






FULL SIZE CARD CONNECTORS

				
Series	CCM01	CCM01	CCM02	CCM04
Applications	Consumer	Professional	Professional	Consumer/Professional
PCI*		PCI ready	PCI/PCI ready	
EMV		•	•	
Insertion force	10N max	40N max	40N max	10N max
Overload	150N	250N	180N	40N
Card guide	•	•	•	
Sealed switch		•	•	•
Operating life	10,000 to 30,000 cycles	100,000 to 500,000 cycles**	500,000 cycles	>50,000 cycles
Contact plating	gold	inlay	inlay	gold
Number of contacts	8	8	8	6 or 8
Contact type	friction	friction	friction	friction/vandal proof
Page No.	7	10	12	19

SIM / SAM CARD CONNECTORS

			
Series	CCM03	CCM03	CCM04
Applications	Consumer/Professional	Consumer/Professional	Consumer/Professional
Cover	hinged / fixed	fixed	hinged / fixed
Operating life	10,000 to 50,000 cycles	10,000 to 50,000 cycles	30,000 cycles
Sealed switch	•	•	
Contact plating	inlay / gold	inlay	inlay / gold
Card end travel switch	with / without	with / without	without
Number of contacts	6 or 8	6	6 or 8
Page No.	28	40	43

* PCI

PCI ready: specific features are designed into the connector in order to ease the integration of security devices around and below the connector.

PCI: specific additional accessories are integrated on the connector in order to avoid access to the data contacts and to detect any connection attempt.

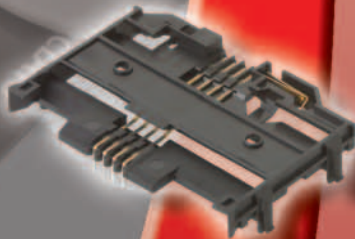
** 500,000 cycles available Q4 2011





C&K

Full Size Cards

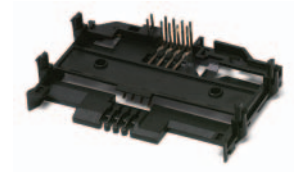


Features

- Card detection switch
- Compatible with lead free THT soldering
- Chamfered opening in the card entry slot improves the card guidance

Typical Applications

- Consumer
- Set-top box
- Pay TV



Full Size

Mechanical

Number of Contacts	8
Mechanical life	See table
Card insertion force	See table
Card extraction force	1 N min / 10 N max
Contact force	0,2N / 0,50 N max

Packaging

Tray 30 parts / Cartons 300 parts

Soldering

Compatible with lead free THT soldering process

Contact Electrical Data

Insulation resistance	1,000 MΩ min
Resistance	100 mΩ max
Current rating	10 μA min / 1 A max
Dielectric strength	750 Vrms min

Switch Electrical Data

Card detection switch	Normally closed
Contact resistance	100 mΩ max
Dielectric strength	250 Vrms min
Current rating	1 mA min / 10 mA max
Maximum power	0,2 VA

Environmental Data

Operating temperature	-20°C to +70°C
Damp heat	IEC 512 test number 11c (10 days)
Salt mist	IEC 512 test number 11f (96 hours)
RoHS compliant	

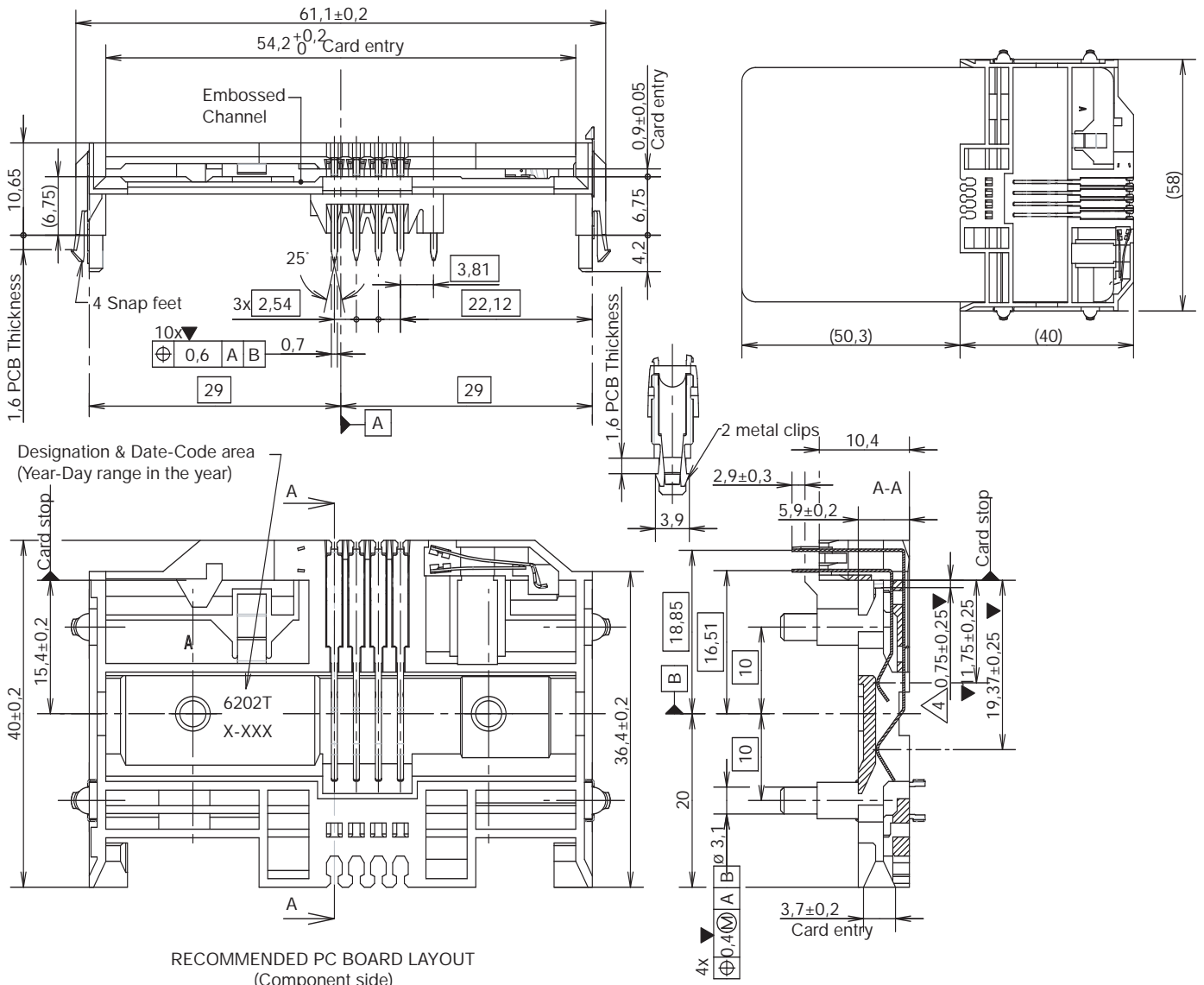
Designation	Termination	Contact Plating	Height (mm)	Operating Life	Operating Temperature	Card Insertion Force
CCM01-6202MLFT	THT	gold	6,75	10,000 cycles	-20°C/+70°C	10N
CCM01-6101LFT	THT	gold	3,9	30,000 cycles	-20°C/+70°C	10N



CCM01 Series

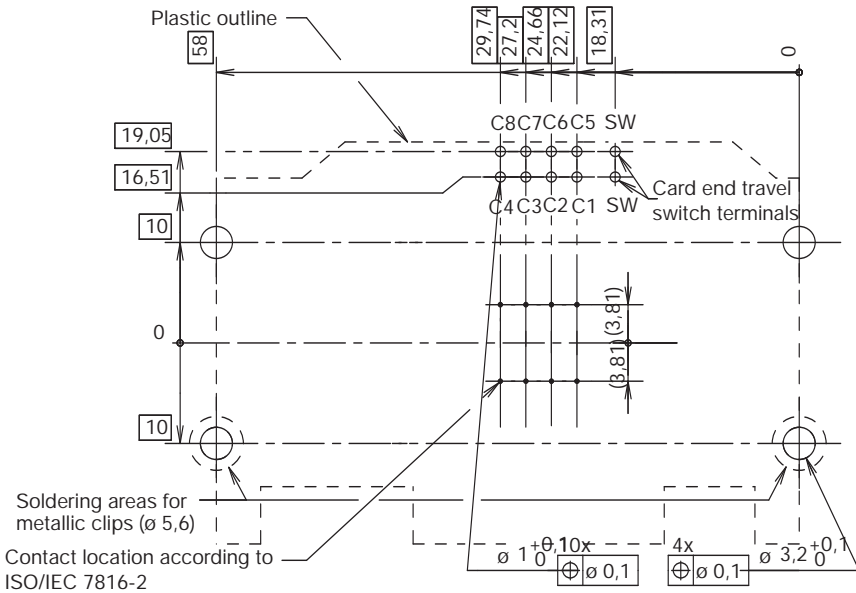
CCM01-6202M LFT

Full Size



Designation & Date-Code area
(Year-Day range in the year)

RECOMMENDED PC BOARD LAYOUT
(Component side)

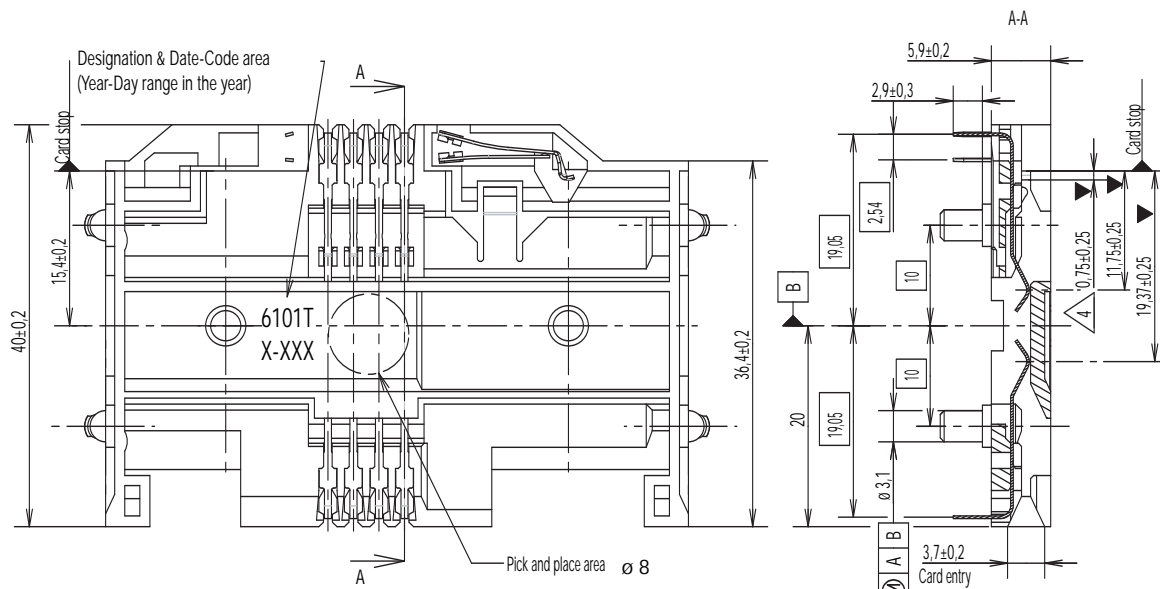
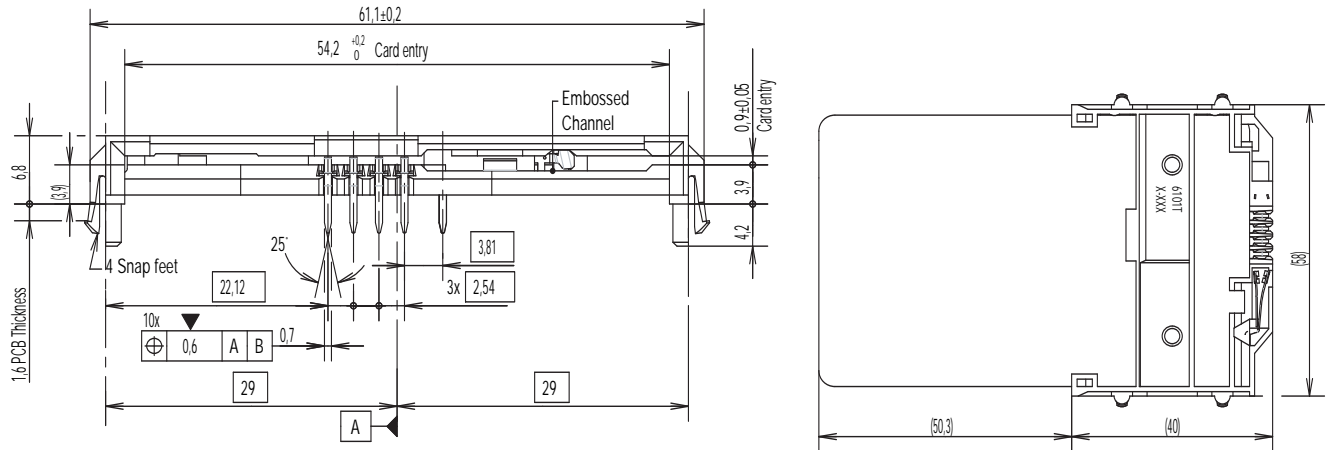


Dimensions are shown in mm
Specifications and dimensions subject to change

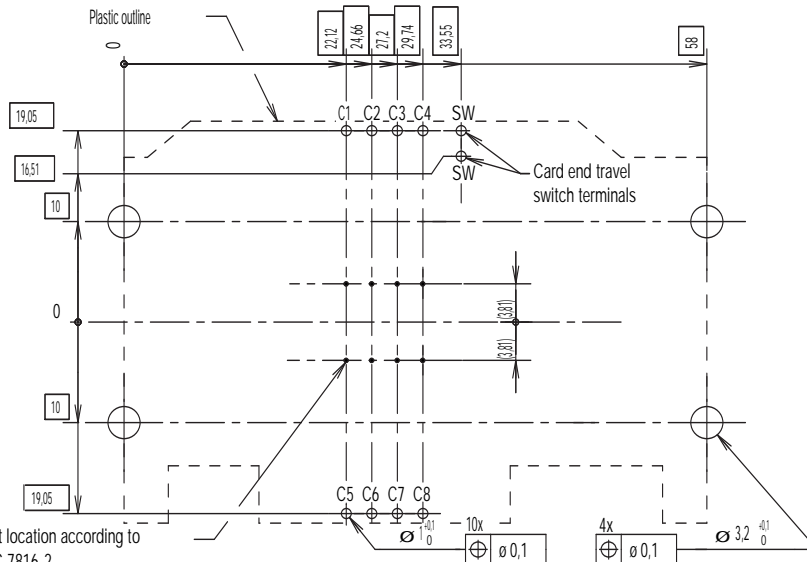
www.ck-components.com



CCM01-6101 LFT



RECOMMENDED PC BOARD LAYOUT
(Component side)



Contact location according to ISO/IEC 7816-2



Dimensions are shown in mm
Specifications and dimensions subject to change

www.ck-components.com

Full Size

CCM01 Series

Features

- Operating life up to 500,000 cycles
- 40N card insertion force
- EMV
- PCI ready
- Card detection sealed switch

Typical Applications

- Transaction
- Identification
- POS



Mechanical

Number of Contacts	8
Mechanical life	Up to 500,000 cycles
Card insertion force	40N max.
Card extraction force	1 N min / 10 N max
Contact force	0,2N / 0,50 N max
Card detection switch	0,8 N max for actuation (end travel switch actuation force actuates when card is 0,9mm from card stop)
	1,8 N max for complete depression
Vibration Frequency	10 to 500 Hz. Acceleration 50m/s ² Duration 6 hours - amplitude 0,35mm
Max elect. discontinuity	1µs
Shock	Peak value 500 m/s ² – Duration 11 ms 3 shocks in each direction of each axis

Packaging

Tray 30 parts / Cartons 300 parts
Reel 200 parts / Cartons 1,000 parts

Soldering

Compatible with lead free SMT reflow soldering process

Contact Electrical Data

Insulation resistance	1,000 MΩ min
Resistance	100 mΩ max
Current rating	10 µA min / 1 A max
Dielectric strength	750 Vrms min

