Inlay contact finish

A means of applying precious metal to the contact area utilizing pressure as opposed to conventional plating. We have found this to be the most durable finish available without compromising the electrical performance of the contact. Our research has shown that our inlay finish lasts over ten times as long as standard gold plating. Where we state the life of the precious metal this is intended to be the “worst case” scenario, because the test has been made using the most abrasive smart card that we can find on the market (given that the equipment maker can rarely control which smart cards are used). Note that the inlay finish is silver in color, being an alloy of gold, silver, and palladium.

Contact design

The geometry of the contact has an important bearing on its electrical performance. Our contacts are designed to give an efficient wiping action and to maximize the stress between contact and card, thus minimizing the contact resistance. The “spooned” contact area is also shaped so as to protect it from damage during card insertion.

Materials

The contact material has been chosen because of its resistance to atmospheric pollution, solderability and performance over time in giving a consistent normal force. Since all of our new interconnects are designed for surface mounting, the plastic materials used must withstand high temperature soldering processes without deforming or adversely affecting performance.

Contact design

The geometry of the contact has an important bearing on its electrical performance. Our contacts are designed to give an efficient wiping action and to maximize the stress between contact and card, thus minimizing the contact resistance. The “spooned” contact area is also shaped so as to protect it from damage during card insertion.

Card detection switches

As a manufacturer of switches as well as interconnects, we have been able to integrate high performance dome switches into many of our devices. These are variants of switch products which are already in high volume production as stand alone components.

PCI (security standard for POS applications)

Two levels of PCI compatibility level are available:

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

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

Mechanical robustness

Four metal pegs, to be soldered in PCB metalized holes at the same time than the SMT terminals, have been designed on the smart card connectors in order to increase the resistance of the connector to card insertion force. This participates to the life time and to the overload resistance.
## FULL SIZE CARD CONNECTORS

<table>
<thead>
<tr>
<th>Series</th>
<th>CCM01</th>
<th>CCM02</th>
<th>CCM04</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applications</td>
<td>Professional</td>
<td>Professional</td>
<td>Consumer/Professional</td>
</tr>
<tr>
<td>PCI*</td>
<td>PCI ready</td>
<td>PCI/PCI ready</td>
<td></td>
</tr>
<tr>
<td>EMV</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Insertion force</td>
<td>40N max</td>
<td>40N max</td>
<td>10N max</td>
</tr>
<tr>
<td>Overload</td>
<td>250N</td>
<td>180N</td>
<td>40N</td>
</tr>
<tr>
<td>Card guide</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Sealed switch</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Operating life</td>
<td>100,000 cycles</td>
<td>500,000 cycles</td>
<td>&gt;50,000 cycles</td>
</tr>
<tr>
<td>Contact plating</td>
<td>inlay</td>
<td>inlay</td>
<td>gold</td>
</tr>
<tr>
<td>Number of contacts</td>
<td>8</td>
<td>8</td>
<td>6 or 8</td>
</tr>
<tr>
<td>Contact type</td>
<td>friction</td>
<td>friction</td>
<td>friction/vandal proof</td>
</tr>
<tr>
<td>Page No.</td>
<td>7</td>
<td>12</td>
<td>17</td>
</tr>
</tbody>
</table>

## SIM / SAM CARD CONNECTORS

<table>
<thead>
<tr>
<th>Series</th>
<th>CCM03</th>
<th>CCM04</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applications</td>
<td>Consumer/Professional</td>
<td>Consumer/Professional</td>
</tr>
<tr>
<td>Cover</td>
<td>hinged / fixed</td>
<td>hinged / fixed</td>
</tr>
<tr>
<td>Operating life</td>
<td>10,000 to 50,000 cycles</td>
<td>30,000 cycles</td>
</tr>
<tr>
<td>Sealed switch</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Contact plating</td>
<td>inlay / gold</td>
<td>inlay / gold</td>
</tr>
<tr>
<td>Card end travel switch</td>
<td>with / without</td>
<td>without</td>
</tr>
<tr>
<td>Number of contacts</td>
<td>6 or 8</td>
<td>6 or 8</td>
</tr>
<tr>
<td>Page No.</td>
<td>24</td>
<td>43</td>
</tr>
</tbody>
</table>

* 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.
CCM01 MK2 Series

Features
- Operating life up to 100,000 cycles
- 40N card insertion force
- EMV
- PCI ready
- Card detection sealed switch

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/s²
Duration 6 hours - amplitude 0.35mm
Max. elect. discontinuity 1µs
Shock Peak value 500 m/s² – 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

