ELECTRONICS

SMART CARD CONNECTORS

FCI: SETTING THE STANDARD FOR CONNECTORS

With operations in 30 countries, FCI is a leading manufacturer of connectors.
Our 14,200 employees are committed to providing customers with high-quality, innovative products for a wide range of consumer and industrial applications.

SMART CARD CONNECTORS

GENERAL

FCI is the world's leading supplier of micro circuitry on flexible films for smart card applications. FCI has solid expertise in consumer peripherals, antennas and tags for RFID applications and flexible circuits for customized applications. FCI markets a complete range of connectors ensuring the electrical connection of chip cards according to ISO7816. FCI Electronics Division has unique expertise in this field, and offers the level of quality and reliability expected from a leading supplier. Our Research and Development department puts its know-how at the customers' disposal and cooperates with them on projects requiring new product developments.

FCI Smart Card connectors across the world are implementing a variety of health, social security, and ID card schemes. The banking and finance sector is continuously looking to extend the reach of "chip and pin" debit and credit cards. Adding to these are the ubiquitous SIM card and an ever-growing list of applications including payment terminals, set top boxes, vending machines, and access control systems etc.

Despite the diversity and dynamism of the market, FCI Smart Card connector applications are characterized as straightforward in terms of their basic designs and technologies. Durability, mechanical stability, reliability, and security tend to be key issues, as does adherence to key specifications, such as EMV, PCI PED (Payment Card Industry PIN Entry Devices), and ISO7816

MAIN PRODUCT SERIES

Product \ Features	Number of Cycles	Card Size		Termination			Contact Technology		Switch Type		Page
		Full	SIM	TMT	SMT	FFC/FPC	Sliding	Landing	Blade	Sealed	
Smart Card Reader 10010556 / 55640 Series	10K / 25K	◣				◣	◣		◣		5 – 6
L04 Series	100K	◣		◣			◣		◣		7 – 8
L08 / L10 Series	100K	◣		◣			◣			◣	9 – 10
L26 Series High Performance	10K – 100K	◣		◣		+ Flex	◣		◣		11 – 12
L26 Series	2.5K	◣		◣			◣		◣		11 – 12
E Series	200K	◣			◣	+ Flex		◣		◣	13 – 14
P Series	100K	◣			◣		◣		◣		15 – 16
C Series	100K	◣		◣			◣				17 – 18
Z Series	10K – 100K	◣		Panel			◣		◣		19 – 20
S Series	10K	◣	◣		◣		◣		◣		21 – 30

APPLICATION

Choose a connector that best meets your environmental requirements:

Friendly Environments for Indoor Application

- POS terminal / Health data terminal / Pay TV and internet decoder / Set-top box / Semi-public telephone / PCs secure access
- Number of cycles: 10K / 25K / 100K
- Smart Card Connector Type:
  - Smart Card Reader – 10010556 (without push-push) / 55640 (with push-push) series
  - L04 High Performance and Standard Version
  - L26 High Performance and Standard Version
  - P00/P02
  - Z00

Harsh Environments for Outdoor Application

- Public payphone / Vending machine / Parking meter / Fax / Minitelevision / Utility Meters
- Number of cycles: 100K
- Smart Card Connector Type:
  - L08
  - L10
  - L16
  - C04
  - S series (SIM connectors): GSM module in electricity meters

Portable Environments

- Road toll / Electronic purse / Access control / Mobile phone / Car radio
- Number of cycles: 100K
- Smart Card Connector Type:
  - S06 – S10
  - S07
  - S08
  - S10
  - S16
  - S20

All Environments

- All applications
- Number of cycles: 200K
- Smart Card Connector Type:
  - E-Readers