Switch Electrical Data

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

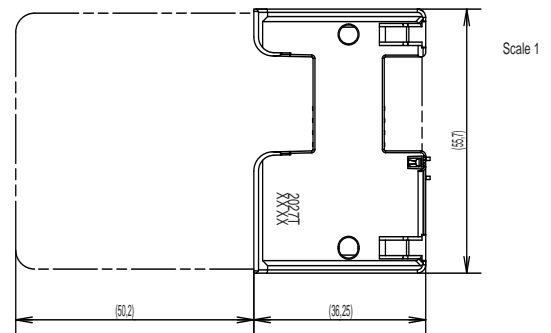
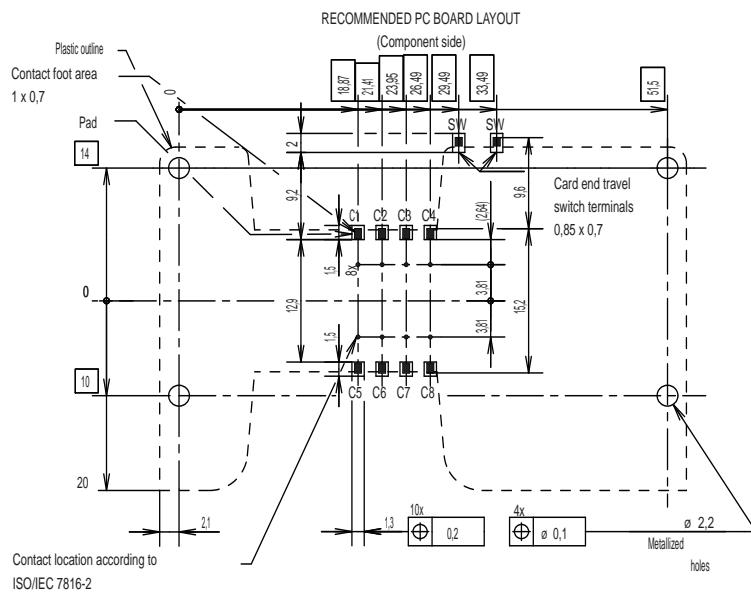
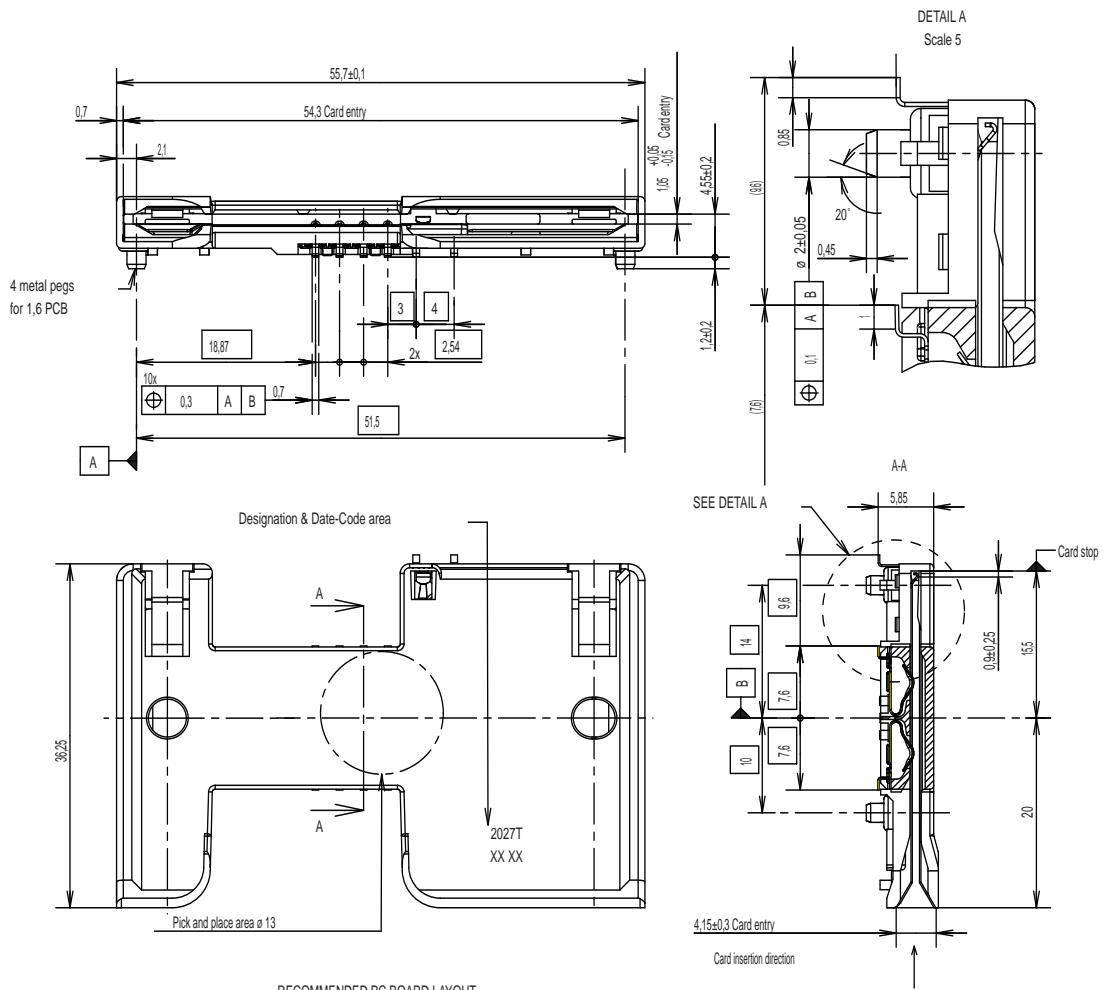
Environmental Data

Operating temperature	-40°C to +85°C
Damp heat	IEC 512 test number 11c (10 days)
Salt mist	IEC 512 test number 11f (96 hours)
Card detection switch	Sealed against dust
RoHS compliant	

Designation	Termination	Operating Life	Card Insertion Force
CCM01-2027LFT	SMT	100,000 cycles	40N
CCM01-2327LFT	SMT	500,000 cycles *	40N

* CCM01-2327: 500,000 cycles available Q4 2011





CCM02 Series



Features

- Operating life 500,000 cycles
- Insertion force 40N
- EMV
- PCI & PCI ready
- Card detection sealed switch

Typical Applications

- Transaction
- Identification
- POS

Mechanical

Number of Contacts	8
Mechanical life	500,000 cycles min
Card insertion force	10N to 40N
Card extraction force	1N min / 10N max
Contact force	0,2N / 0,50N max
Card detection switch	0,8 N max for actuation (end travel switch actuation force actuates when card is 0,9mm from card stop) 1,8 N max for complete depression
Vibration Frequency	10 to 500 Hz. Acceleration 50m/s ² Duration 6 hours - amplitude 0,35mm
Max elect. discontinuity	1µs
Shock	Peak value 500 m/s ² – Duration 11 ms 3 shocks in each direction of each axis

Packaging

Tray 30 parts / Cartons 300 parts
Reel 120 parts

Soldering

Compatible with lead free reflow soldering process
For version with security cover, please contact Customer Service for soldering recommendations.

Contact Electrical Data

Insulation resistance	1,000 MΩ min
Resistance	100 mΩ max
Current rating	10 µA min / 1 A max
Dielectric strength	750 Vrms min

Switch Electrical Data

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

Environmental Data

Operating temperature	-40°C to +85°C
Damp heat	IEC 512 test number 11c (10 days)
Salt mist	IEC 512 test number 11f (96 hours)
Card detection switch	Sealed against dust
RoHS compliant	

Designation	Termination	Contact Type	PCI Features		Total Height (mm)	Dimension	PCB version
			I/O Protect	Security Cover			
CCM02-2503LFT	THT	landing			6,25	38,5 X 55,6	4 clips
CCM02-2504LFT	SMT	landing			6,25	38,5 X 55,6	4 clips
CCM02-F503LFT	THT	friction			6,25	38,5 X 55,6	4 clips
CCM02-F504LFT	SMT	friction			6,25	38,5 X 55,6	4 clips
CCM02-F796LFT	SMT	friction			6,25	38,5 X 55,6	4 metal pegs
CCM02 F794LFT	SMT	friction	Yes		6,25	38,5 X 55,6	4 metal pegs
CCM02-F844LFT	SMT	friction	Yes	Yes	6,6	40,5 X 58	4 metal pegs



Dimensions are shown in mm
Specifications and dimensions subject to change

www.ck-components.com

PCI: I/O Protect

Definition

Special accessory in order to avoid and detect frontal access to data contact. It is electrically connected to the PCB through spring finger contacts.

Process

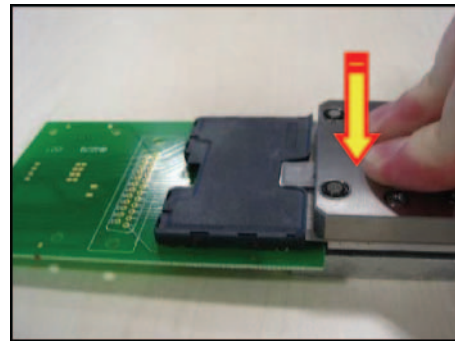
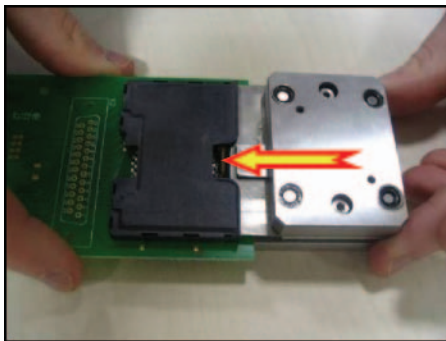
It must be in open position during the reflow soldering of the connector and has to be locked in closed position after soldering.



I/O Protect locking tool

C&K is proposing a manual tool to lock the I/O protect accessory after soldering.

Ordering code: C-CM02-E50



PCI: Security Cover



Definition

It is a multilayer cover placed over the connector to avoid and detect data contact access, especially from the top. It is connected to the PCB through 6 SMT terminals that are soldered at the same time as the other smart card terminals.

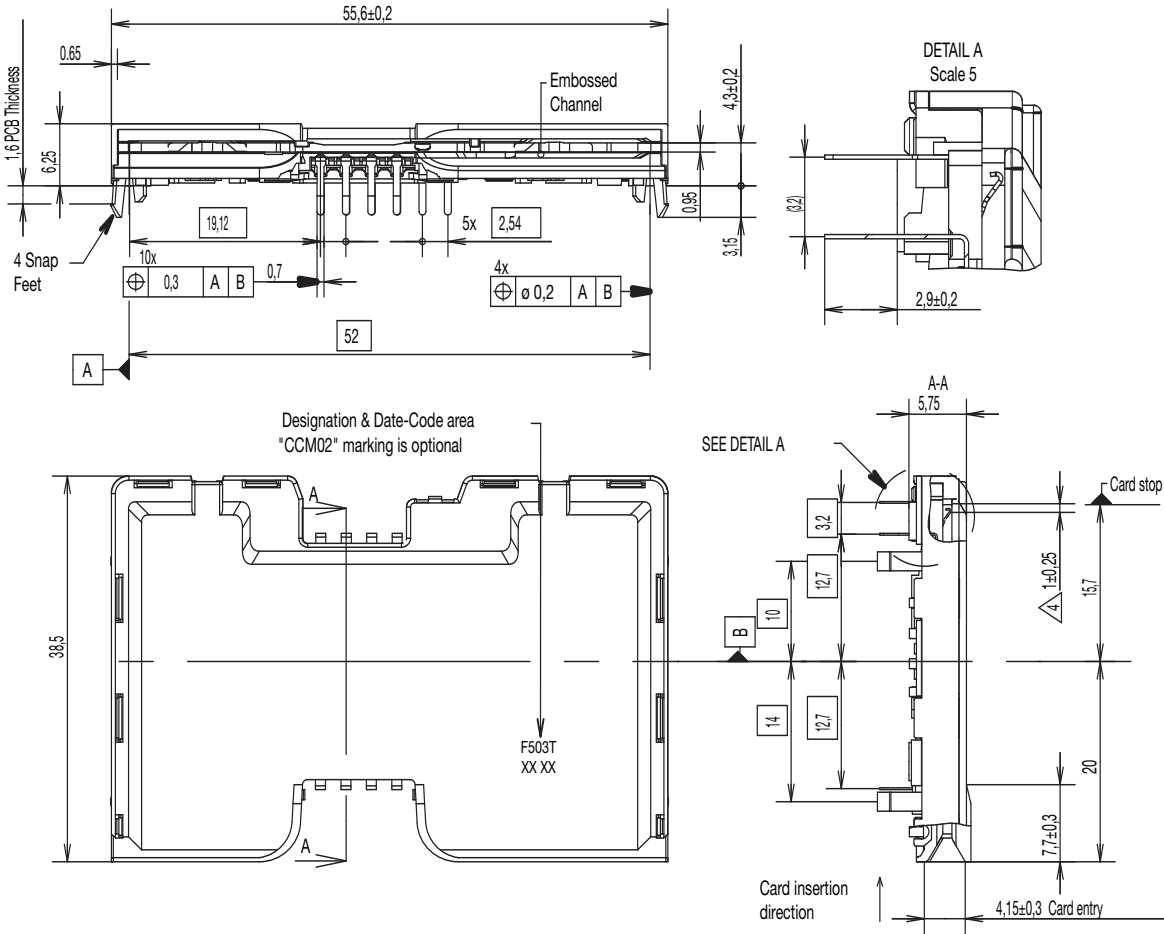
Process

Please contact your Sales Representative for advice and recommendations about soldering this version.

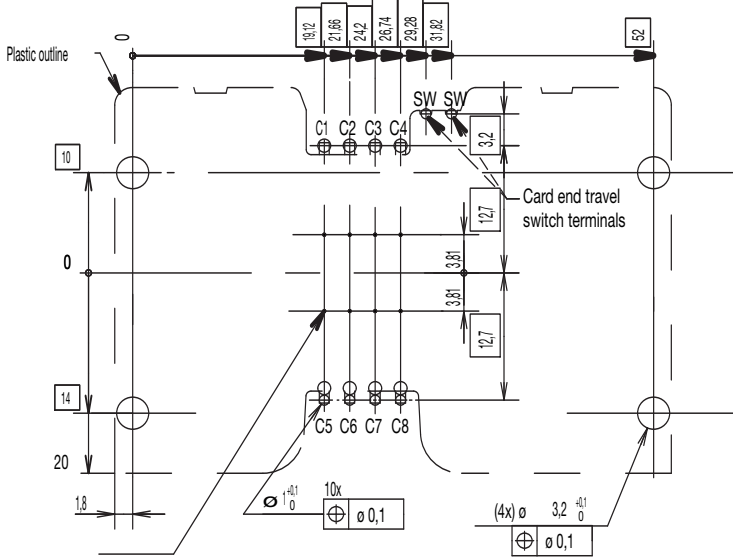
CCM02 Series

CCM02-2503 LFT / CCM02-F503 LFT

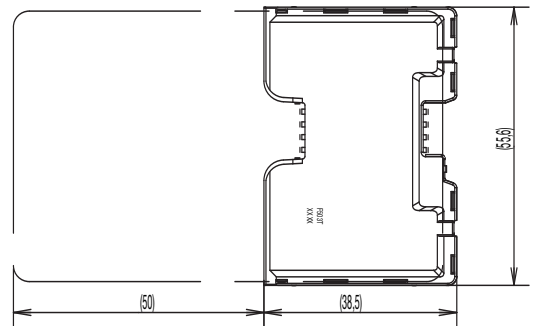
Full Size



RECOMMENDED PC BOARD LAYOUT
(Component side)