Typical Applications
- Transaction
- Identification
- POS

Designation Termination Operating Life Card Insertion Force
CCM01-2027LFT SMT 100,000 cycles 40N
**CCM01 MK2 Series**

**CCM01-2027 LFT**

Dimensions shown in mm
Specifications and dimensions subject to change

---

**Pick and place area ø 13**

**Contact foot area 1 x 0.7**

**Plastic outline**

**RECOMMENDED PC BOARD LAYOUT**

(Component side)

- Card and travel switch terminals 0.85 x 0.7
- Holes Ø 0.2
- Holes Ø 0.1
- Molded

---

**Designation & Date-Code area**

**Detial A**

Card stop

---

**SEE DETAIL A**

---

**Scale 5**

---

**Family**

**Dimensions**

- 4 metal pegs for 1.6 PCB

---

**Recommended Board Layout**

(Component side)

- Contact location according to ISO/IEC 7816-2

---

**Scale 1**

---

**Dimensions**

- 4 metal pegs for 1.6 PCB

---

**Notes**

- Card entry ±0.05
- Card entry ±0.15
- Card entry ±0.25

---

**Scale**

- 1

---

**Dimensions**

- 54.3
- 51.05
- 51.5
- 54.3

---

**Notes**

- 4 metal pegs for 1.6 PCB
# CCM01 MK5 Series

## Features/Benefits
- Operating life 500,000 cycles
- Low profile 4 mm and 3.2 mm height
- PCI ready
- Card detection sealed switch

## Typical Applications
- Transaction
- Identification
- POS
- MPOS

## Mechanical
- **NUMBER OF CONTACTS**: 8
- **MECHANICAL LIFE**: 500,000 cycles
- **CARD INSERTION FORCE**: 10 N max.
- **CARD EXTRACTION FORCE**: 1 N min. / 10 N max.
- **CONTACT FORCE**: 0.2 N / 0.60 N max.

## Packaging
- Tray 25 parts or Reel 350 parts

## Soldering
- Compatible with lead free SMT reflow soldering process

## Contact Electrical Data
- **INSULATION RESISTANCE**: 1,000 MΩ min.
- **CONTACT RESISTANCE**: 100 mΩ max.
- **CURRENT RATING**: 10 µA min. / 1A 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
- **CARD DETECTION SWITCH**: Sealed against dust
- **RoHS compliant**

## How To Order
To order, simply select desired option from each category and place in the appropriate box. For additional options not shown in catalog, consult our Customer Service Center.

<table>
<thead>
<tr>
<th>CCM01 - 2</th>
<th>LFT</th>
<th>NONE AE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover Material</td>
<td></td>
<td>Leave blank only applicable with metal pegs option (CCM01-2x2x)</td>
</tr>
<tr>
<td>5 Plastic, 4.0 mm height</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Metal, 3.2 mm height</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Plastic, I/O</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contact Tail on PCB</th>
<th>ESD Protection</th>
<th>Packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Short, recessed (best for PCI)</td>
<td>3 Full ESD protection (card edge &amp; IC)</td>
<td>T25 Pack tray 25 parts</td>
</tr>
<tr>
<td>1 Long (accessible, easy rework)</td>
<td>4 Card edge ESD (only for metal version)</td>
<td>R351 Pack reel 350 parts</td>
</tr>
<tr>
<td>2 Long + 2 metal pegs (40 N overload)</td>
<td>5 Low cost ESD (card edge for plastic cover)</td>
<td></td>
</tr>
<tr>
<td>3 Short, no pegs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LFT</th>
<th>Tin plated terminals</th>
</tr>
</thead>
</table>
CCM01 MK5 Series

CCM01-2604 LFT T25  Metal cover, short tails

RECOMMENDED PC BOARD LAYOUT
(component side)
C1 C5 C2 C6 C3 C7 C4 C8 SW1 SW2

See note 8

SECTION C-C
SEE DETAIL Q

CCM01-2513 LFT T25  Plastic cover, long tails, full ESD protection

RECOMMENDED PC BOARD LAYOUT
(component side)

Dimensions are shown in mm
Specifications and dimensions subject to change

www.ck-components.com
CCM01-2523 LFT T25  Plastic cover, long tails, metal pegs

CCM01-2614 LFT T25  Metal cover, long tails, no ESD protection

Dimensions are shown in mm
Specifications and dimensions subject to change

www.ck-components.com
CCM02 MK2 Series

**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 actuates when card is 0.9mm from card stop)
- Vibration Frequency: 10 to 500 Hz. Acceleration 50m/s²
- Max elect. discontinuity: 1µs
- Shock: Peak value 500 m/s² – Duration 11 ms

