The high temperature thermoplastic moldings are suited for infrared and convection soldering processes.
- By using an inlay finish in the contact area the life of the precious metal is extended by over 10 times that of standard gold plating.
- Robustly formed printed circuit tails allow a co-planarity of  $\pm 0,05$  mm to be maintained.

## Construction

Contacts	Copper alloy
Plating	Contact area : Gold alloy inlay or gold over nickel Terminals : Tin lead (2 $\mu$ min)
Moldings	High temp. thermoplastic UL 94V-0 rated
Slide lock/metal cover	Stainless steel

## Mechanical Data

Number of Contacts	6 or 8
Mechanical life, hinged cover	10,000 cycles min
Mechanical life, fixed cover	50,000 cycles
Card insertion force	Hinged cover: 1 N max Fixed cover: 3 N max
Card extraction force	Hinged cover: 1 N max Fixed cover: 0.80 N min / 3 N max
Contact force	0.25 N min / 0.50 N max
Slide locking force	2 N min / 6 N max
Vibration	Frequency 10 to 500 Hz. Acceleration 50m/s <sup>2</sup> Duration 6 hours - amplitude 0,35 mm Max electrical discontinuity 1 $\mu$ s
Shock	Peak value 500 m/s <sup>2</sup> - Duration 11 ms 3 shocks in each direction of each axis Max electrical discontinuity 1 $\mu$ s

## Contact Electrical Data

Insulation resistance	1,000 M $\Omega$ min
Resistance	100 m $\Omega$ max
Current rating	10 $\mu$ A min / 1 A max
Dielectric strength	750 Vrms min

## Switch Electrical Data

Card detection switch	Normally open
Contact resistance	100 m $\Omega$ max
Dielectric strength	250 Vrms min
Current rating	1 mA min / 10m A max
Maximum power	0.2 VA

## Environmental Data

Operating temperature	-40°C to +85°C
Soldering temperature	Temperature/time profile acc. to CECC00802 para. 6.1, Fig. 3 with peak temperature 250°C
Damp heat	IEC 512 test number 11c (10 days)
Salt mist	IEC 512 test number 11f (96 hours)

## Packaging

Quantity per reel, see table next page.

# CCM03 MK II

## Ordering Code

Part Number	Number of Contacts	Cover	PCB Locating Pegs	Quantity per reel	Contact Finish	Switch lock	Card Presence switch
CCM03-3001 R102	6	Hinged	No	1000	Inlay	No	No
CCM03-3002 R102	6	Hinged	Yes	1000	Inlay	No	No
CCM03-3003 R102	8	Hinged	No	1000	Inlay	No	No
CCM03-3004 R102	8	Hinged	Yes	1000	Inlay	No	No
CCM03-3009 R102	6	Hinged	No	1000	Gold	No	No
CCM03-3010 R102	6	Hinged	Yes	1000	Gold	No	No
CCM03-3011 R102	8	Hinged	No	1000	Gold	No	No
CCM03-3012 R102	8	Hinged	Yes	1000	Gold	No	No
CCM03-3013 R102	6	Hinged	No	1000	Gold	No	Yes (insulated)
CCM03-3514 R122	6	Hinged	No	1200	Inlay	Yes	No
CCM03-3504 R122	8	Fixed	No	1200	Inlay	No	No
CCM03-3505 R122	6	Fixed	No	1200	Inlay	No	No