Contact location according to ISO/IEC 7816-2

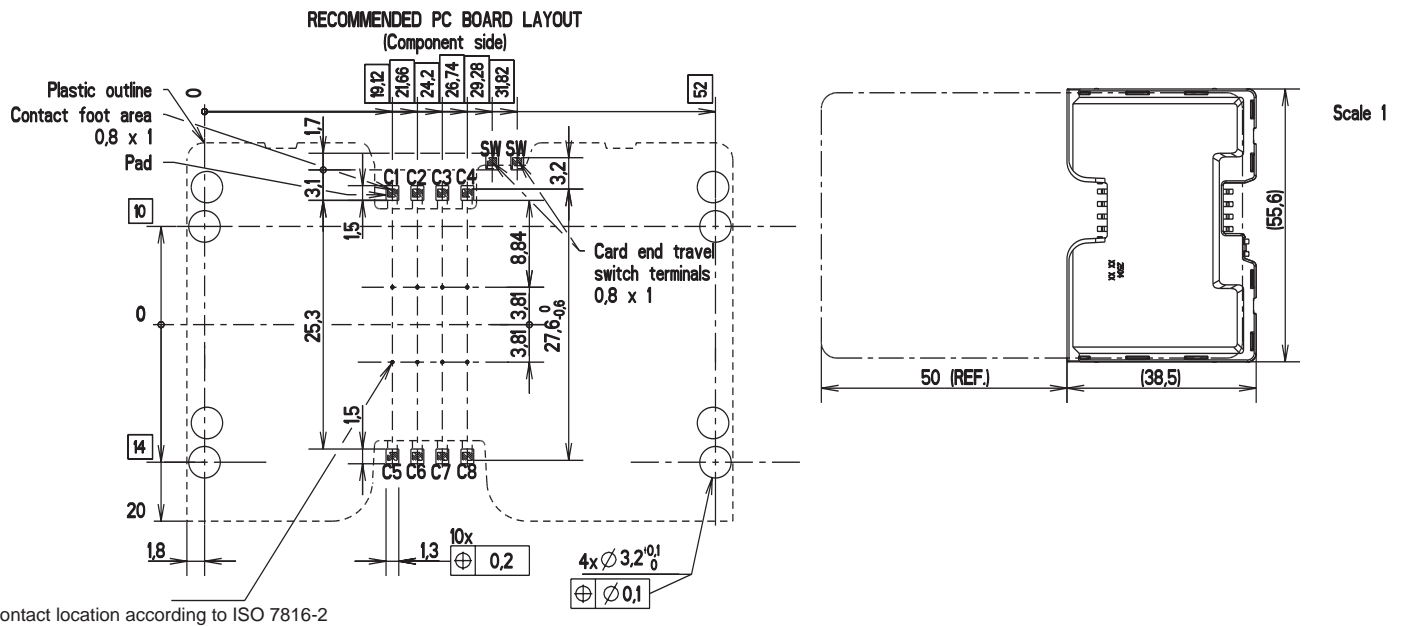
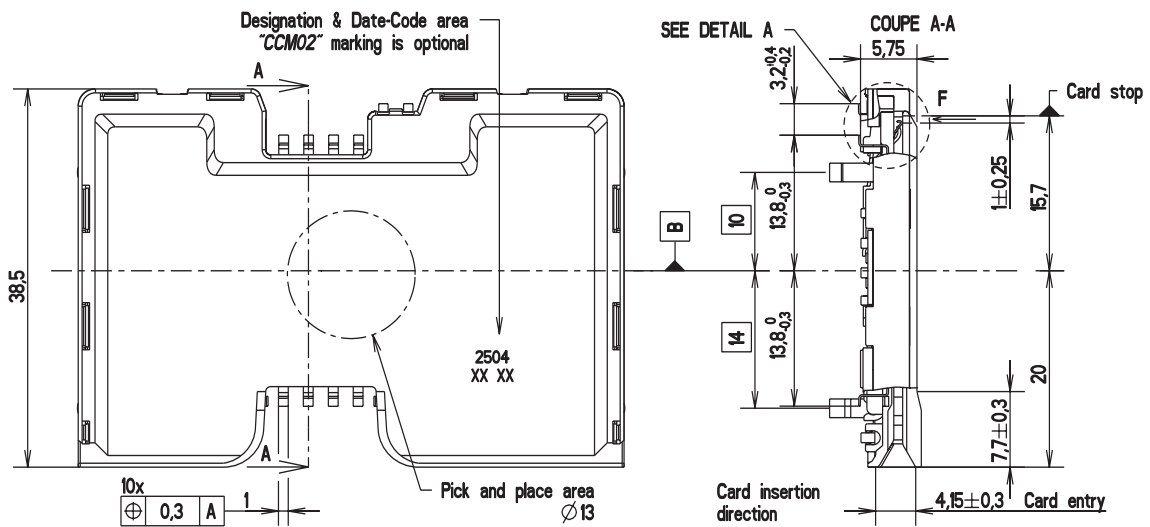
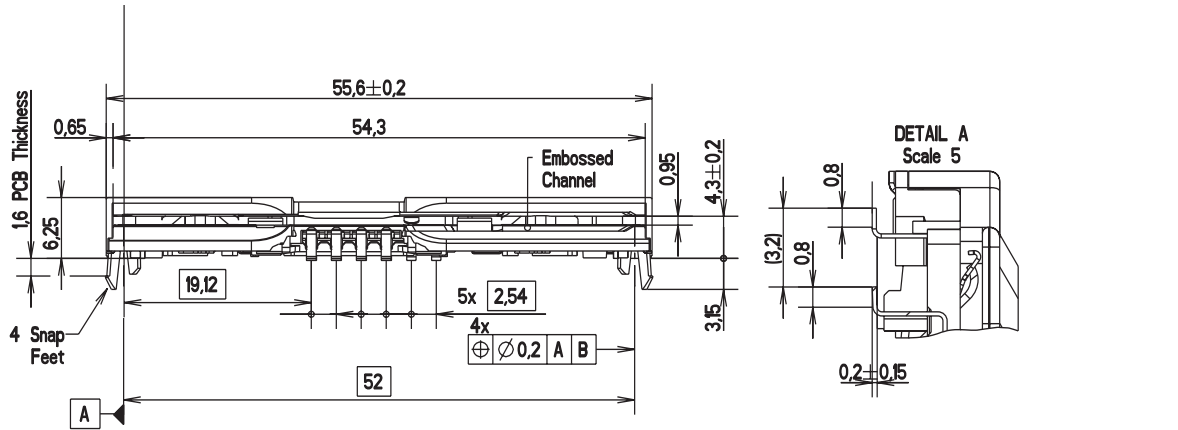


First Angle Projection

Dimensions are shown in mm
Specifications and dimensions subject to change

www.ck-components.com





Contact location according to ISO 7816-2



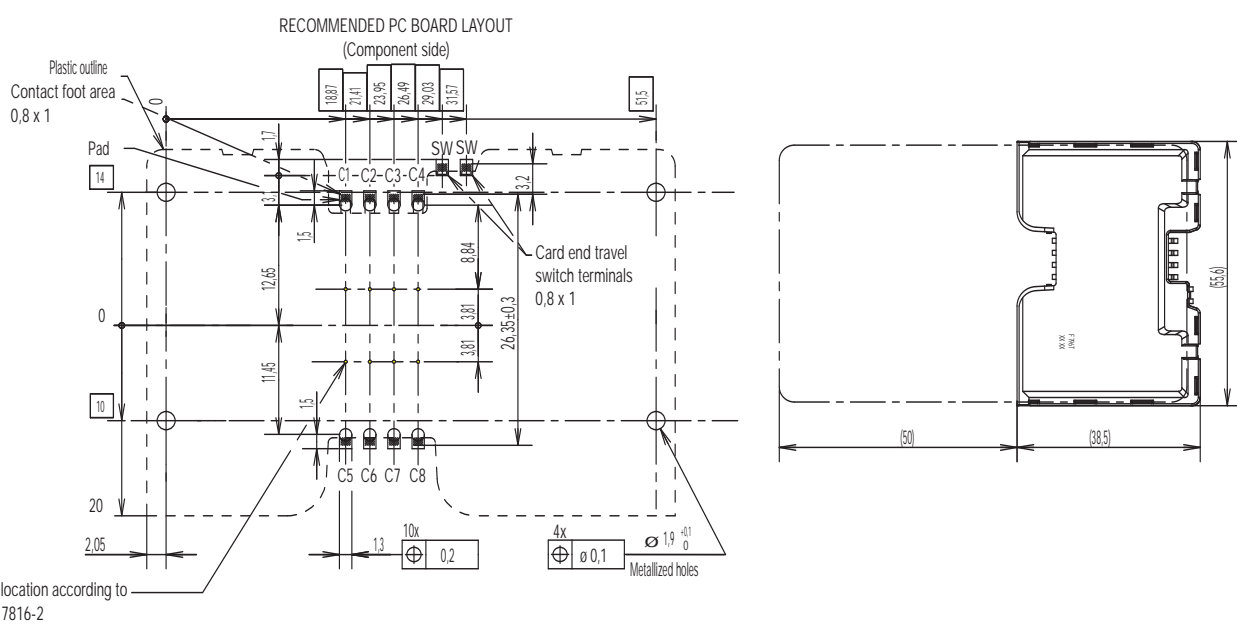
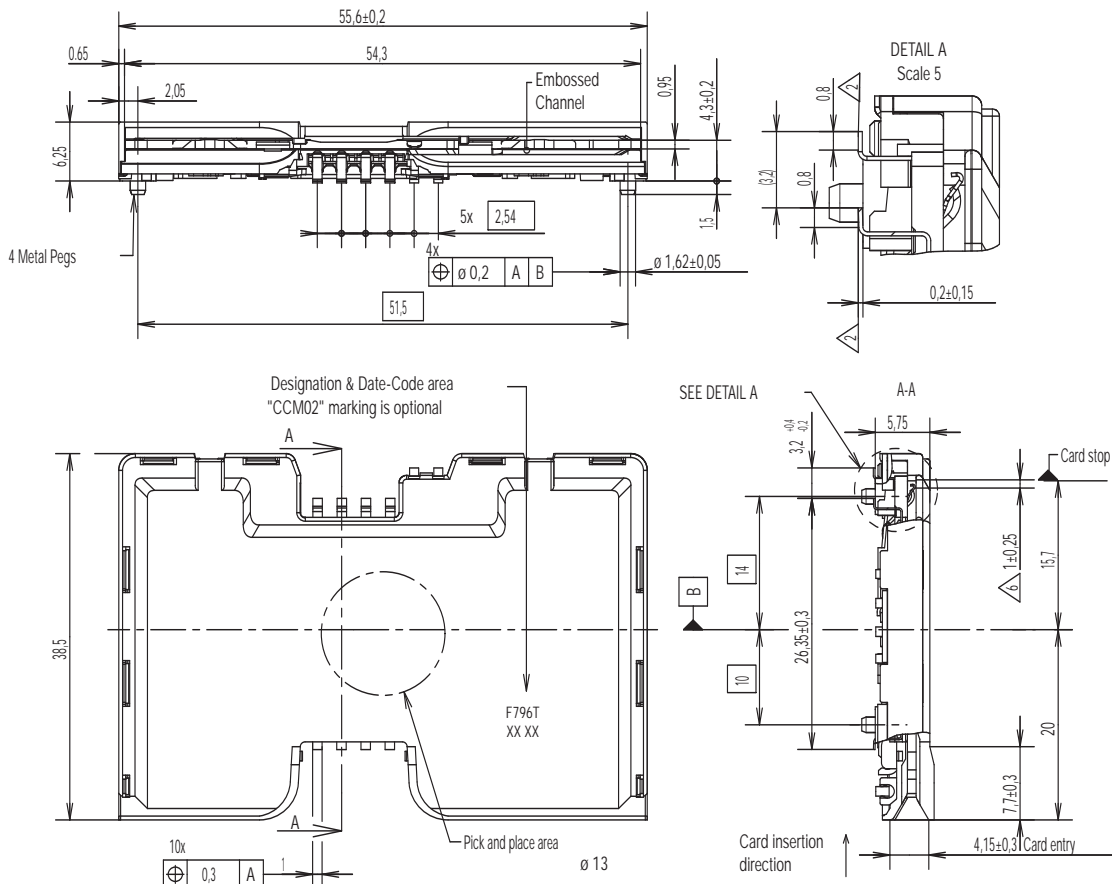
Dimensions are shown in mm
Specifications and dimensions subject to change

www.ck-components.com

CCM02 Series

CCM02-F796 LFT

Full Size



Dimensions are shown in mm
Specifications and dimensions subject to change

www.ck-components.com



Features

- ID1 full size card acceptance
- Card detection sealed switch
- Compatible with pick and place and lead free soldering

Typical Applications

- Transaction
- POS
- Identification



Mechanical

Number of contacts	6 or 8
Mechanical life	50,000 cycles
Card insertion force	10N max
Card extraction force	1N min / 10N max
Contact force	0,4N to 0,7N
Card detection switch	0,8 N max for actuation (end travel switch actuation force actuates when card is 0,9mm from card stop) 1,8 N max for complete depression
Vibration Frequency	10 to 500 Hz. Acceleration 50m/s ² Duration 6 hours - amplitude 0,35mm
Shock	Peak value 500 m/s ² – Duration 11 ms 3 shocks in each direction of each axis
Max elect. discontinuity	1µs

Packaging

See table below

Soldering Process

Compatible with lead free SMT reflow soldering process

Contact Electrical Data

Insulation resistance	1000 MΩ min
Contact resistance max	100 mΩ max
Switching current	10 µA min / 1 A max
Dielectric strength	750 Vrms min

Switch Electrical Data

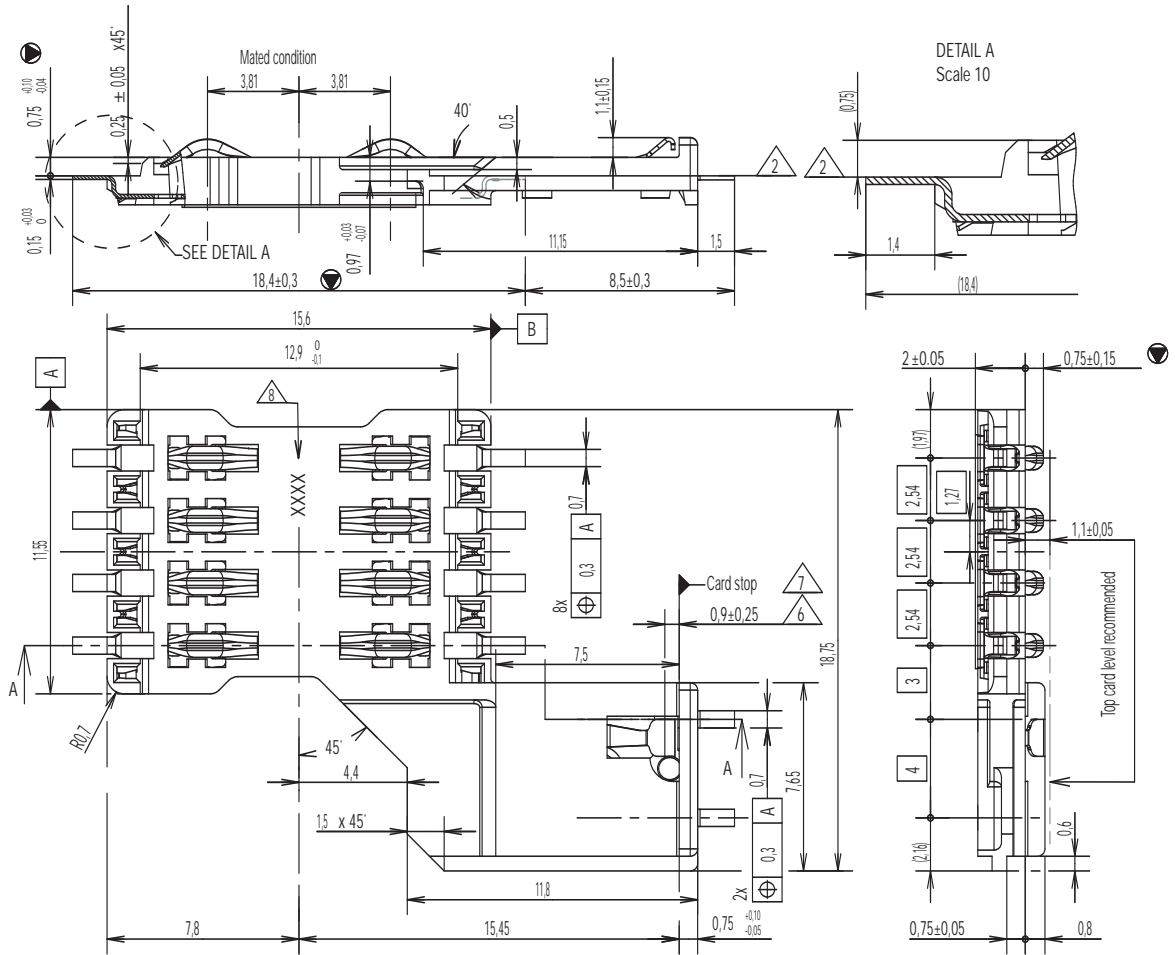
Card detection switch	Normally open
Rc card detection switch	100 mΩ max
Dielectric strength	250 Vrms min
Switch current rating	1 mA min / 10 mA max
Maximum switch power	0.2 VA

Environmental Data

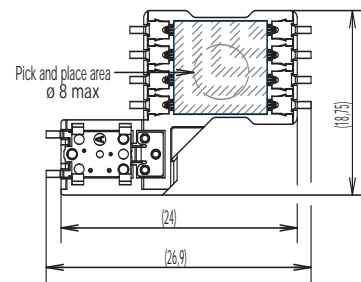
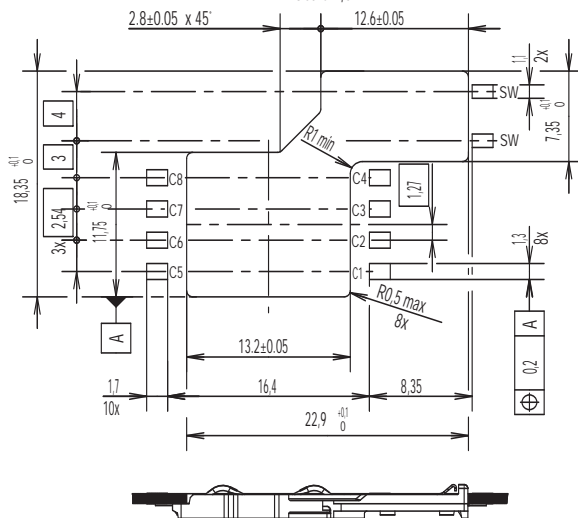
Operating temperature	-40°C to +85°C
Salt mist	IEC 512 test number 11f (96 hours)
Damp heat	IEC 512 test number 11c (10 days)
Card detection switch	Sealed against dust
RoHS compliant	

Designation	Housing Type	# of Contacts	Contact Force	Total Height (mm)	Total Dim. (mm)	Packaging
CCM04-5427LFT	standard	8	0,4N to 0,7N	2,65	18,75 X 25	reels of 1,000 pcs
CCM04-5436LFT	standard	8	0,4N to 0,7N	0,90	18,75 X 26,9	reels of 1,000 pcs
CCM04-5468LFT	stand-off	8	0,4N to 0,7N	3,5	18,75 X 24	reels of 1,000 pcs
CCM04-5454LFT	standard	8	0,4N to 0,7N	0,90	18,75 X 26,9	reels of 1,000 pcs
CCM04-5455LFT	standard	8	0,4N to 0,7N	0,90	18,75 X 26,9	reels of 1,000 pcs
CCM04-5452LFT	stand-off	6	0,4N to 0,7N	4,25	18,75 X 24	reels of 1,000 pcs
CCM04-5202LFT	standard	8	0,35N to 0,65N	2,32	16,1 X 26,5	reels of 1,000 pcs





RECOMMENDED PC BOARD LAYOUT
(Component side)
Scale 2,5



The logo for C&K, featuring the letters 'C' and 'K' in a bold, red, italicized font, with an ampersand '&' in a black, bold font between them. The logo is set against a white circular background.