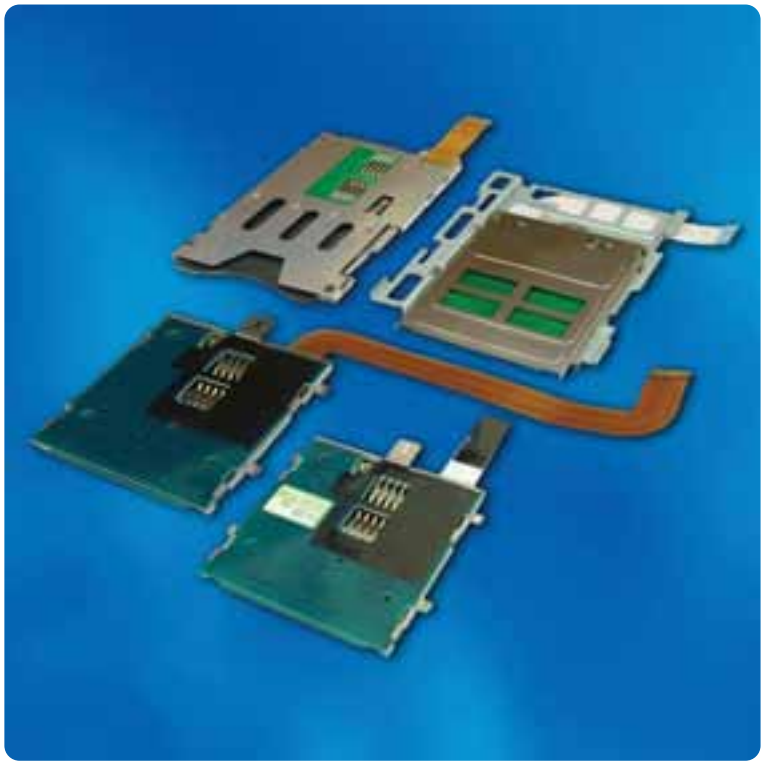
Smart Card Readers

DESCRIPTION

The interconnect system of FCI Smart Card Reader uses a “sliding” contact technology for higher durability. Standard or customized flexible flat cable can be used to suit different PCB connection designs.

With its 3mm height, the low profile reader is specially designed for home & office applications such as PC notebook, set-top box, game machine, and etc.

The push-push eject mechanism aimed at applications that require easy insertion and removal. It is the first choice for customers designing high-end equipment.



FEATURES & BENEFITS

- Enhanced durability
  - push-push version features 25,000 cycles compared to 10,000 cycles for standard version
  - 100,000 durability cycles for contact pins
- 3mm height enables low profile equipment designs
- Standard or customized flexible flat cable can be used to suit different PCB connection designs
- Metal shells provide EMI shielding performance

TARGET MARKETS / APPLICATIONS

- Consumer
  - Set-top box
  - Game machine, and etc
- Data
  - PC notebook
  - Military and government PC
  - PC peripheral
  - Secure access control, and etc
- Industrial and Instrumentation
  - Gas / Water / Electricity meter
  - Point-of-Sales terminals (POS)
  - Vending machine and payment terminal, and etc

TECHNICAL INFORMATION

MATERIALS

- Contact: Phosphor bronze
- Plating: Gold over nickel
- Solder tail area: Matte tin over nickel
- Shield: Stainless steel
- PCB: FR4 UL 94V-0
- Housing: High temperature thermal plastics

ELECTRICAL PERFORMANCE

- Electrical withstanding voltage: 400V AC 60 seconds
- Insulation resistance: 1000 MΩ minimum at 500V DC for 60 seconds
- Contact resistance: 100 mΩ maximum after test, 10mΩ changes maximum after test

PART NUMBERS

- 10010556 series (without push-push)
- 55640 series (with push-push)

ENVIRONMENTAL

- Operating temperature range: -15°C to +85°C environmental tests

MECHANICAL PERFORMANCE

- Maximum insertion force: 15N
- Minimum withdrawal force: 2N
- Durability on contact pins: 100,000 cycles
- Durability on push-push eject mechanism: 10,000 or 25,000 cycles
- Vibration: 1 hour per axes, 3 axes, no more than 1µ second discontinuity in total
- Mixed flowing gas: Environmental Class IIA, 10 days

SPECIFICATIONS

- GS-12-231 product spec. for 10010556 series
- GS-12-175 product spec. for 55640 series

APPROVALS AND CERTIFICATIONS

- UL & RoHS
- Smart Card compliance

PACKAGING

- Tray

L04 Series

DESCRIPTION

The FCI Smart Card L04 series products are rugged smart card connectors with 8-16 contacts on 2.54mm (0.100") centerlines, two height options: 6.5mm & 9mm are available. This connector uses “sliding” contact technology, which is suitable under friendly environment application. It is designed for easy mounting on the PCB by through hole. The built-in retaining clips fix the connector to the board during handling & soldering, which protects the solder tails against shock & vibration. It can be used in data & consumer application, such as set-top box, electric/water meter, Point of Sale terminals (POS), etc.