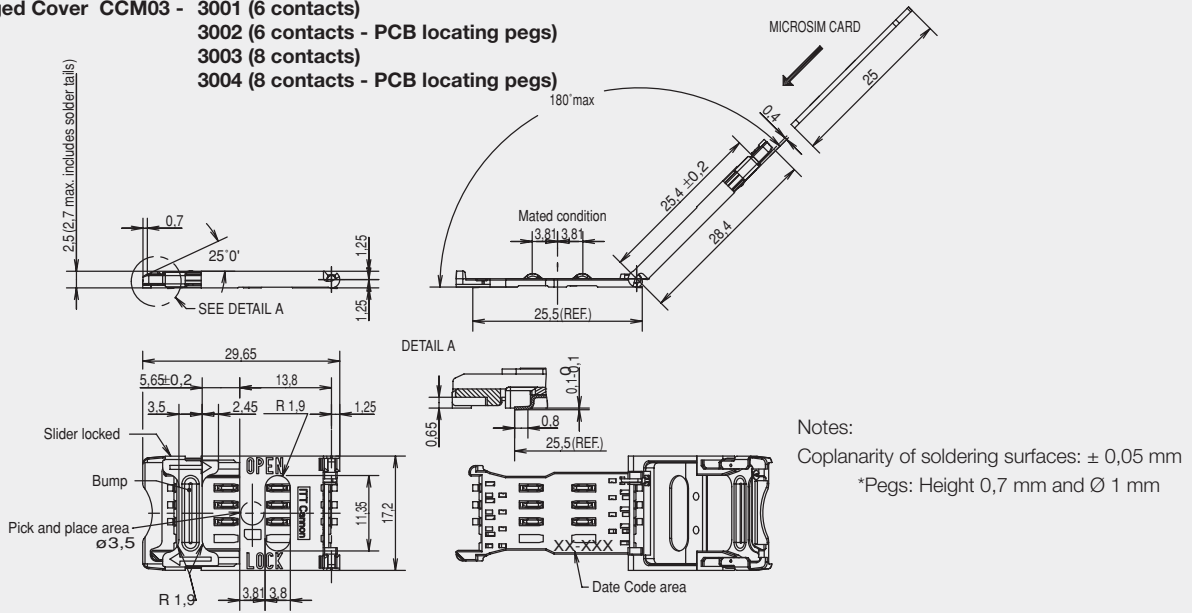
## Dimensional Drawings

### Hinged Cover CCM03 - 3001 (6 contacts)

### 3002 (6 contacts - PCB locating pegs)

### 3003 (8 contacts)

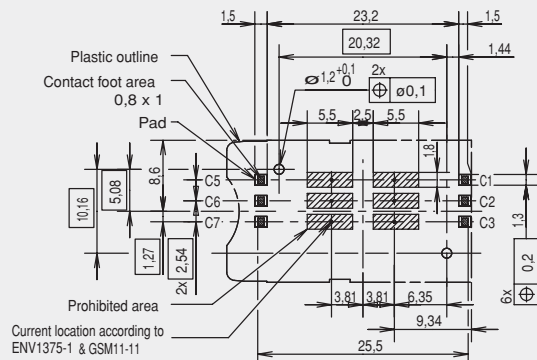
### 3004 (8 contacts - PCB locating pegs)



## PCB Layout

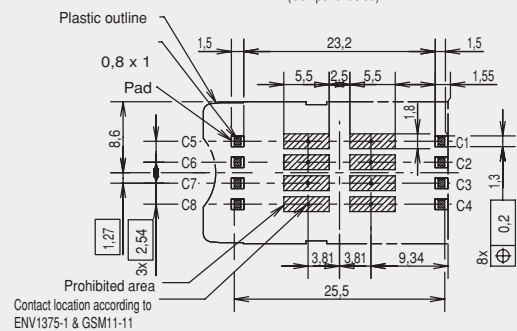
### CCM03-3001 / 3002

(Component side)



### CCM03-3003 / 3004

(Component side)