**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

**PCI Features**

<table>
<thead>
<tr>
<th>Designation</th>
<th>Termination</th>
<th>Contact Type</th>
<th>I/O Protect</th>
<th>Security Cover</th>
<th>Total Height (mm)</th>
<th>Dimension</th>
<th>PCB version</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCM02-2503LFT</td>
<td>THT</td>
<td>landing</td>
<td></td>
<td></td>
<td>6,25</td>
<td>38,5 X 55,6</td>
<td>4 clips</td>
</tr>
<tr>
<td>CCM02-2504LFT</td>
<td>SMT</td>
<td>landing</td>
<td></td>
<td></td>
<td>6,25</td>
<td>38,5 X 55,6</td>
<td>4 clips</td>
</tr>
<tr>
<td>CCM02-F503LFT</td>
<td>THT</td>
<td>friction</td>
<td></td>
<td></td>
<td>6,25</td>
<td>38,5 X 55,6</td>
<td>4 clips</td>
</tr>
<tr>
<td>CCM02-F504LFT</td>
<td>SMT</td>
<td>friction</td>
<td></td>
<td></td>
<td>6,25</td>
<td>38,5 X 55,6</td>
<td>4 clips</td>
</tr>
<tr>
<td>CCM02-F844LFT</td>
<td>SMT</td>
<td>friction</td>
<td>Yes</td>
<td>Yes</td>
<td>6,6</td>
<td>40,5 X 58</td>
<td>4 metal pegs</td>
</tr>
</tbody>
</table>

---

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.

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 MK2 Series

CCM02-2503 LFT / CCM02-F503 LFT

Dimensions are shown in mm
Specifications and dimensions subject to change
www.ck-components.com
CCM02 MK2 Series

CCM02-2504 LFT / CCM02-F504 LFT

Dimensions are shown in mm
Specifications and dimensions subject to change

Dimensions are shown in mm
Specifications and dimensions subject to change

Contact location according to ISO 7816-2

Contact location according to ISO 7816-2

First Angle Projection

Dimensions are shown in mm
Specifications and dimensions subject to change

www.ck-components.com

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CCM02 MK2 Series

CCM02-F844A LFT / CCM02-F844B LFT

Dimensions are shown in mm
Specifications and dimensions subject to change
www.ck-components.com
CCM04 MK4 Series

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 actsuates when card is 0,9mm from card stop)
- 1,8 N max for complete depression
- Vibration Frequency: 10 to 500 Hz. Acceleration 50m/s²
- Duration 6 hours - amplitude 0,35mm
- Shock: Peak value 500 m/s² - 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

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

Soldering Process
- Compatible with lead free SMT reflow soldering process

Packaging
- See table below

<table>
<thead>
<tr>
<th>Designation</th>
<th>Housing Type</th>
<th># of Contacts</th>
<th>Contact Force</th>
<th>Total Height (mm)</th>
<th>Total Dim. (mm)</th>
<th>Packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCM04-5427LFT</td>
<td>standard</td>
<td>8</td>
<td>0,4N to 0,7N</td>
<td>2,65</td>
<td>18,75 X 25</td>
<td>reels of 1,000 pcs</td>
</tr>
<tr>
<td>CCM04-5436LFT</td>
<td>standard</td>
<td>8</td>
<td>0,4N to 0,7N</td>
<td>0,90</td>
<td>18,75 X 26,9</td>
<td>reels of 1,000 pcs</td>
</tr>
<tr>
<td>CCM04-5468LFT</td>
<td>stand-off</td>
<td>8</td>
<td>0,4N to 0,7N</td>
<td>3,5</td>
<td>18,75 X 24</td>
<td>reels of 1,000 pcs</td>
</tr>
<tr>
<td>CCM04-5454LFT</td>
<td>standard</td>
<td>8</td>
<td>0,4N to 0,7N</td>
<td>0,90</td>
<td>18,75 X 26,9</td>
<td>reels of 1,000 pcs</td>
</tr>
<tr>
<td>CCM04-5455LFT</td>
<td>standard</td>
<td>8</td>
<td>0,4N to 0,7N</td>
<td>0,90</td>
<td>18,75 X 26,9</td>
<td>reels of 1,000 pcs</td>
</tr>
</tbody>
</table>
CCM04 MK4 Series