FEATURES & BENEFITS

- Use standard “sliding” contact technology with rigid terminal
- Enhanced 100,000 cycles durability
- 8-16 data contacts on 2.54mm (0.100") center-lines provides efficient mechanical solution against vandalism through a spoon shape contact
- Robust fixed insert-molding structure between plastic housing and copper contact
- Blade (normally closed or normally open) or sealed (normally open) switch
- Superior reliability by wiping-blade limit switch design to sweep away oxide/dirt & provide a clean & reliable contact area
- Extended locating locks allow easier mounting onto PCB
- Space saving with the low profile design

TARGET MARKETS / APPLICATIONS

- Consumer
  - Set-top box
  - Home applications, etc
- Data
  - Secure Access Control
  - Card reader, etc
- Industrial and Instrument
  - Gas Meter / Water Meter / Electricity Meter
  - Point Of Sales Terminals (POS)
  - Vending Machine and Payment Terminal, etc

TECHNICAL INFORMATION

MATERIALS

- Contact: Phosphor bronze
- Plating: Gold over nickel
- Solder tail area: Matte tin over nickel
- Housing: High temperature thermal plastics

ELECTRICAL PERFORMANCE

- Electrical withstanding voltage: 1000Vms
- Insulation resistance: 100 MΩ minimum
- Contact resistance: 100 mΩ maximum
- Current carrying: Minimum 10µA, maximum 1A

ENVIRONMENTAL

- Storage temperature range: -40°C to +85°C
- Functional temperature range: -20°C to +70°C

MECHANICAL PERFORMANCE

- Maximum insertion force: 8N and minimum withdrawal force: 4.3N
- Durability cycling: 100,000 cycles
- Contact force: 0.2N – 0.6N
- Height: 6.5mm – 9mm

SPECIFICATIONS

- GS-12-365 product spec. for 10057542 series
- GS-12-316 product spec. for others

APPROVALS AND CERTIFICATIONS

- UL & RoHS
- Smart Card compliance

PACKAGING

- Tray

PART NUMBERS

Part Number	Switch	Number of Contacts	Thickness
10057542-1111ALF	Blade Normally Open	8 contacts	9mm
10057542-1111FLF	Blade Normally Closed	8 contacts	9mm
10057542-1211ALF	Blade Normally Open	8 contacts	6.5mm
10057542-1211FLF	Blade Normally Closed	8 contacts	6.5mm
52400	Blade Normally Open	8 contacts	6.5mm
52436	Normally Open	8 contacts	6.5mm
7434L042XF01LF	Blade Normally Closed	8 contacts	9mm
7434L0425S01LF	Blade Normally Open	8 contacts	9mm
7434L0435F01LF	Blade Normally Closed	16 contacts	9mm
7434L0435S01LF	Blade Normally Open	16 contacts	9mm