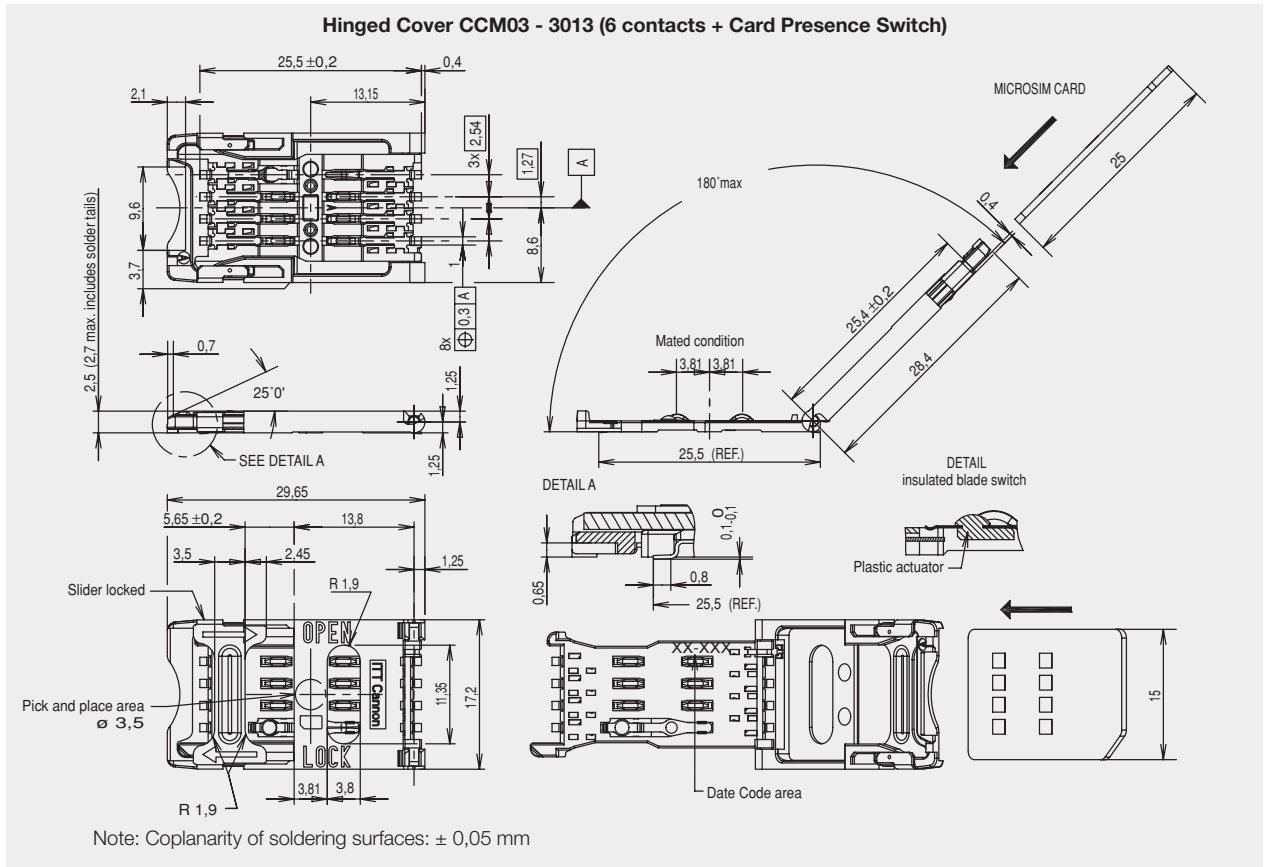


Unless otherwise stated, tolerances are ± 0,10 mm

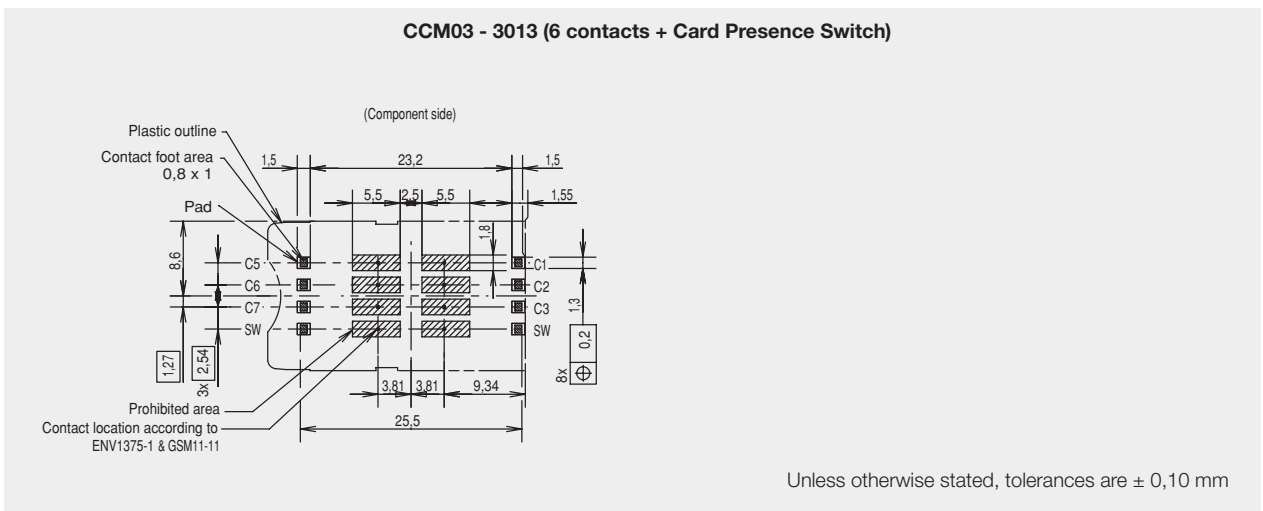
# CCM03 MK II Hinged Cover



## Dimensional Drawings

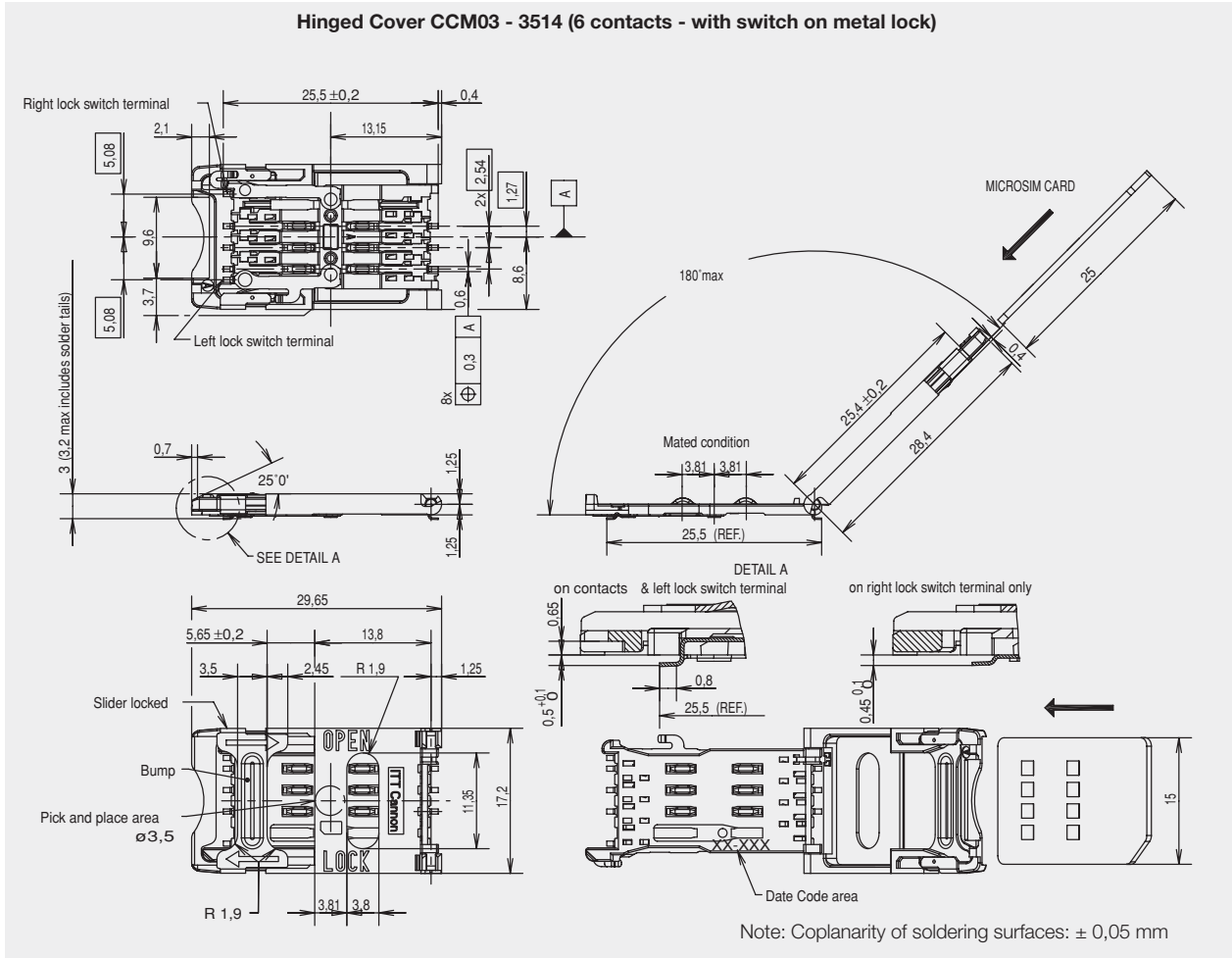