SIM / SAM Cards



CCM03 Series



Features

- SIM/SAM card acceptance
- Hinged and fixed covers
- Compatible with pick and place and lead free soldering

Typical Applications

- Handheld products
- Identification
- POS
- Automotive

Mechanical

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: 1N max Fixed cover: 3N max
Card extraction force	Hinged cover: 1N max Fixed cover: 0,80N min / 3N max
Contact force	0,25N min / 0,50N max
Slide locking force	2N min / 6N max 1,8N max. for complete depression
Vibration Frequency	10 to 500 Hz. Acceleration 50m/s ² Duration 6 hours - amplitude 0,35 mm
Max electrical discontinuity	1µs
Shock	Peak value 500 m/s ² – Duration 11 ms 3 shocks in each direction of each axis

Switch Electrical Data

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

Environment Data

Operating temperature	-40°C to +85°C
Damp heat	IEC 512 test number 11c (10 days)
Salt mist	IEC 512 test number 11f (96 hours)
RoHS compliant	

Soldering Process

Compatible with lead free SMT soldering process



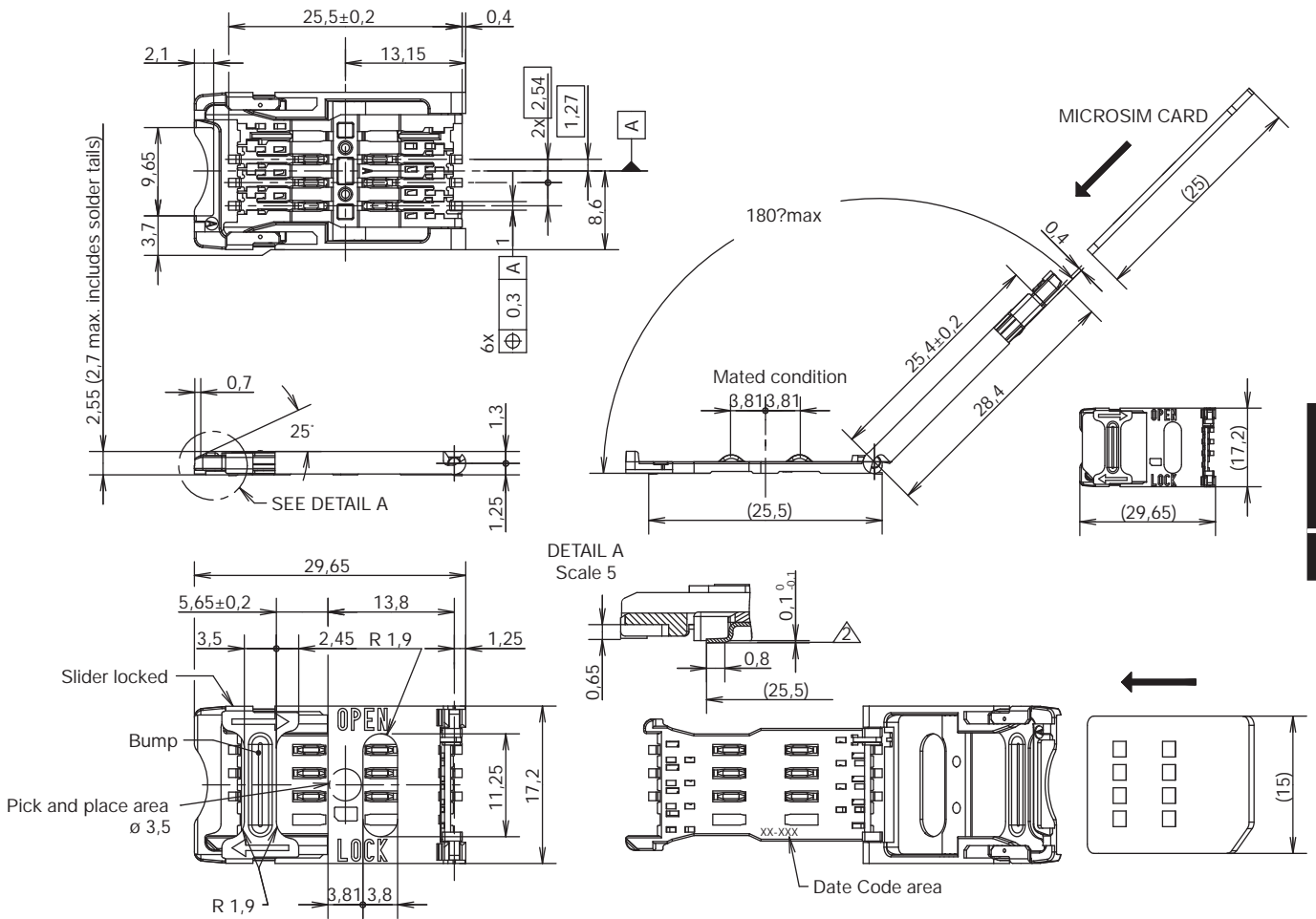
Contact Electrical Data

Insulation resistance	1,000 MΩ min
Resistance	100 mΩ max
Current rating	10 µA min / 1 A max
Dielectric strength	750 Vrms min

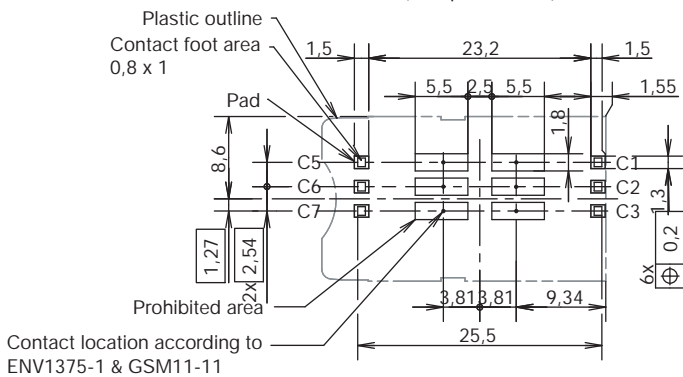
Designation	Contact Plating	Cover	# of Contacts	PCB Version	Card Presence Switch	Operating Life	Total Height (mm)	Dim. (mm)	Packaging
CCM03-3001LFT	inlay	hinged	6		without	10,000	2,55	17,2 x 29,65	reels of 1,000 pcs
CCM03-3002LFT	inlay	hinged	6	2 plastic pegs	without	10,000	2,55	17,2 x 29,65	reels of 1,000 pcs
CCM03-3003LFT	inlay	hinged	8		without	10,000	2,55	17,2 x 29,65	reels of 1,000 pcs
CCM03-3004LFT	inlay	hinged	8	2 plastic pegs	without	10,000	2,55	17,2 x 29,65	reels of 1,000 pcs
CCM03-3009LFT	gold	hinged	6		without	10,000	2,55	17,2 x 29,65	reels of 1,000 pcs
CCM03-3010LFT	gold	hinged	6	2 plastic pegs	without	10,000	2,55	17,2 x 29,65	reels of 1,000 pcs
CCM03-3011LFT	gold	hinged	8		without	10,000	2,55	17,2 x 29,65	reels of 1,000 pcs
CCM03-3012LFT	gold	hinged	8	2 plastic pegs	without	10,000	2,55	17,2 x 29,65	reels of 1,000 pcs
CCM03-3013LFT	gold	hinged	6		with	10,000	2,55	17,2 x 29,65	reels of 1,000 pcs
CCM03-3512LFT	gold	hinged	6	Large soldering pads*	without	10,000	2,55	17,2 x 29,65	reels of 1,000 pcs
CCM03-3519LFT	gold	hinged	6	White cover	without	10,000	2,55	17,2 x 29,65	reels of 1,000 pcs
CCM03-3504LFT	gold	fixed	8		without	50,000	2,85	17,2 x 25,5	reels of 1,000 pcs
CCM03-3505LFT	gold	fixed	6		without	50,000	2,85	17,2 x 25,5	reels of 1,000 pcs
CCM03-3535LFT	inlay	fixed	6		without	50,000	2,85	17,2 x 25,5	reels of 1,000 pcs
CCM03-3754LFT	inlay	fixed	6		with	10,000	3,5	16,5 x 18,05	reels of 1,000 pcs
CCM03-3760LFT	inlay	fixed	6		without	10,000	3,45	16,5 x 15,85	reels of 1,000 pcs
CCM03-3764LFT	inlay	none	6		with	10,000	2,9	16,5 x 15,85	reels of 1,000 pcs

* Can go through reflow upside down

CCM03-3001 LFT / CCM03-3009 LFT



RECOMMENDED PC BOARD LAYOUT
(Component side)



SIM/SAM



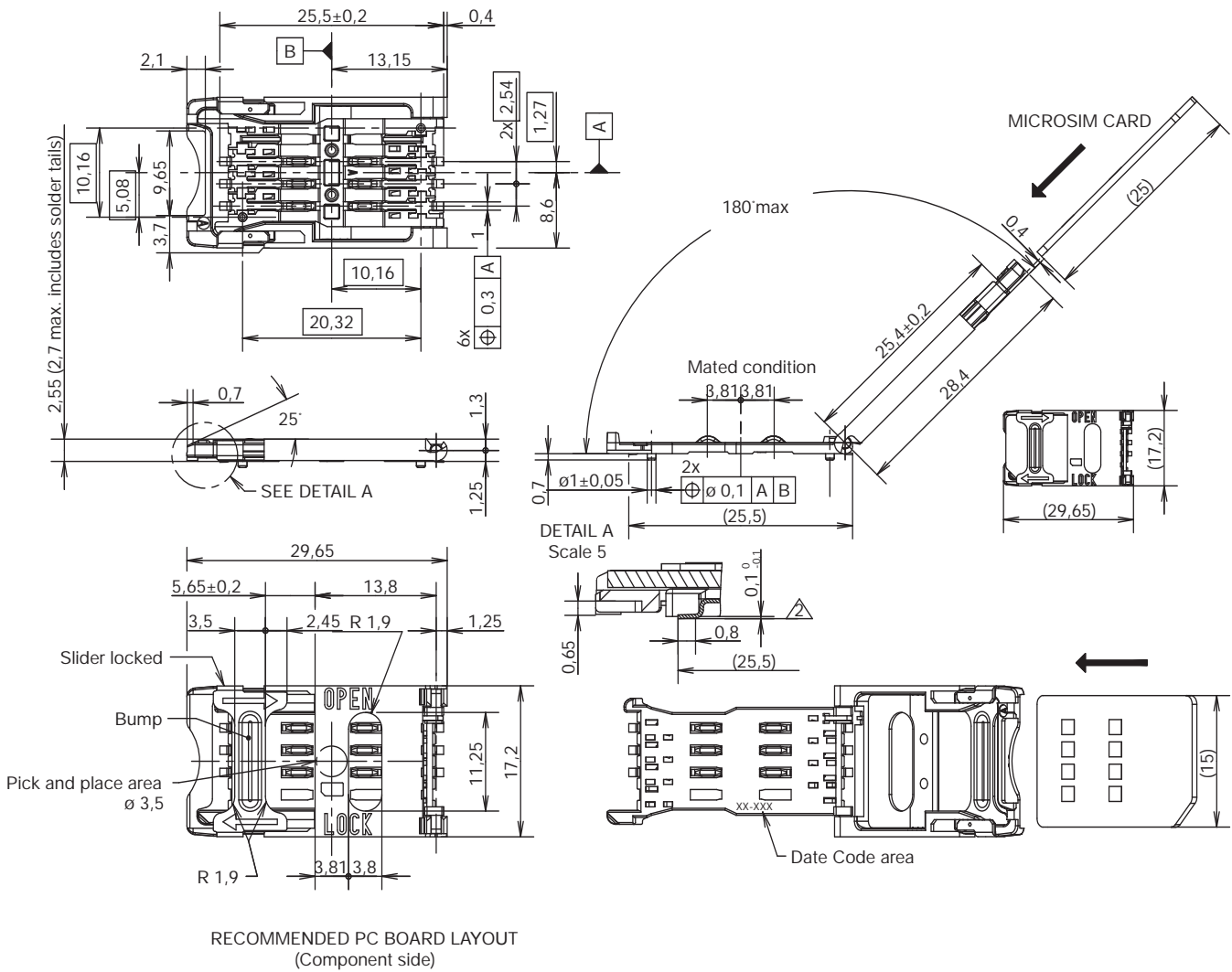
Dimensions are shown in mm
Specifications and dimensions subject to change