CCM04-5427 LFT

Dimensions are shown in mm
Specifications and dimensions subject to change
www.ck-components.com

RECOMMENDED PC BOARD LAYOUT
(Component side)

Card stop
Pick and place area ø 3,3
Contact foot area
0,8 x 0,7
Pad
Contact location according to
ISO/IEC 7816-2
Stand-off area
(25)
(11,55)
(24,65)
CCM04 MK4 Series

CCM04-5436 LFT

Dimensions are shown in mm
Specifications and dimensions subject to change
www.ck-components.com
CCM03 MK2 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
Card extraction force Fixed cover: 0.8N min / 3N max
Contact force Hinged: 0.25N min / 0.5N max
Slide locking force 2N min / 6N max
Vibration Frequency 10 to 500 Hz. Acceleration 50m/s²
Max electrical discontinuity 1µs
Shock Peak value 500 m/s² - Duration 11 ms

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

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

<table>
<thead>
<tr>
<th>Designation</th>
<th>Contact Plating</th>
<th>Cover</th>
<th># of Contacts</th>
<th>PCB Version</th>
<th>Card Presence Switch</th>
<th>Operating Life</th>
<th>Total Height (mm)</th>
<th>Dim. (mm)</th>
<th>Packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCM03-3001LFT</td>
<td>inlay</td>
<td>hinged</td>
<td>6</td>
<td></td>
<td>without</td>
<td>10,000</td>
<td>2.55</td>
<td>17.2 x 29.65</td>
<td>reels of 1,000 pcs</td>
</tr>
<tr>
<td>CCM03-3002LFT</td>
<td>inlay</td>
<td>hinged</td>
<td>6</td>
<td></td>
<td>without</td>
<td>10,000</td>
<td>2.55</td>
<td>17.2 x 29.65</td>
<td>reels of 1,000 pcs</td>
</tr>
<tr>
<td>CCM03-3003LFT</td>
<td>inlay</td>
<td>hinged</td>
<td>6</td>
<td></td>
<td>without</td>
<td>10,000</td>
<td>2.55</td>
<td>17.2 x 29.65</td>
<td>reels of 1,000 pcs</td>
</tr>
<tr>
<td>CCM03-3004LFT</td>
<td>inlay</td>
<td>hinged</td>
<td>8</td>
<td></td>
<td>without</td>
<td>10,000</td>
<td>2.55</td>
<td>17.2 x 29.65</td>
<td>reels of 1,000 pcs</td>
</tr>
<tr>
<td>CCM03-3009LFT</td>
<td>gold</td>
<td>hinged</td>
<td>6</td>
<td></td>
<td>without</td>
<td>10,000</td>
<td>2.55</td>
<td>17.2 x 29.65</td>
<td>reels of 1,000 pcs</td>
</tr>
<tr>
<td>CCM03-3010LFT</td>
<td>gold</td>
<td>hinged</td>
<td>6</td>
<td></td>
<td>without</td>
<td>10,000</td>
<td>2.55</td>
<td>17.2 x 29.65</td>
<td>reels of 1,000 pcs</td>
</tr>
<tr>
<td>CCM03-3011LFT</td>
<td>gold</td>
<td>hinged</td>
<td>8</td>
<td></td>
<td>without</td>
<td>10,000</td>
<td>2.55</td>
<td>17.2 x 29.65</td>
<td>reels of 1,000 pcs</td>
</tr>
<tr>
<td>CCM03-3012LFT</td>
<td>gold</td>
<td>hinged</td>
<td>8</td>
<td></td>
<td>without</td>
<td>10,000</td>
<td>2.55</td>
<td>17.2 x 29.65</td>
<td>reels of 1,000 pcs</td>
</tr>
<tr>
<td>CCM03-3013LFT</td>
<td>gold</td>
<td>hinged</td>
<td>6</td>
<td></td>
<td>with</td>
<td>10,000</td>
<td>2.55</td>
<td>17.2 x 29.65</td>
<td>reels of 1,000 pcs</td>
</tr>
<tr>
<td>CCM03-3512LFT</td>
<td>gold</td>
<td>hinged</td>
<td>6</td>
<td>Large soldering pads*</td>
<td>without</td>
<td>10,000</td>
<td>2.55</td>
<td>17.2 x 29.65</td>
<td>reels of 1,000 pcs</td>
</tr>
<tr>
<td>CCM03-3504LFT</td>
<td>gold</td>
<td>fixed</td>
<td>8</td>
<td></td>
<td>without</td>
<td>50,000</td>
<td>2.85</td>
<td>17.2 x 25.5</td>
<td>reels of 1,000 pcs</td>
</tr>
<tr>
<td>CCM03-3505LFT</td>
<td>gold</td>
<td>fixed</td>
<td>6</td>
<td></td>
<td>without</td>
<td>50,000</td>
<td>2.85</td>
<td>17.2 x 25.5</td>
<td>reels of 1,000 pcs</td>
</tr>
<tr>
<td>CCM03-3754LFT</td>
<td>inlay</td>
<td>fixed</td>
<td>6</td>
<td></td>
<td>with</td>
<td>10,000</td>
<td>3.5</td>
<td>16.5 x 18.05</td>
<td>reels of 1,000 pcs</td>
</tr>
<tr>
<td>CCM03-3760LFT</td>
<td>inlay</td>
<td>fixed</td>
<td>6</td>
<td></td>
<td>without</td>
<td>10,000</td>
<td>3.45</td>
<td>16.5 x 15.85</td>
<td>reels of 1,000 pcs</td>
</tr>
<tr>
<td>CCM03-3764LFT</td>
<td>inlay</td>
<td>none</td>
<td>6</td>
<td></td>
<td>with</td>
<td>10,000</td>
<td>2.9</td>
<td>16.5 x 15.85</td>
<td>reels of 1,000 pcs</td>
</tr>
</tbody>
</table>