## PCB Layout

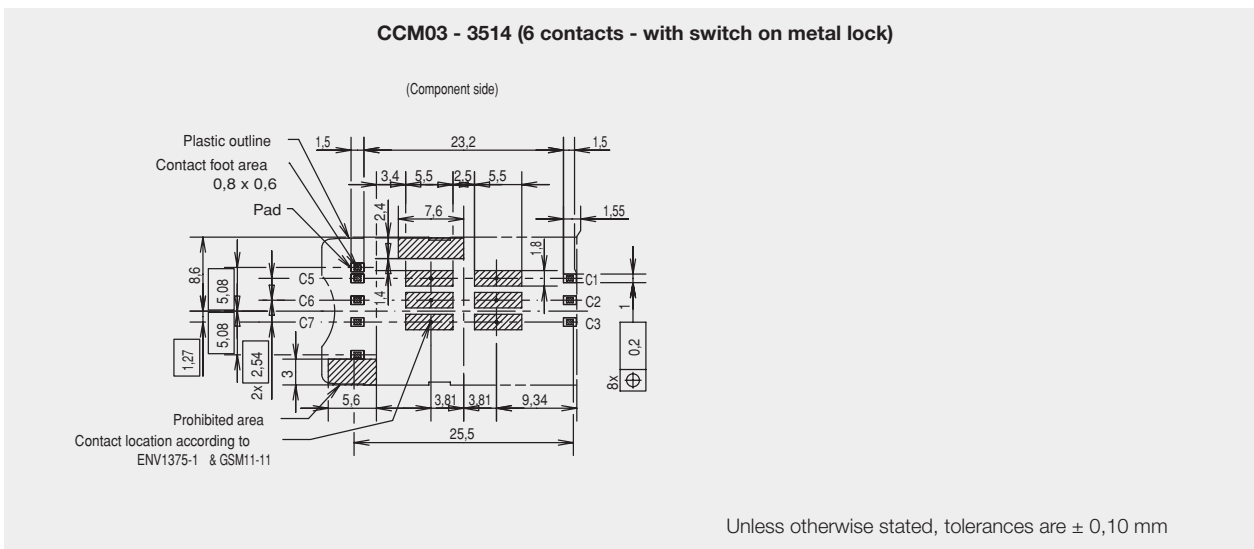


# CCM03 MK II Hinged Cover

## Dimensional Drawings



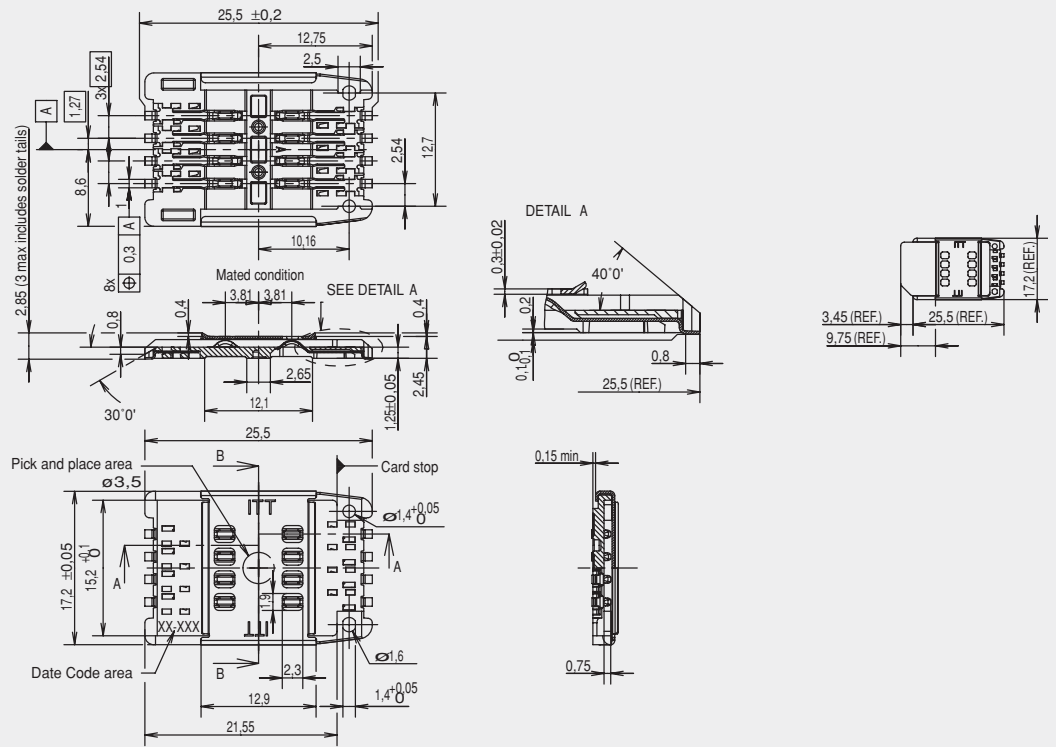
## PCB Layout



# CCM03 MK II Fixed Cover

## Dimensional Drawings