www.ck-components.com

CCM03 Series

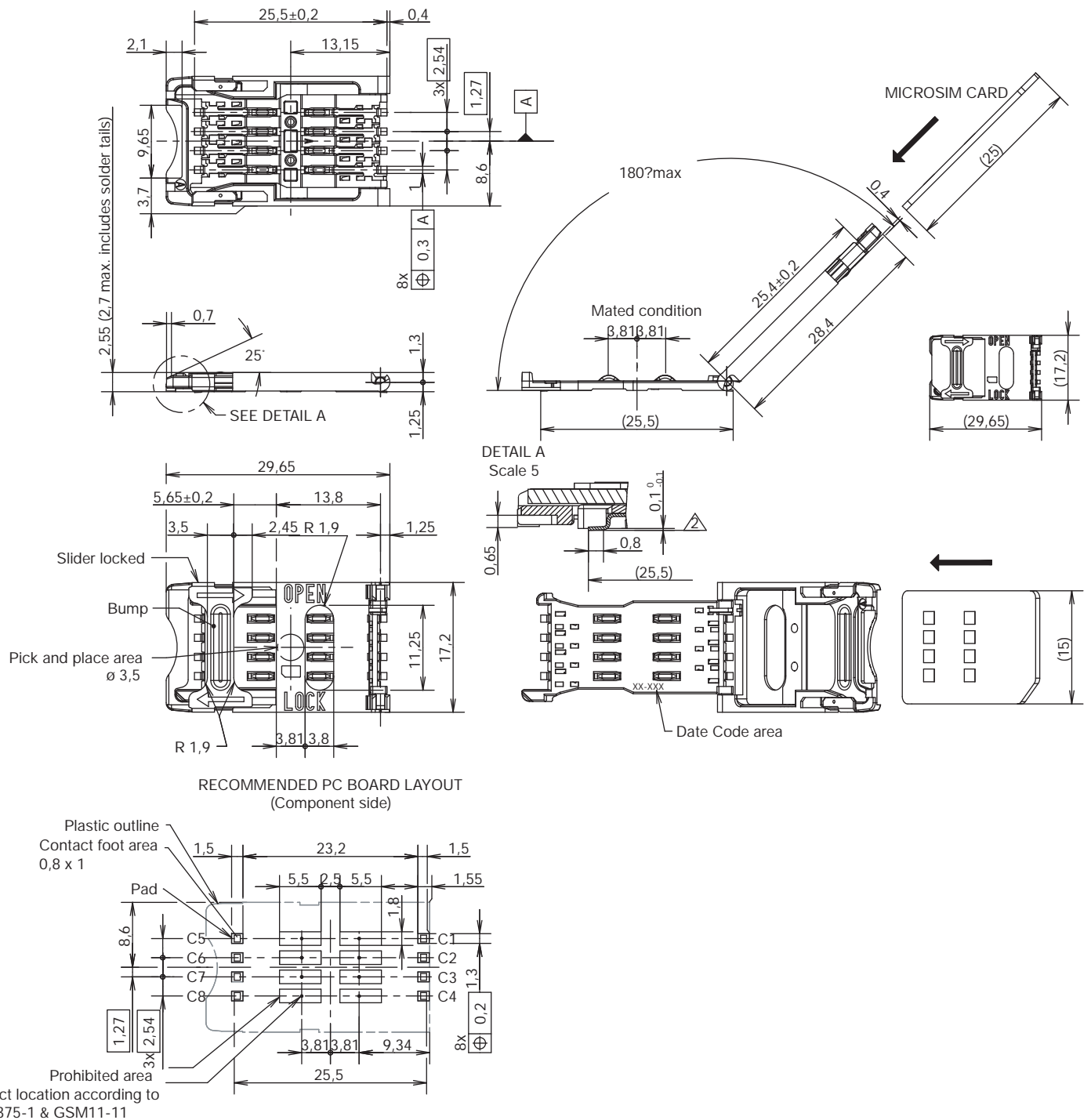
CCM03-3002 LFT / CCM03-3010 LFT

SIM/SAM

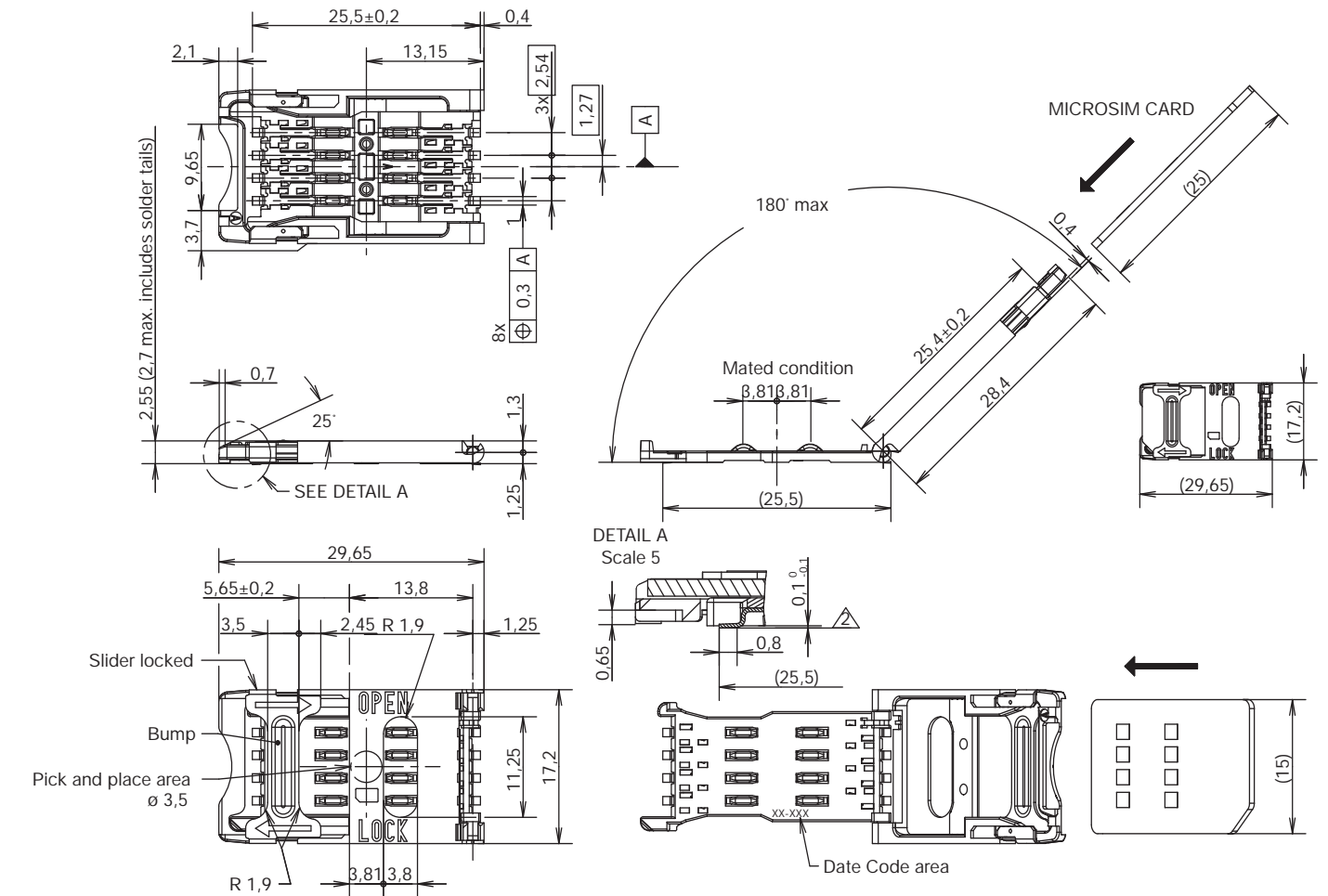


Dimensions are shown in mm
Specifications and dimensions subject to change

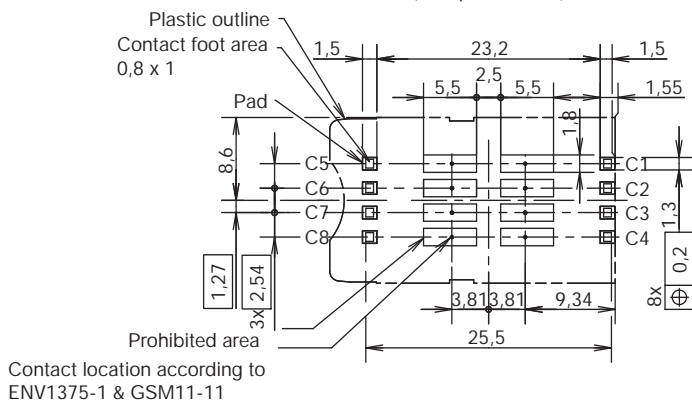
www.ck-components.com



SIM/SAM



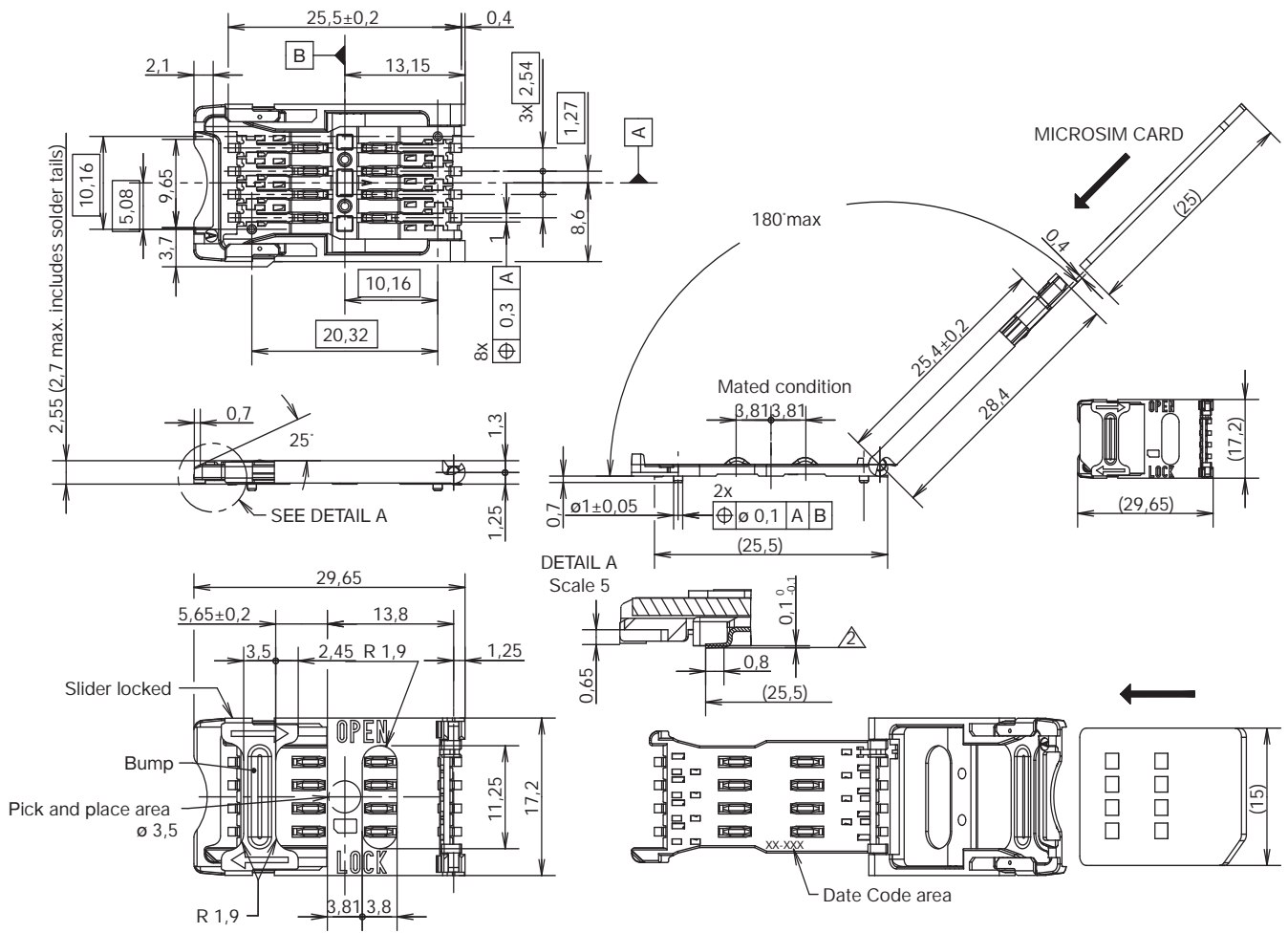
RECOMMENDED PC BOARD LAYOUT (Component side)



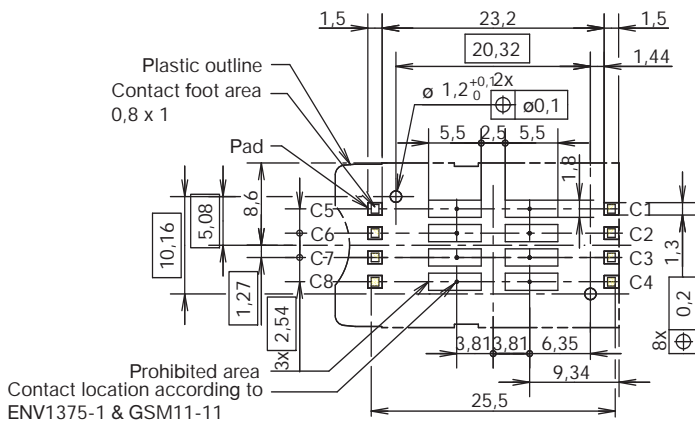
CCM03 Series

CCM03-3012 LFT

SIM/SAM

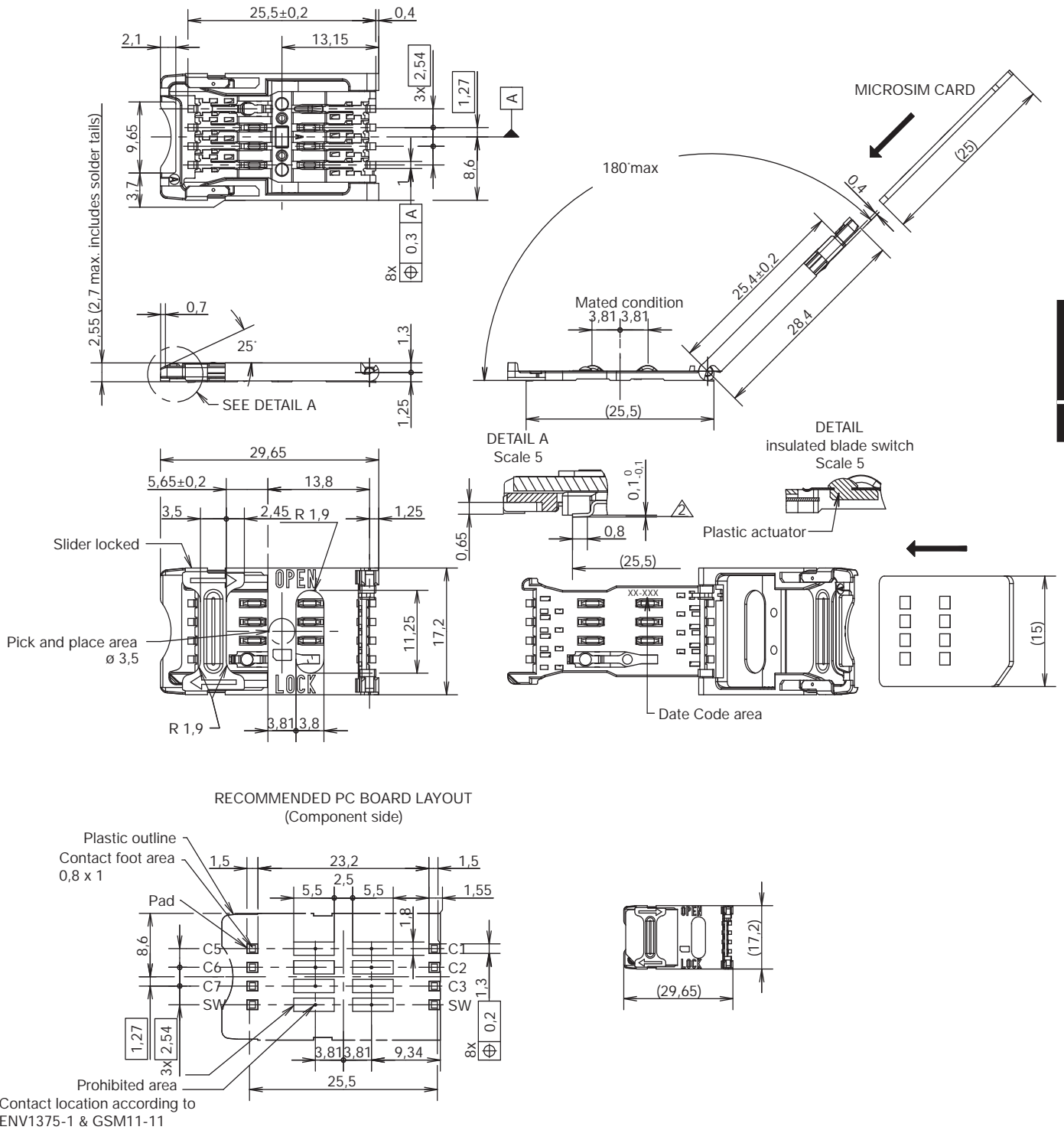


RECOMMENDED PC BOARD LAYOUT
(Component side)