* Can go through reflow upside down
CCM03 MK2 Series

CCM03-3002 LFT / CCM03-3010 LFT

Dimensions are shown in mm
Specifications and dimensions subject to change

www.ck-components.com
CCM03-3003 LFT

Dimensions are shown in mm
Specifications and dimensions subject to change

www.ck-components.com
CCM03 MK2 Series

CCM03-3004 LFT

Dimensions are shown in mm
Specifications and dimensions subject to change
www.ck-components.com
CCM03 MK2 Series

CCM03-3512 LFT

Dimensions are shown in mm
Specifications and dimensions subject to change

www.ck-components.com
# CCM03 MK2 Series

**CCM03-3754 LFT**

**Specifications and dimensions subject to change**

---

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
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<tbody>
<tr>
<td>Width</td>
<td>18.5</td>
</tr>
<tr>
<td>Height</td>
<td>11.8</td>
</tr>
<tr>
<td>Symbol</td>
<td>A</td>
</tr>
<tr>
<td>Contact</td>
<td>0.9±0.25</td>
</tr>
<tr>
<td>Pad</td>
<td>1.27</td>
</tr>
<tr>
<td>Overall</td>
<td>2.54</td>
</tr>
<tr>
<td>Date Code</td>
<td>3.81</td>
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<tr>
<td>Card Stop</td>
<td>6.05</td>
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<tr>
<td>Contact</td>
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<tr>
<td>Pad</td>
<td>0.3</td>
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<tr>
<td>Overall</td>
<td>2.4</td>
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<tr>
<td>Contact</td>
<td>0.8</td>
</tr>
<tr>
<td>Pad</td>
<td>0.3</td>
</tr>
</tbody>
</table>

**Card Stop**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>1.9</td>
</tr>
<tr>
<td>Height</td>
<td>0.85</td>
</tr>
</tbody>
</table>

---

**Recommended PC Board Layout**

(Component side)

- **Plastic outline**
- **Contact foot area** 0.8 x 0.7
- **Switch contact foot area** 0.8 x 1

---

**Contact location according to ENV1375-1 & GSM11-11**

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**Date code updated**
CCM03 MK2 Series

CCM03-3764 LFT

Dimensions are shown in mm
Specifications and dimensions subject to change
www.ck-components.com
CCM04 MK3 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/s²
  Duration 6 hours - amplitude 0.35mm
- Shock: Peak value 500 m/s² - 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

<table>
<thead>
<tr>
<th>Designation</th>
<th># of Contacts</th>
<th>Contact Plating</th>
<th>PCB Version</th>
<th>Height (mm)</th>
<th>Dim. (mm)</th>
<th>Packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCM04-5137LFS</td>
<td>6</td>
<td>gold</td>
<td>SMT IN</td>
<td>1.9</td>
<td>8.15 X 10.45</td>
<td>reels of 1,900 pcs</td>
</tr>
</tbody>
</table>
CCM04 MK3 Series

CCM04-5137 LFS

Dimensions are shown in mm
Specifications and dimensions subject to change
www.ck-components.com