Fixed cover CCM03 - 3504 (8 contacts)

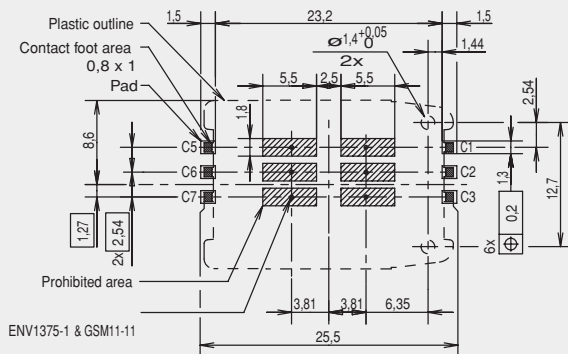


Note: Coplanarity of soldering surfaces:  $\pm 0,05$  mm

## PCB Layout

CCM03 - 3505

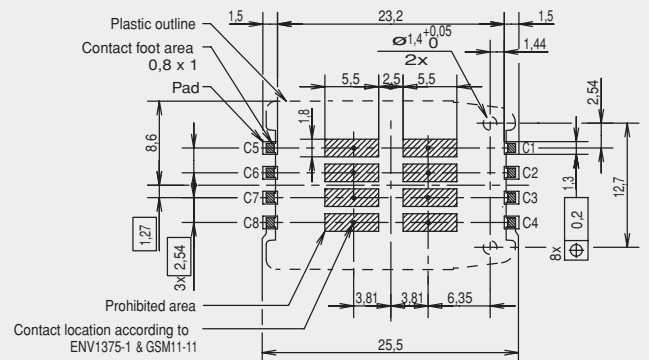
(Component side)