Dimensions are shown in mm
Specifications and dimensions subject to change

www.ck-components.com

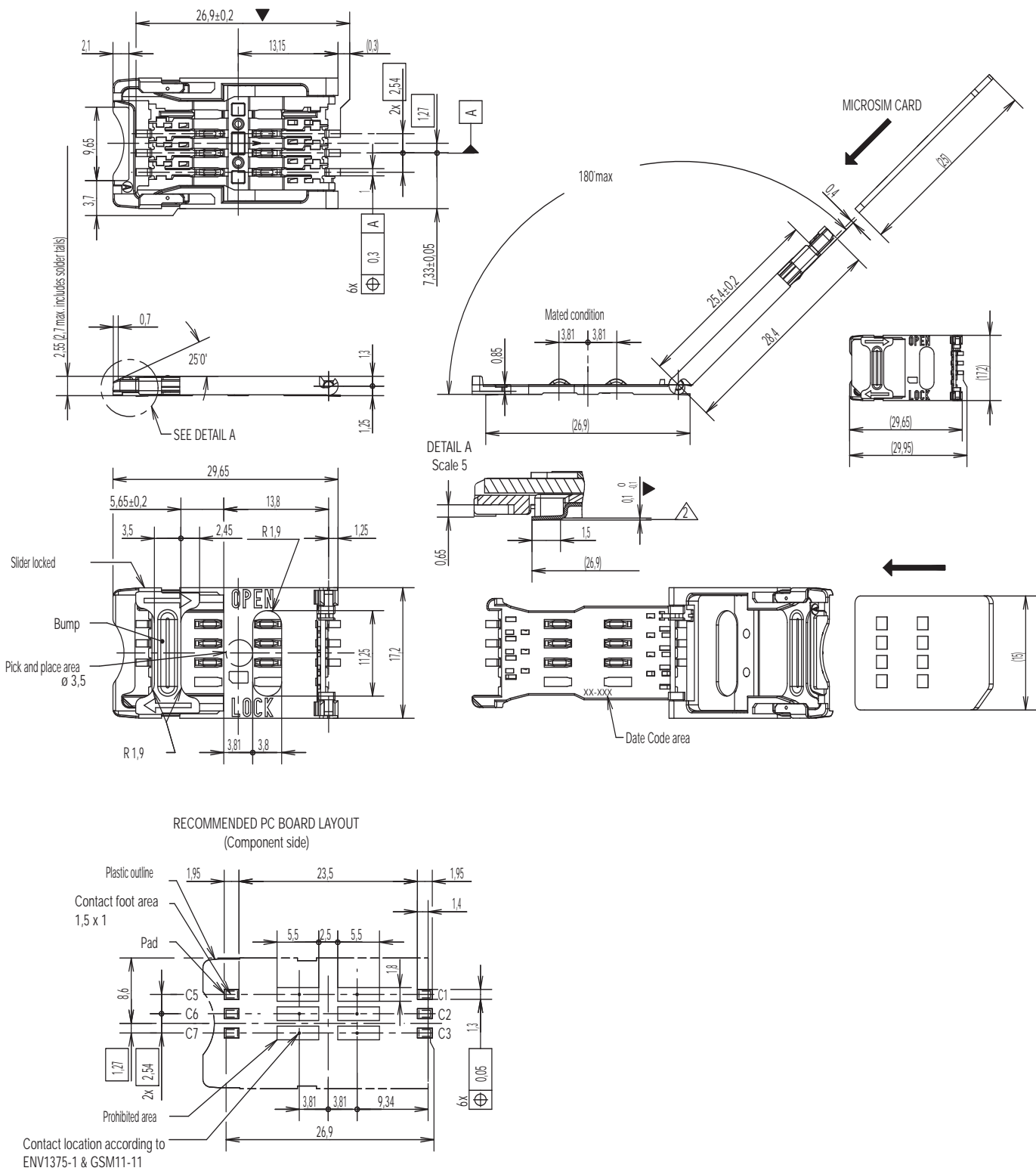


SIM/SAM

CCM03 Series

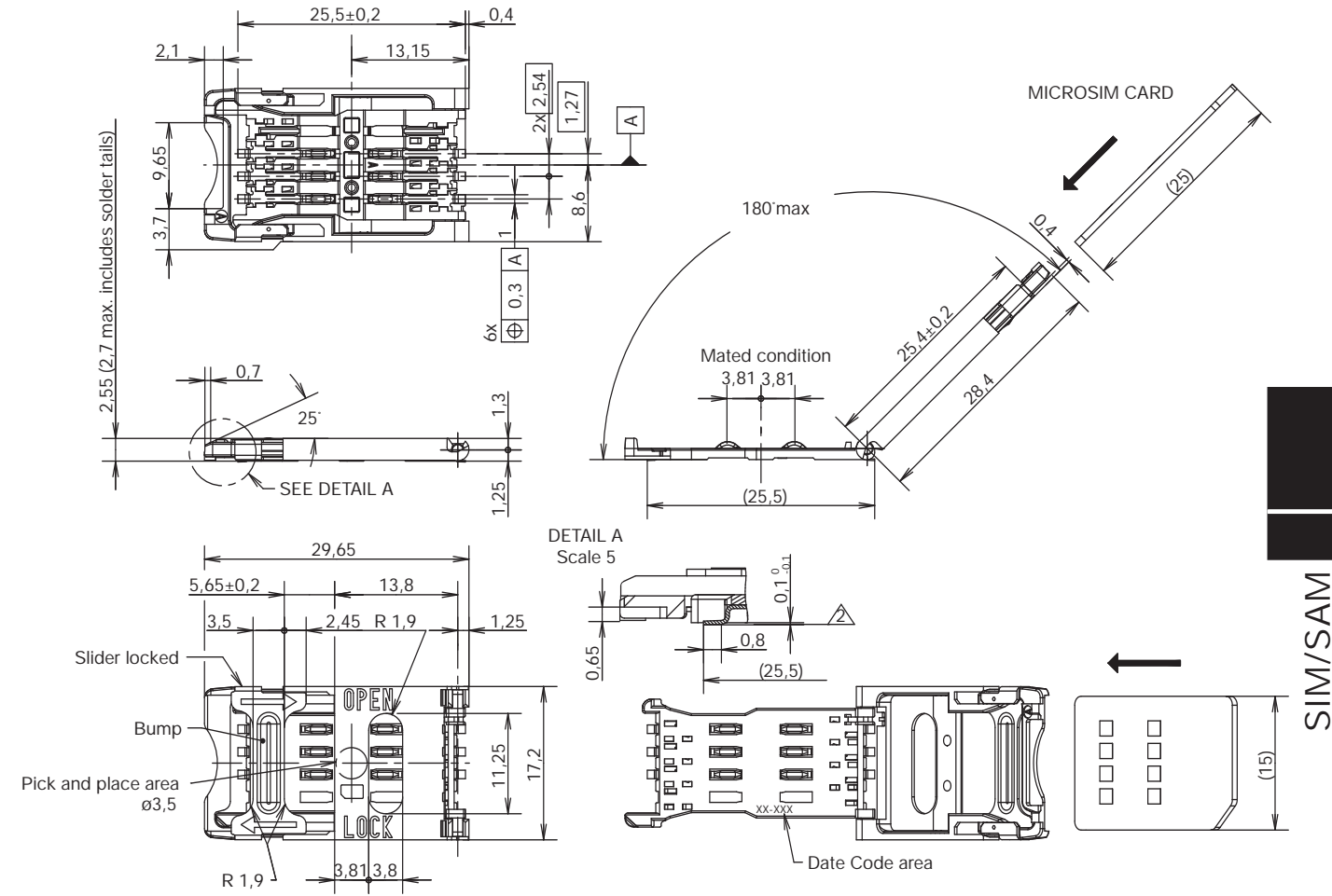
CCM03-3512 LFT

SIM/SAM

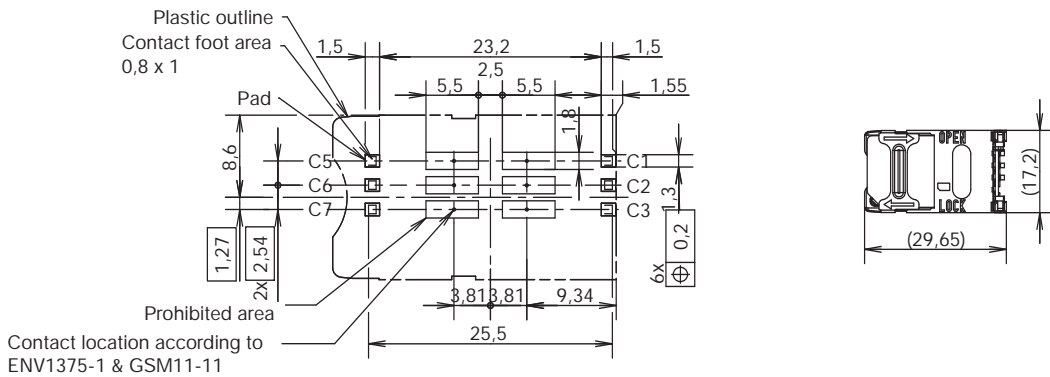


Dimensions are shown in mm
Specifications and dimensions subject to change

www.ck-components.com

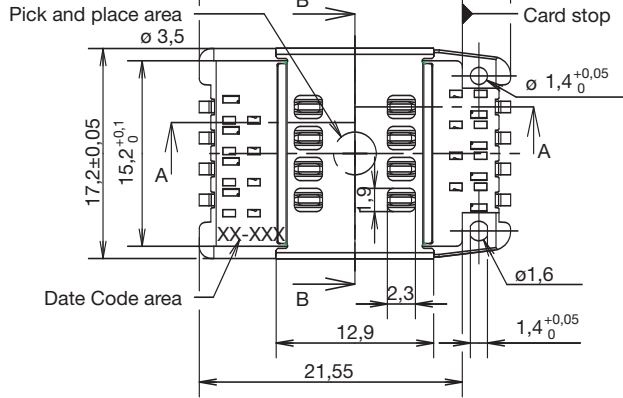
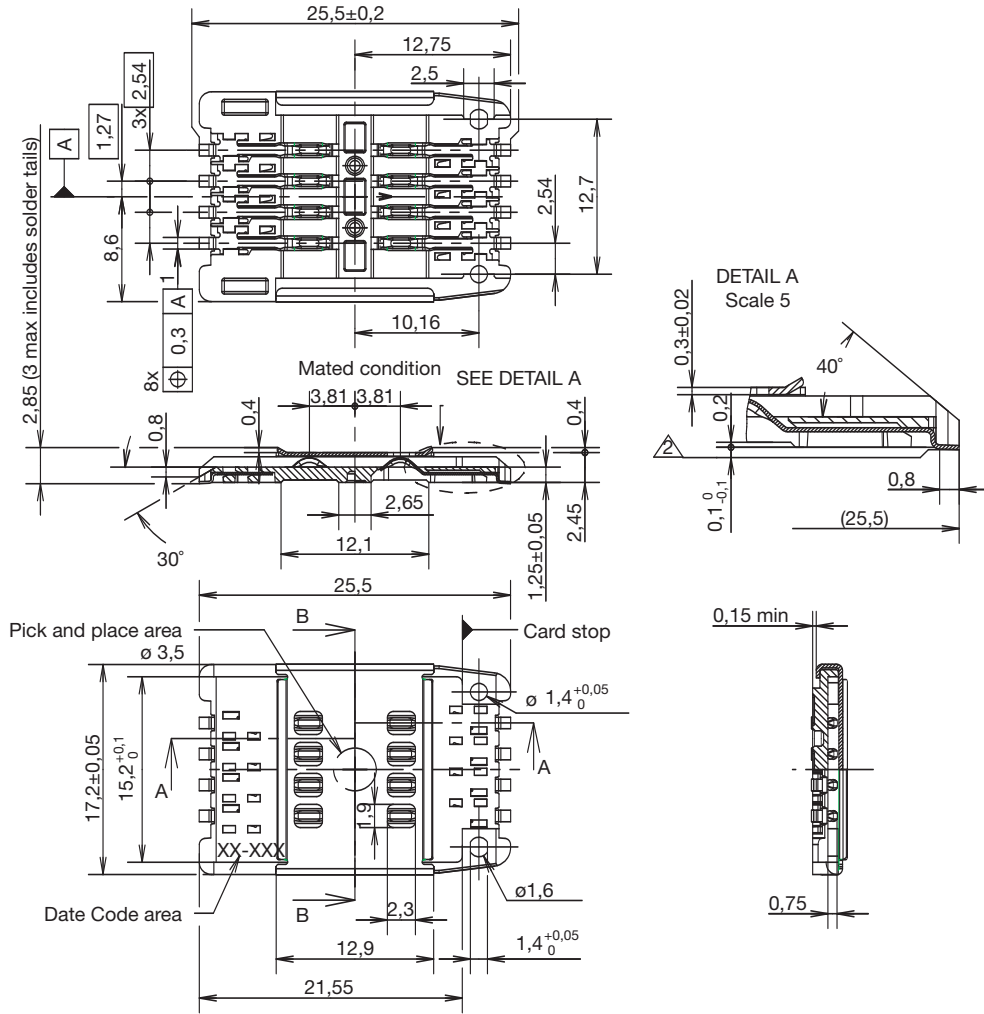


RECOMMENDED PC BOARD LAYOUT
(Component side)

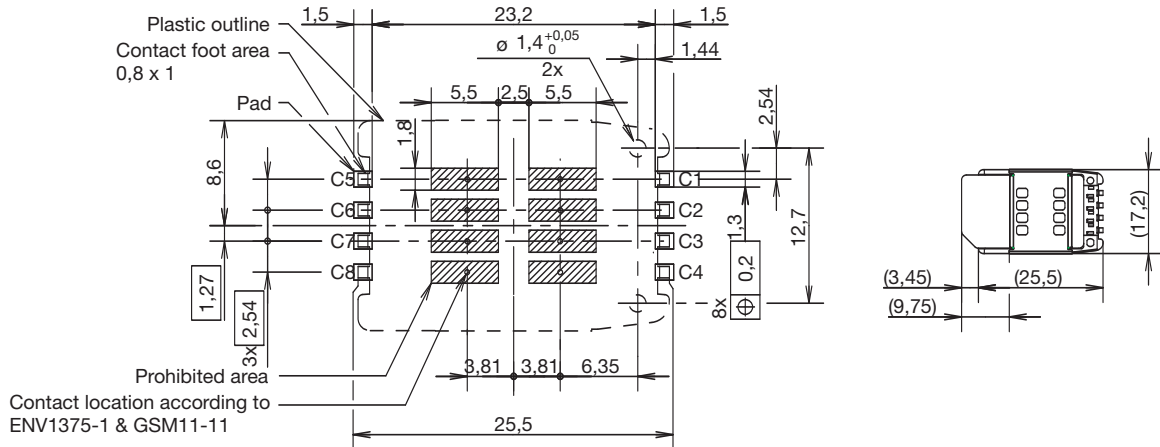


CCM03 Series

CCM03-3504 LFT / CCM03-3505 LFT



RECOMMENDED PC BOARD LAYOUT
(Component side)



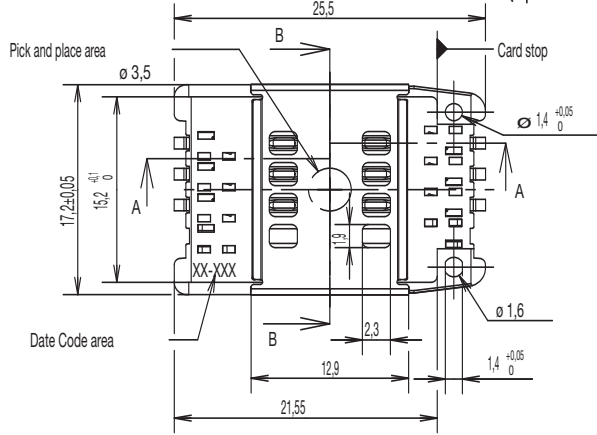
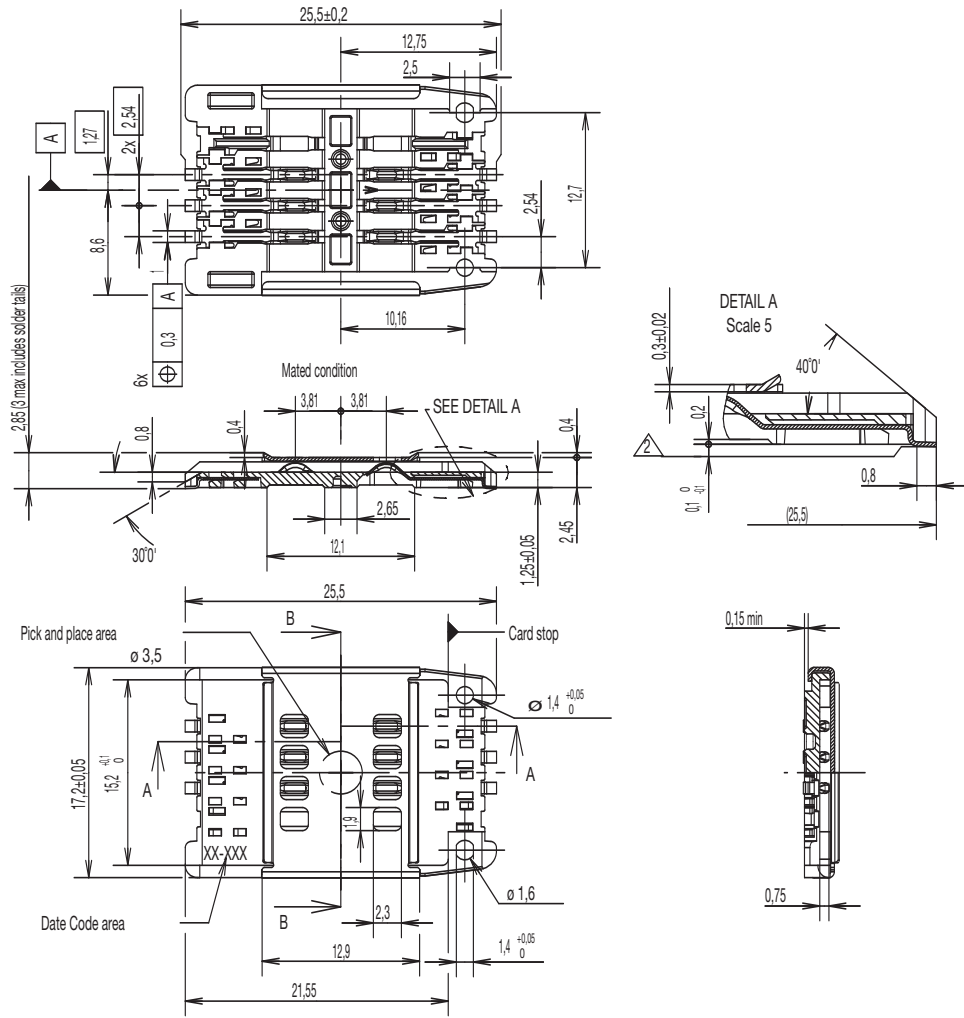
Dimensions are shown in mm

Specifications and dimensions subject to change

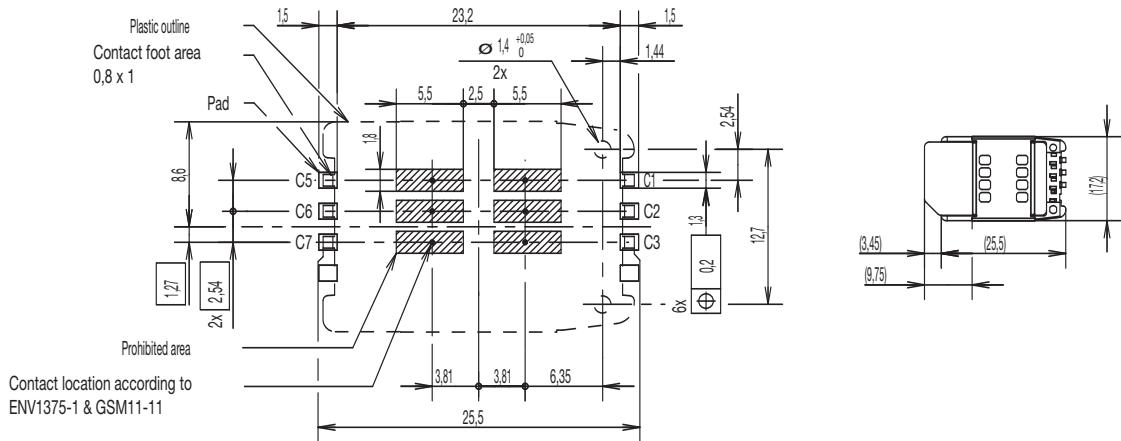
www.ck-components.com



SIM/SAM

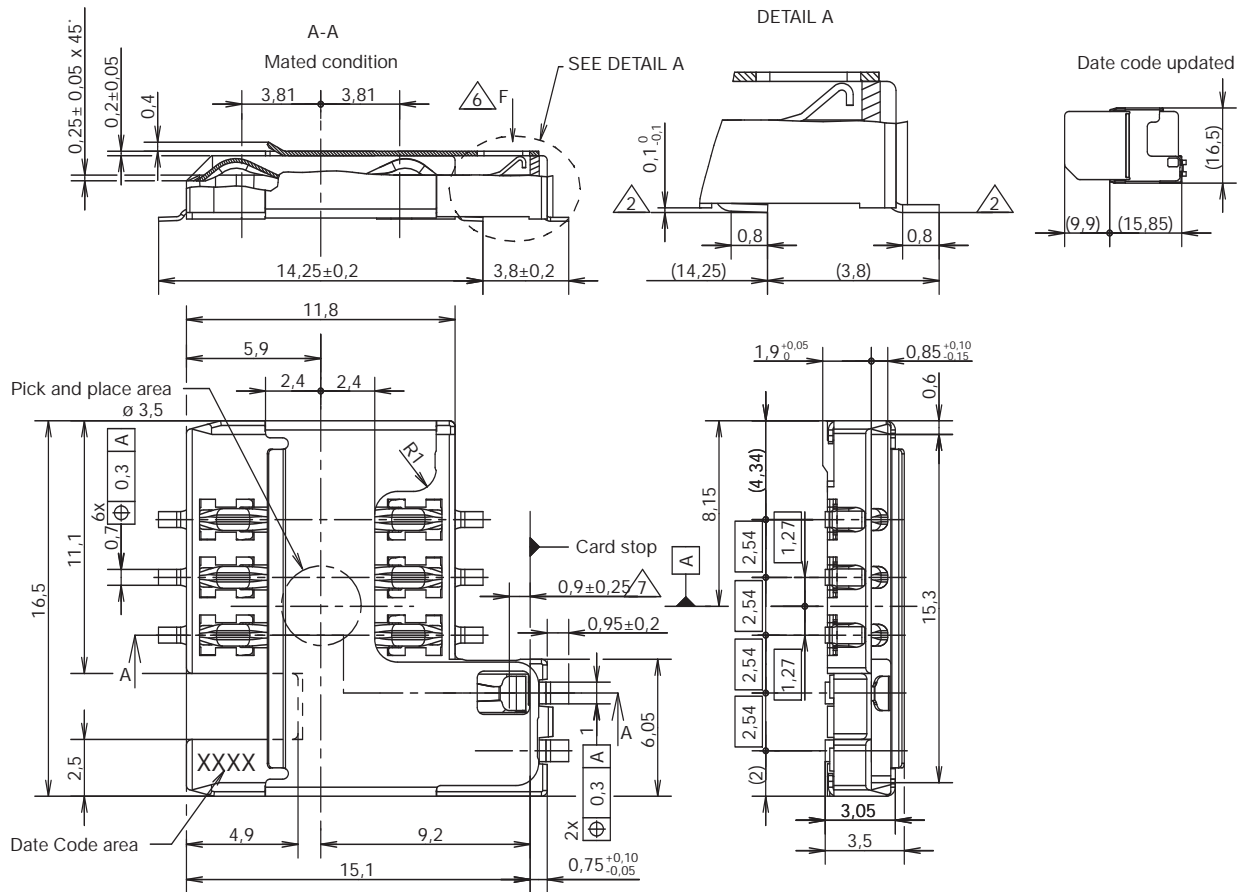


RECOMMENDED PC BOARD LAYOUT
(Component side)