ENV1375-1 & GSM11-11

CCM03 - 3504

(Component side)



Contact location according to ENV1375-1 & GSM11-11

Unless otherwise stated, tolerances are  $\pm 0,10$  mm

# CCM03 MK II with Auto Lock cover



A new range of CCM03 connectors have been developed to interface with SIM/SAM cards as defined by GSM11-11 and ENV1375-1. The connectors are available with a hinged metallic cover and have been designed to provide an easier open/lock function and side card entry.

## Features

- Available with 6 cross contacts which are designed to give a consistently reliable normal force over the life of the connector.
- The hinged metallic cover can automatically lock by pressure.
- Side entry of the card ensures easier positioning of the card into the connector.
- Insulated blade switch version available for detection card when cover is closed.
- The molding is polarized so that the cover can only be closed if the card is correctly inserted.
- Inspection slots allow an electrical test to be made without opening the cover.
- With tape and reel packaging as standard, the connectors are designed to be automatically pick-and-placed.
- The moldings are made from high-temperature thermoplastics suited to infrared and convection soldering processes.
- Robustly formed printed circuit tails allow a coplanarity of  $\pm 0,05$  mm to be maintained.

## Construction

Contacts	Copper alloy
Contacts finish	Gold over nickel
PC tail plating	Tin lead (2 $\mu$ min)
Molding	High temp. thermoplastic, UL94V-0
Cover	Stainless steel

## Mechanical Data

Number of Contacts	6
Mechanical life	10,000 cycles min
Contact force	0.35 N min / 0.50 N max
Vibration	Frequency 10 to 500 Hz. Acceleration 50m/s <sup>2</sup> Duration 6 hours - amplitude 0.35 mm (0.014) Max electrical discontinuity 1 $\mu$ s

## Contact Electrical Data

Insulation resistance	1,000 M $\Omega$ min
Resistance	100 m $\Omega$ max
Current rating	10 $\mu$ A min / 1 A max
Dielectric strength	750 Vrms min

## Switch Electrical Data

Card detection switch	Normally open
Contact resistance	100 m $\Omega$ max
Dielectric strength	250 Vrms min
Current rating	1mA min / 10m A max
Maximum power	0.2 VA

## Environmental Data

Operating temperature	-40°C to +85°C
Soldering temperature	Temperature/time profile acc. to CECC00802 para. 6.1, Fig. 3 with peak temperature 250°C
Damp heat	IEC 512 test number 11c (10 days)
Salt mist	IEC 512 test number 11f (96 hours)

## Ordering Code

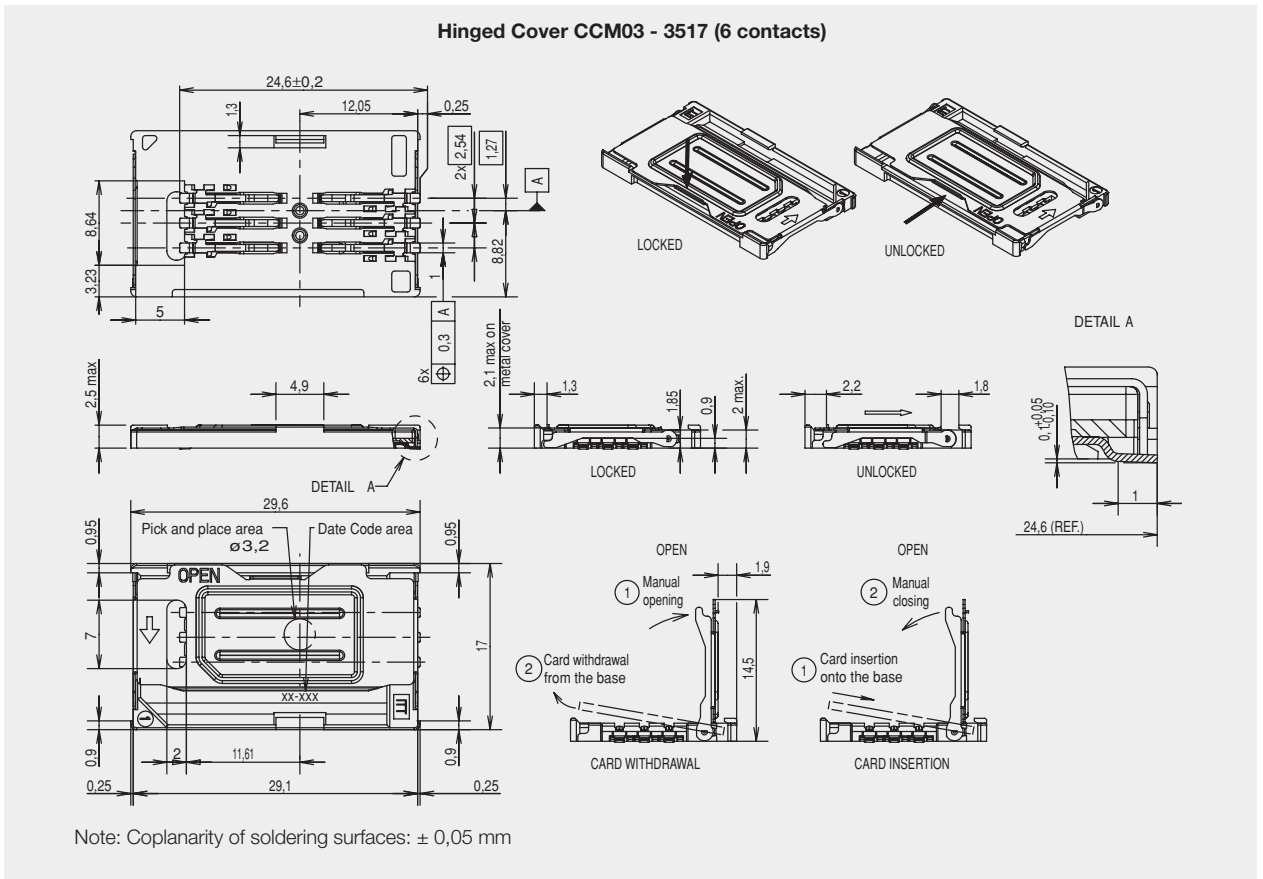
Part Number	Number of Contacts	Cover	Card Presence Switch	Quantity per reel
CCM03-3517	6	Side Hinged	No	1300
CCM03-3518	6	Front Hinged	Yes (insulated)	1300
CCM03-3529	6	Front Hinged	No	1300

## Packaging

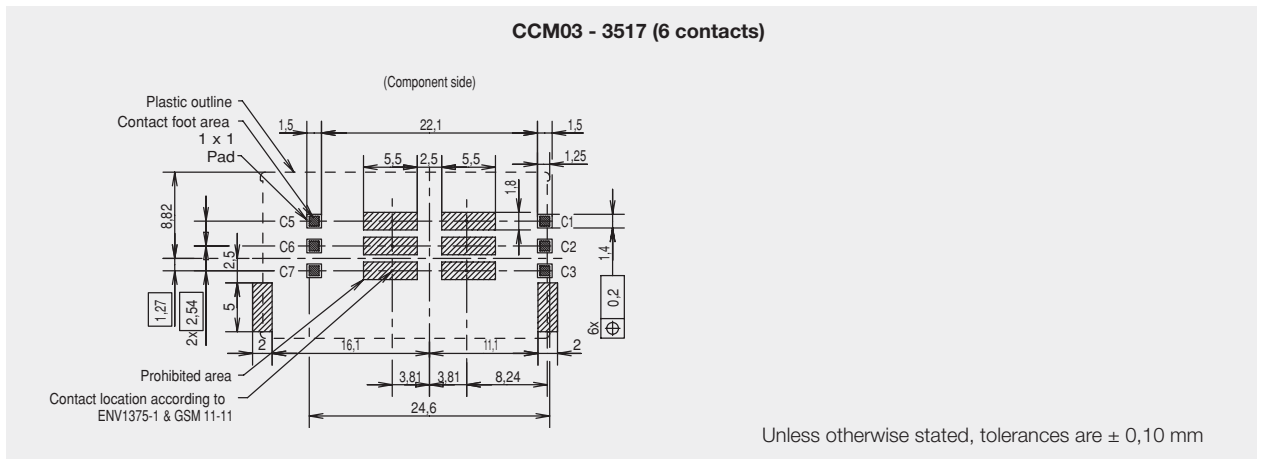
5 reels per box.