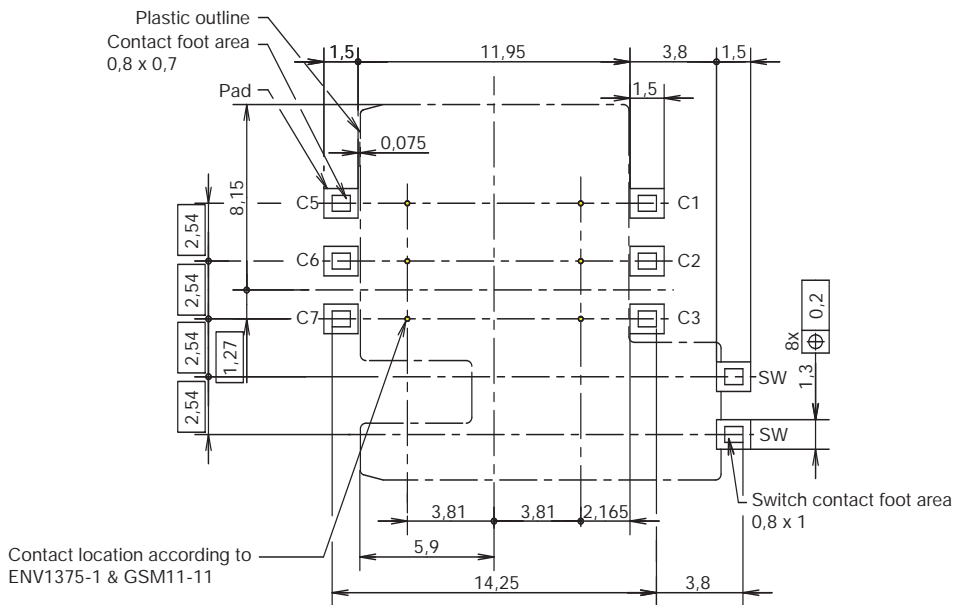


CCM03 Series

CCM03-3754 LFT



RECOMMENDED PC BOARD LAYOUT
(Component side)



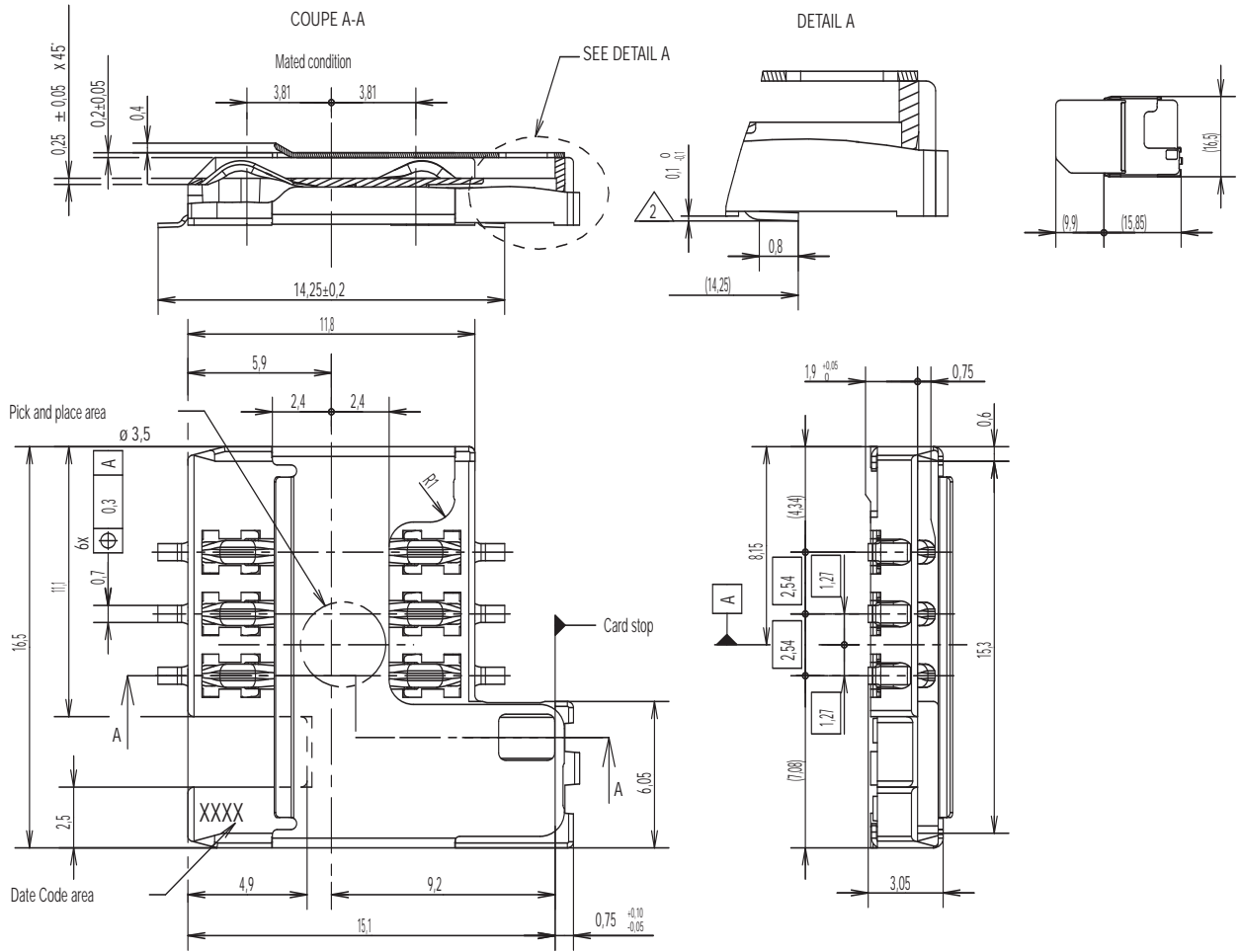
Dimensions are shown in mm
Specifications and dimensions subject to change

www.ck-components.com

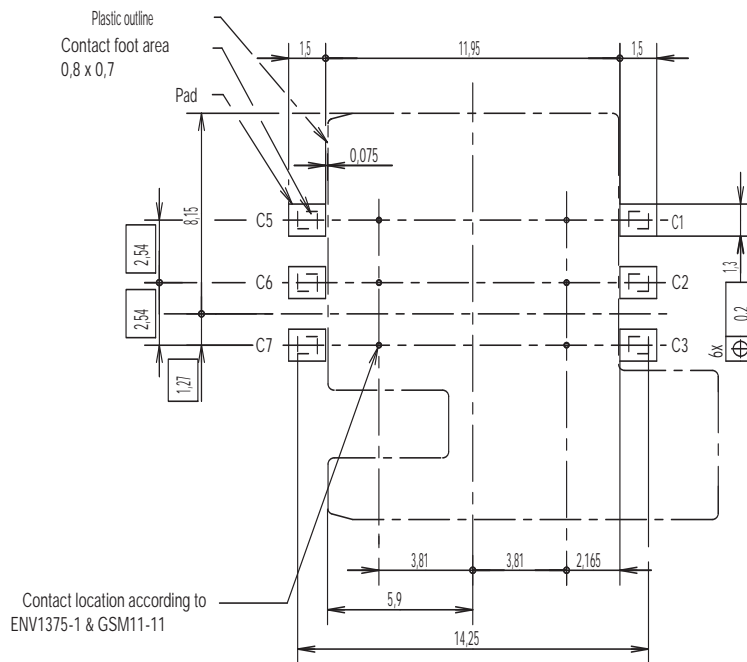


SIM/SAM

CCM03-3760 LFT



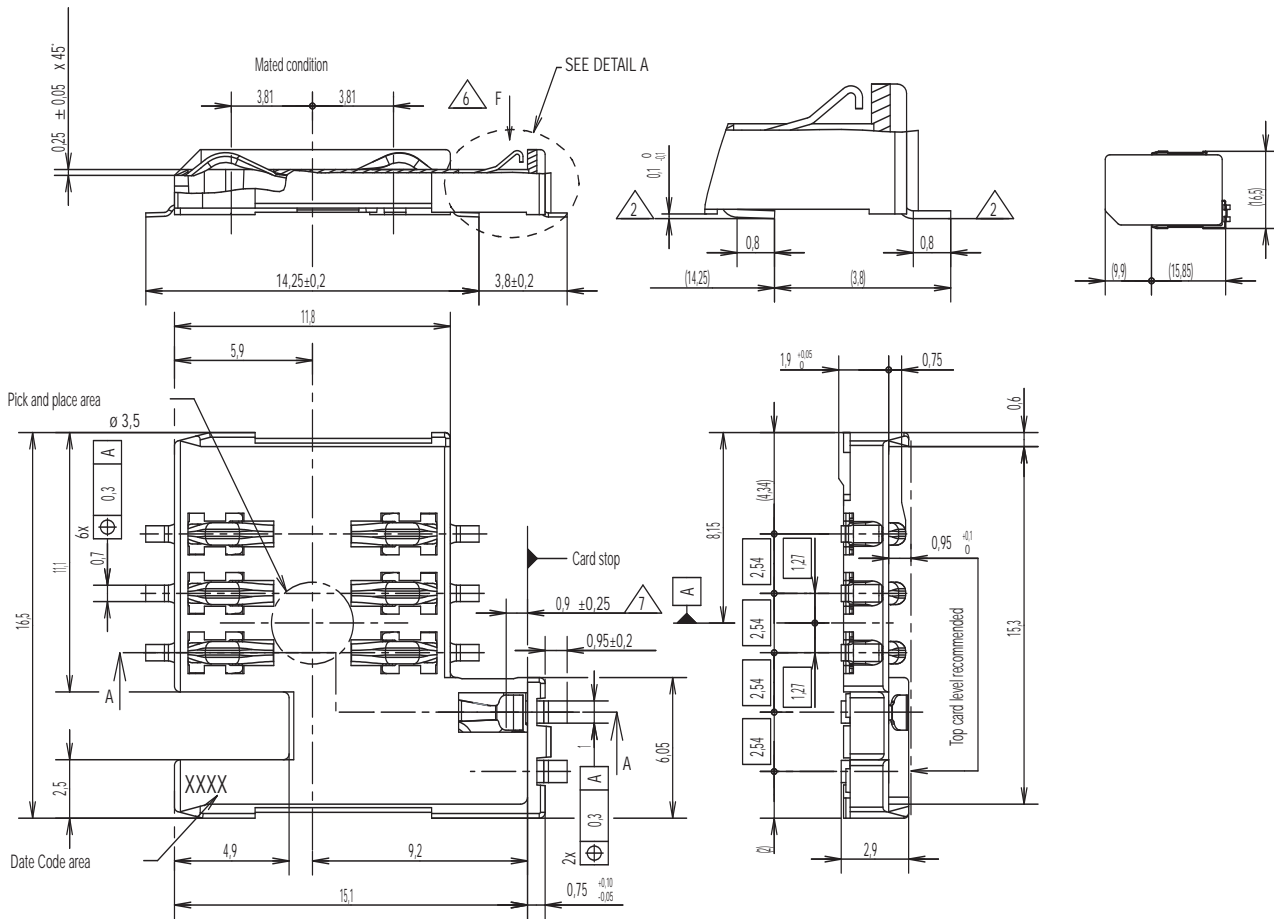
RECOMMENDED PC BOARD LAYOUT
 (Component side)



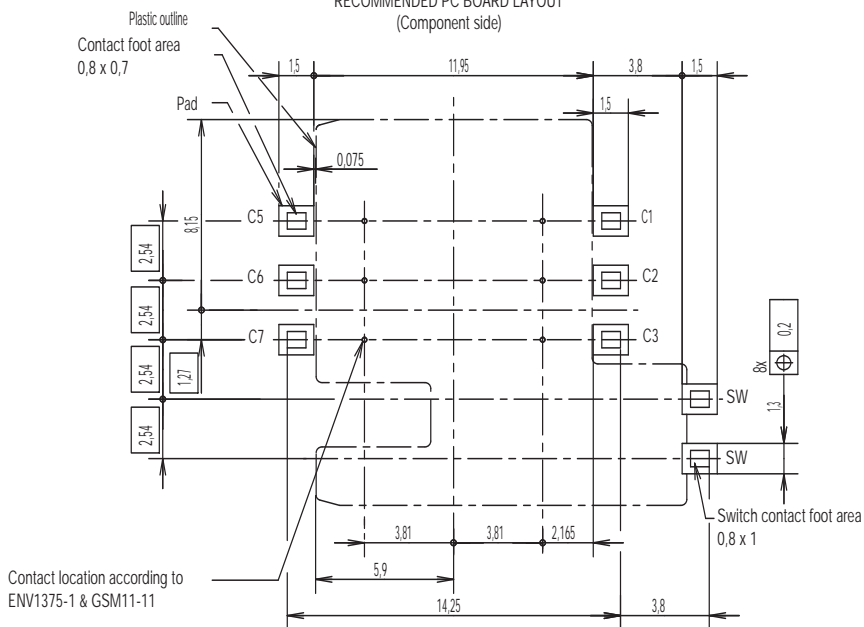
Dimensions are shown in mm
 Specifications and dimensions subject to change

CCM03 Series

CCM03-3764 LFT



RECOMMENDED PC BOARD LAYOUT
(Component side)



First Angle
Projection

Dimensions are shown in mm

Specifications and dimensions subject to change

www.ck-components.com



SIM/SAM

CCM04 Series



Features

- SIM and SAM card acceptance
- Compatible with pick and place and lead free soldering

Typical Applications

- Mobile
- POS
- Identification
- GPS

Mechanical

Number of contacts	6 or 8
Mechanical life	30,000 cycles
Card insertion force	10N max
Card extraction force	1N min / 10N max
Contact force	0,35N min to 0,65N
Vibration Frequency	10 to 500 Hz. Acceleration 50m/s ² Duration 6 hours - amplitude 0,35mm
Shock	Peak value 500 m/s ² – Duration 11 ms 3 shocks in each direction of each axis
Max elect. discontinuity	1µs

Contact Electrical Data

Insulation resistance	1000 MΩ min
Contact resistance max	100 mΩ max
Switching current	10 µA min / 1 A max
Dielectric strength	750 Vrms min

Environmental Data

Operating temperature	-40°C to +85°C
Salt mist	IEC 512 test number 11f (96 hours)
Damp heat	IEC 512 test number 11c (10 days)
RoHS compliant	