# CCM03 MK II with Auto Lock cover

## Dimensional Drawings



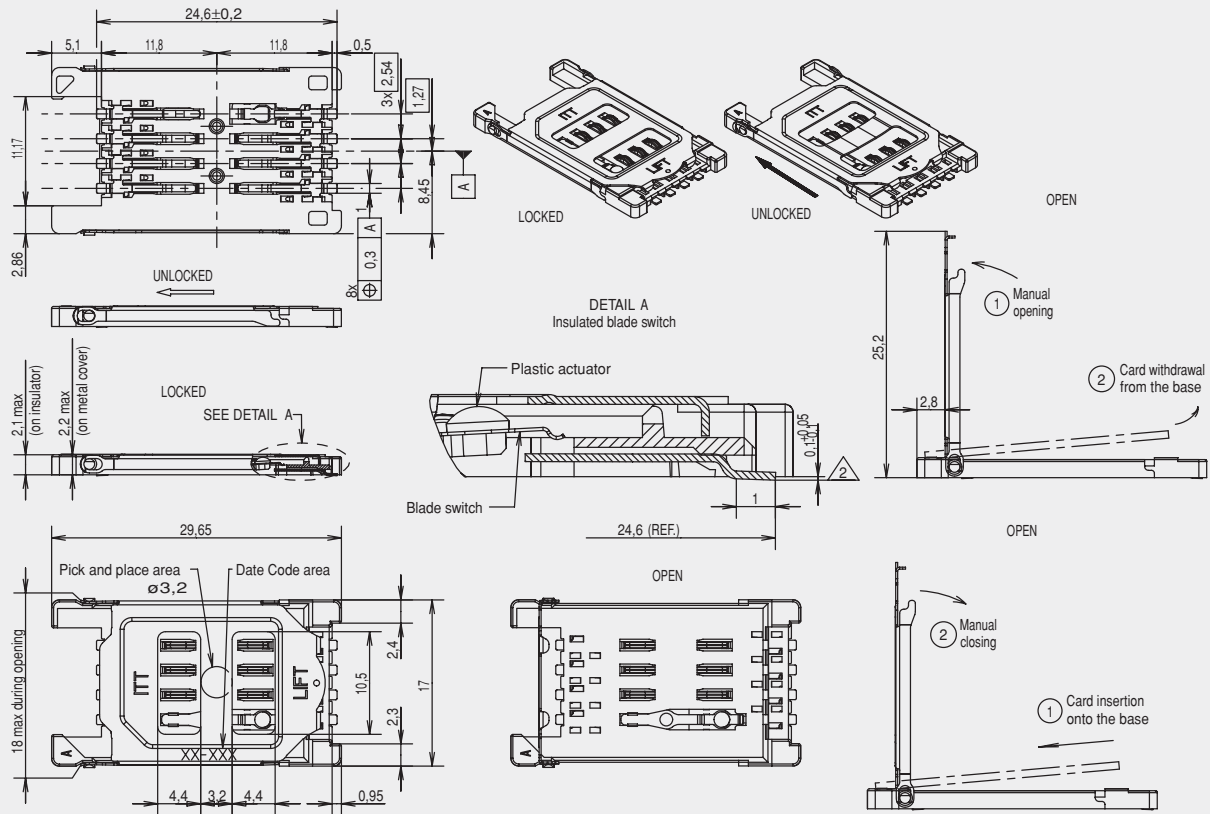
## PCB Layout



# CCM03 MK II with Auto Lock cover

## Dimensional Drawings

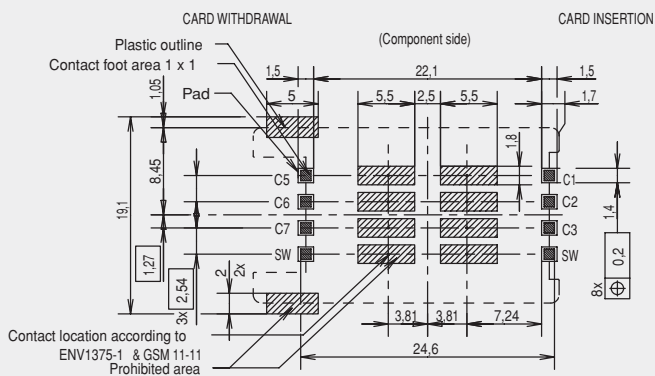
Hinged Cover CCM03 - 3518 (6 contacts and switch)



Note: Coplanarity of soldering surfaces:  $\pm 0,05$  mm

## PCB Layout

CCM03 - 3518 (6 contacts and switch)  
CCM03-3529 (without switch) layout is similar except SW pads



Unless otherwise stated, tolerances are  $\pm 0,10$  mm