Packaging

See table below

Soldering Process

Compatible with lead free SMT soldering process

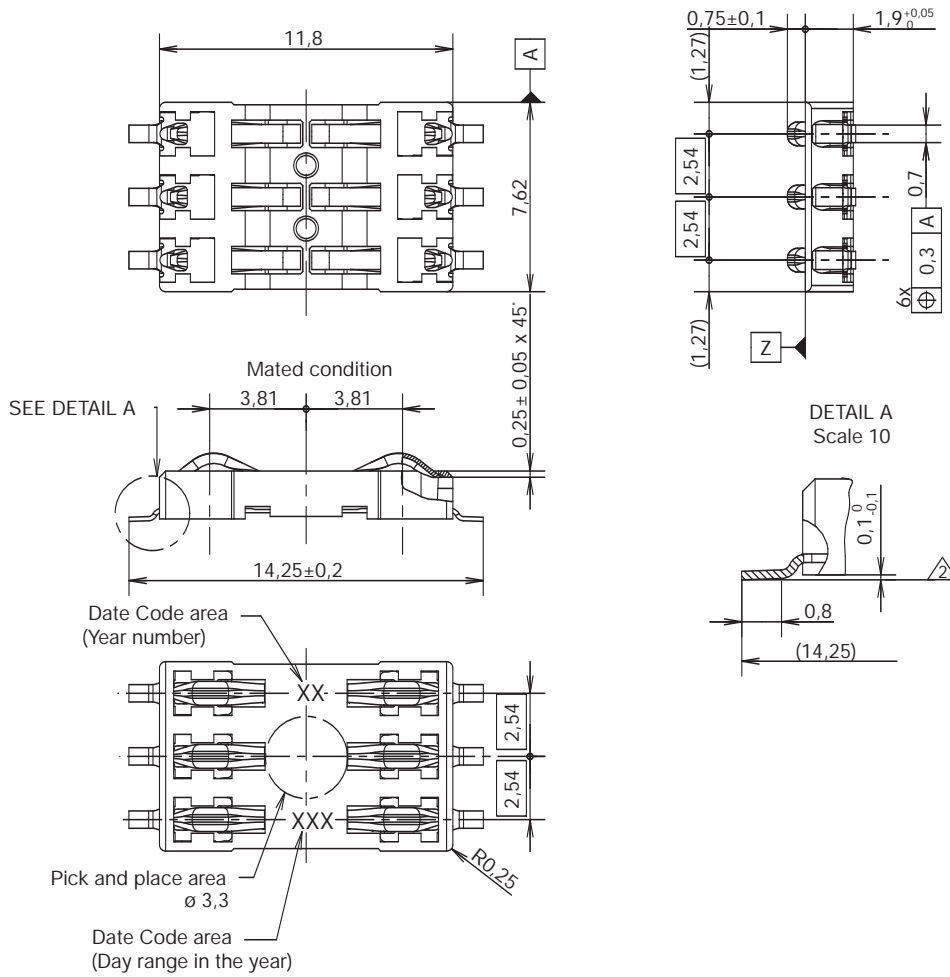
SIM/SAM

Designation	# of Contacts	Contact Plating	PCB Version	Height (mm)	Dim. (mm)	Packaging
CCM04-5120LFS	6	gold	SMT OUT	2,4	11,95 X 14,25	reels of 1,900 pcs
CCM04-4118LFS	6	inlay	SMT OUT	1,9	7,62 X 14,25	reels of 1,900 pcs
CCM04-5137LFS	6	gold	SMT IN	1,9	8,15 X 10,45	reels of 1,900 pcs
CCM04-5149LFS	6	gold	SMT IN	1,9	7,62 X 11,8	reels of 1,900 pcs
CCM04-4151LFS	8	inlay	SMT OUT	2,65	10,16 X 14,25	reels of 1,900 pcs

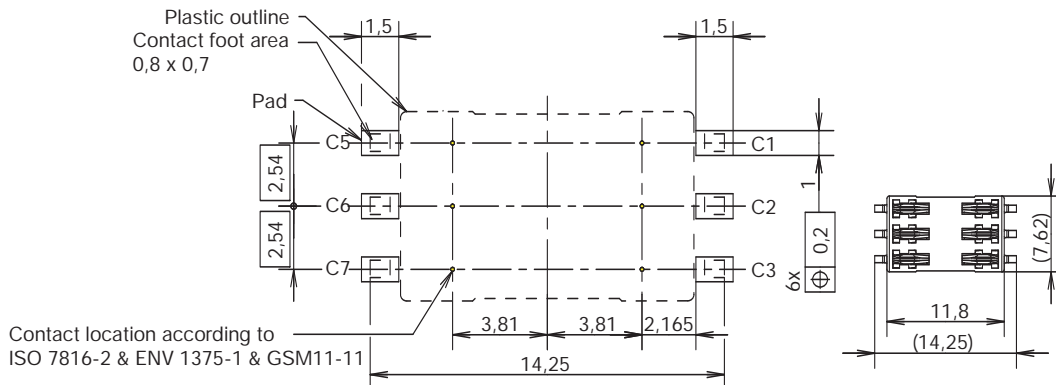


*Dimensions are shown in mm
Specifications and dimensions subject to change*

www.ck-components.com

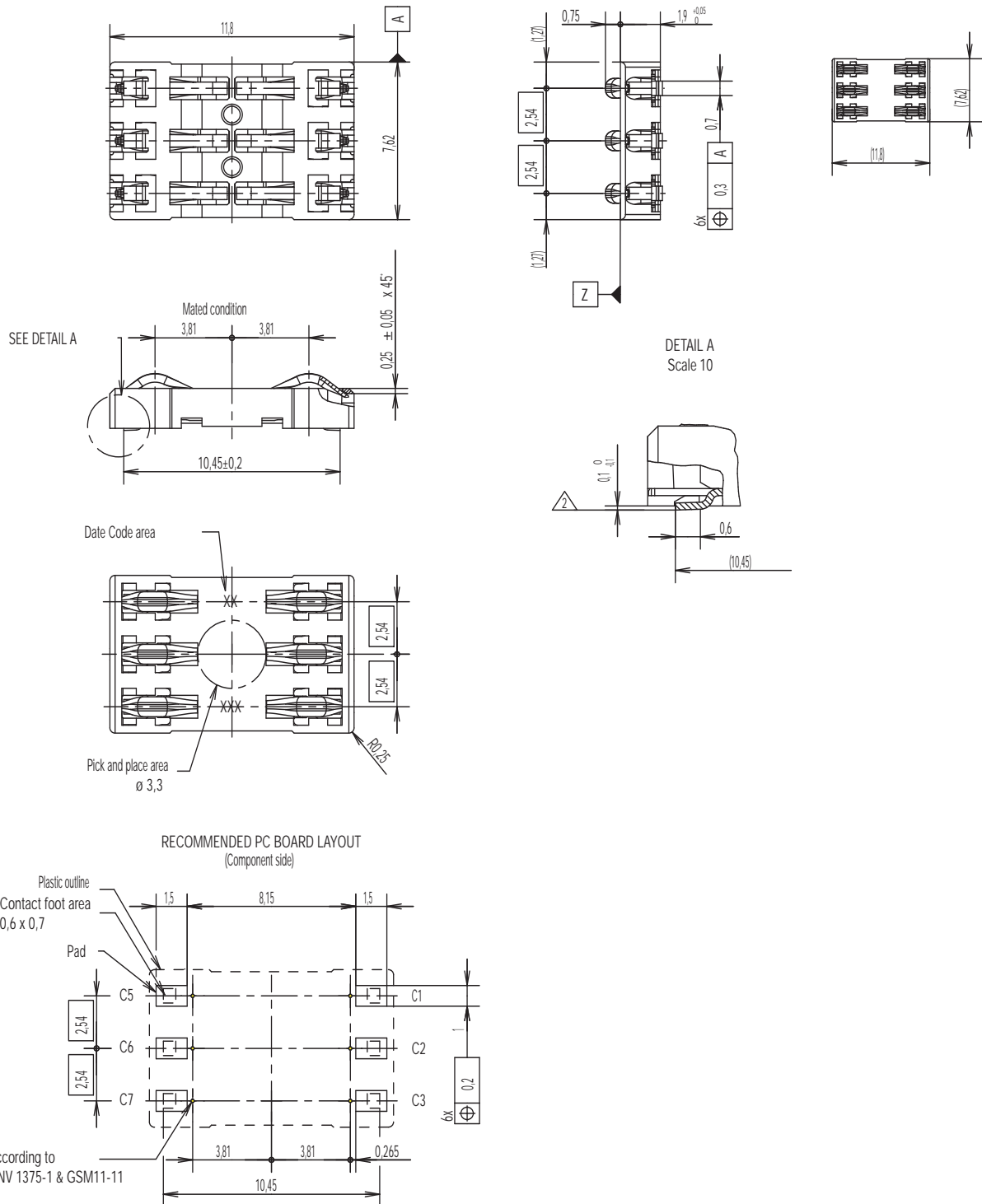


RECOMMENDED PC BOARD LAYOUT (Component side)



CCM04 Series

CCM04-5137 LFS

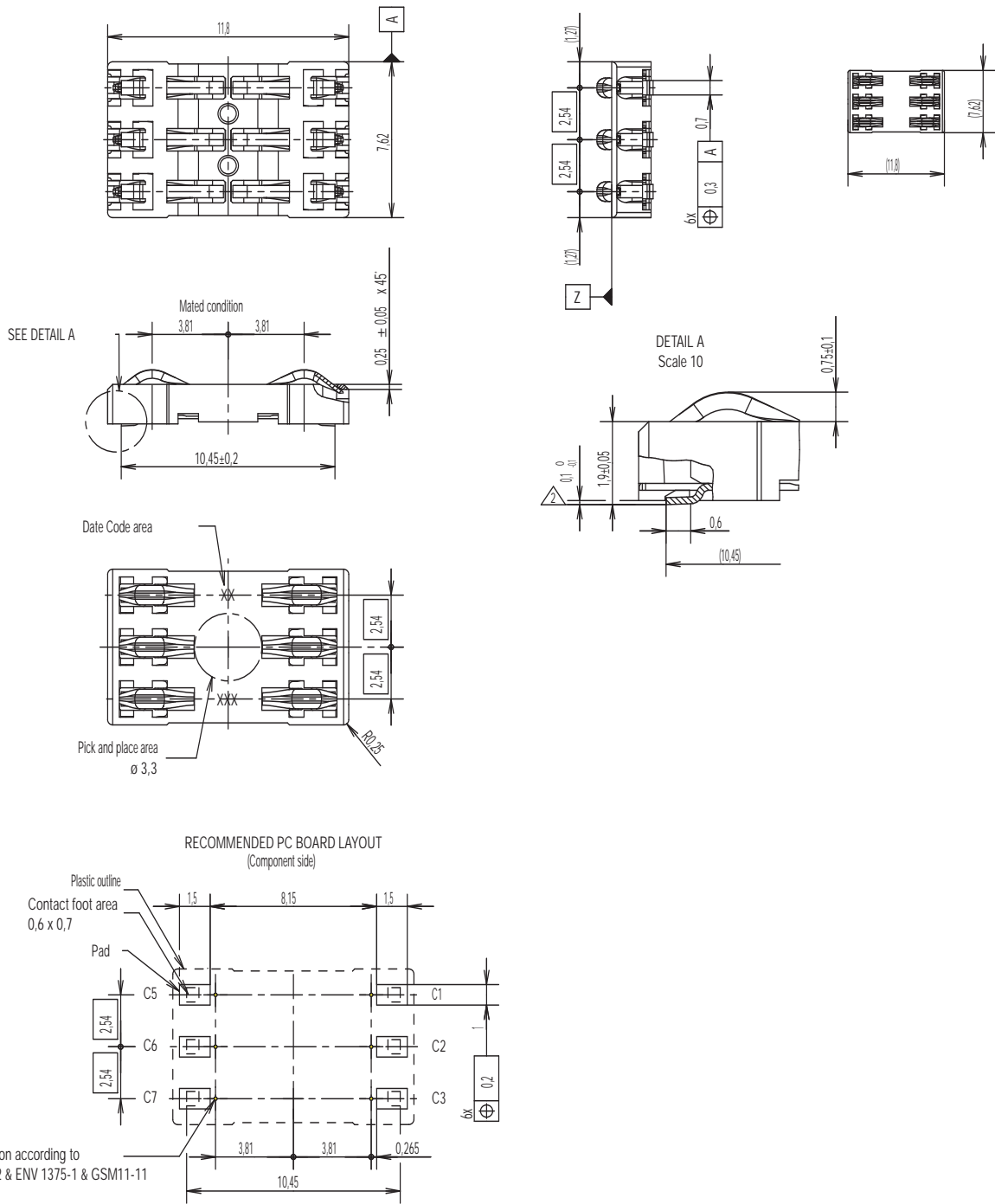


SIM/SAM



Dimensions are shown in mm
Specifications and dimensions subject to change

www.ck-components.com

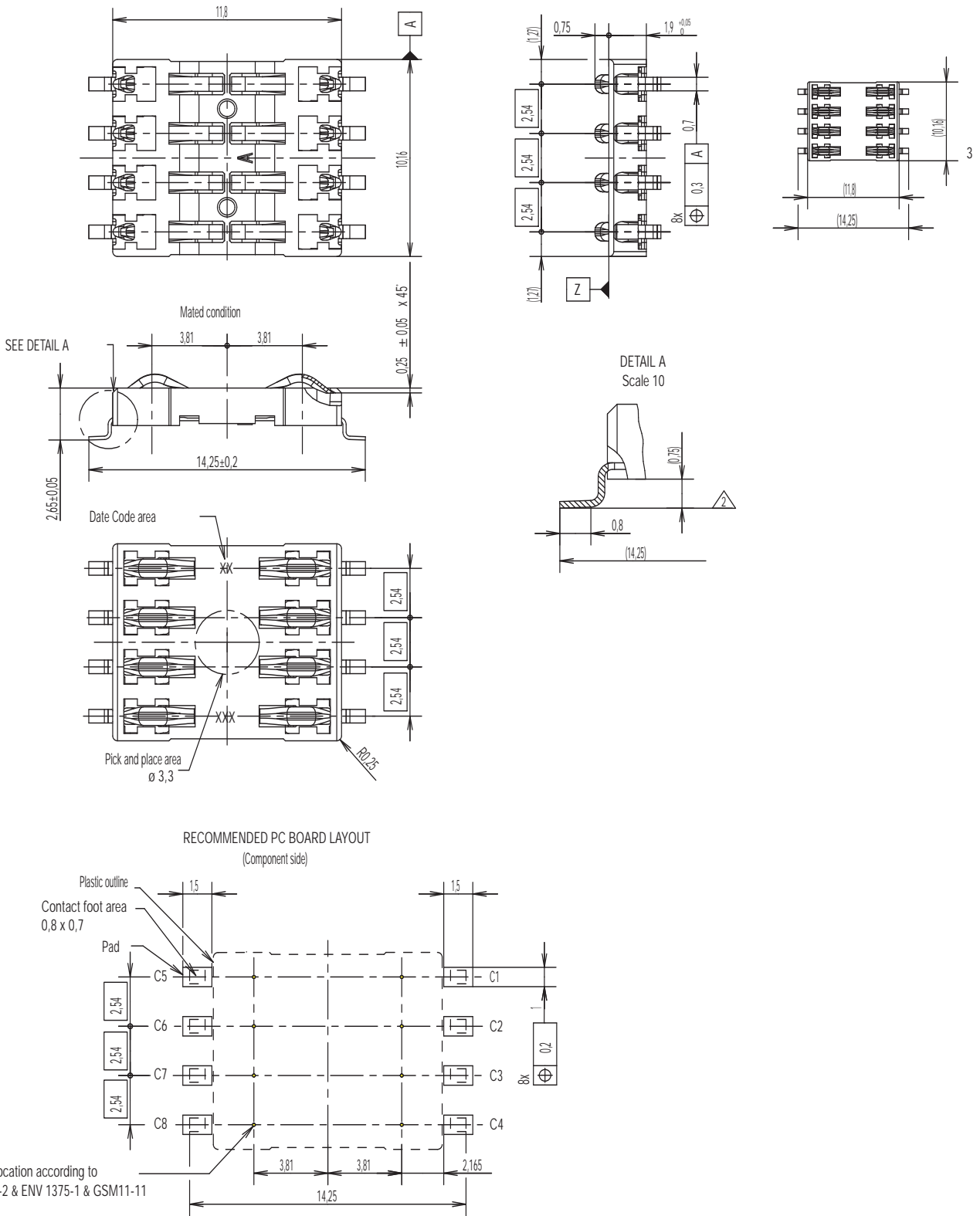


SIM/SAM

CCM04 Series

CCM04-4151 LFS

SIM/SAM



Dimensions are shown in mm
Specifications and dimensions subject to change

www.ck-components.com

Drawing Index

Designation	Page	Designation	Page
CCM01-2027LFT	11	CCM04-5427LFT	20
CCM01-6202LFT	8	CCM04-5436LFT	21
CCM01-6101LFT	9	CCM04-5468LFT	22
		CCM04-5454LFT	23
CCM02-2503LFT	14	CCM04-5455LFT	24
CCM02-2504LFT	15	CCM04-5452LFT	25
CCM02-F503LFT	14	CCM04-5202LFT	26
CCM02-F504LFT	15		
CCM02-F796LFT	16	CCM04-5120LFS	44
CCM02-F794LFT	17	CCM04-4118LFS	45
CCM02-F844LFT	18	CCM04-5137LFS	46
		CCM04-5149LFS	47
		CCM04-4151LFS	48
CCM03-3001LFT	29		
CCM03-3002LFT	30		
CCM03-3003LFT	31		
CCM03-3004LFT	32		
CCM03-3009LFT	29		
CCM03-3010LFT	30		
CCM03-3011LFT	33		
CCM03-3012LFT	34		
CCM03-3013LFT	35		
CCM03-3512LFT	36		
CCM03-3519LFT	37		
CCM03-3504LFT	38		
CCM03-3505LFT	38		
CCM03-3535LFT	39		
CCM03-3754LFT	40		
CCM03-3760LFT	41		
CCM03-3764LFT	42		