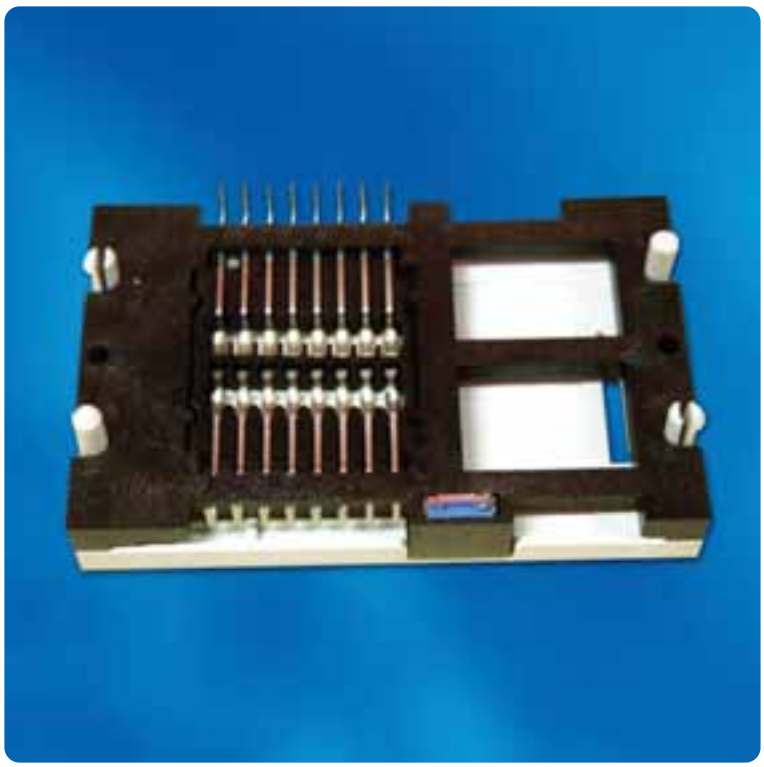
L08 / L10 Series

DESCRIPTION

This IC Chip Card connector uses standard “sliding” contact technology. The housing is equipped with optional 8 or 16 data contacts with a spoon shape design. The card stop is protected against overstress. A normally open sealed switch in the horizontal position performs the card detection.

FEATURES & BENEFITS

- Offers an efficient mechanical solution against vandalism using the spoon shape contacts
- The switch is in the horizontal position, which allows the ejection of broken cards, coins and debris at the back of the connector
- Suits harsh environments (dust, water and variations in temperature)



APPLICATIONS

- Every outdoor application like public telephone, vending machine, gas, water and electricity meter, ATM

TECHNICAL INFORMATION

MATERIALS

- Contact: Copper alloy
- Plating: Gold over nickel or equivalent
- Solder tail area: Matte tin over nickel
- Housing: Thermoplastic UL94V0

ELECTRICAL PERFORMANCE

- Insulation resistance: ≥ 1000MOhms
- Withstanding voltage: ≥ 1000Vrms
- Contact resistance: ≤ 100mOhms
- Current rating: Minimum 10 µA, maximum 1A

ENVIRONMENTAL

- Storage temperature range: -40°C to +85°C
- Operating temperature range: -20°C to +70°C

MECHANICAL PERFORMANCE

- Contact force: Between 0.2N – 0.6N
- Durability: 100,000 cycles
- Insertion force: 10N maximum
- Extraction force: 1N to 10N

SWITCH

- Contact closed resistance: ≤ 100 mOhms
- Open contact voltage proof: ≥ 300 Vrms

PART NUMBERS

Part Number	Number of Contacts
7434L0825S01LF	8 contacts
7434L0835S01LF	16 contacts

L26 Series High Performance and Standard Version

DESCRIPTION

This IC Chip Card connector uses standard “sliding” contact technology. Its monoblock housing with optional 8 or 16 inserted data contacts meets the ISO 7816 standards. The card detection switch utilizes a self-cleaning, wiping blade, normally closed. There are 2 versions available: low profile 6.5mm total height and PC stand-off allowing component mounting under the connector. This series is specially designed for easy mounting onto the PCB: through hole with board lock and panel mount with connection to motherboard by flexible printed circuit.

FEATURES & BENEFITS

- Built-in retaining clips (board locks) fix the connector to the printed circuit board during handling/ soldering and protect the solder tails against overstress
- Monoblock housing eliminates problems associated with cover separation in overstress situations
- Wiping blade switch ensures connector performance in high dust environments
- Possibility to have components under the reader to save space on the motherboard
- Alignment posts engage PC board holes before contacts. This eliminates contact damage during placement on the printed circuit board maximizing production yields and rates

TARGET MARKETS / APPLICATIONS

- Consumer set-top box, cable / satellite TV signal access
- Point-of-Sales (POS), transaction, security, verification
- Pre-pay utility meter

TECHNICAL INFORMATION

MATERIALS

- Contact: Copper alloy
- Plating: Gold over nickel or equivalent
- Solder tail area: Matte tin over nickel
- Housing: Thermoplastic UL94V0

ELECTRICAL PERFORMANCE

- Insulation resistance: ≥ 5000MOhms
- Withstanding voltage: ≥ 750Vrms
- Contact resistance: ≤ 100mOhms
- Current rating: Minimum 10 µA, maximum 1A

ENVIRONMENTAL

- Storage temperature range: -40°C to +85°C
- Operating temperature range: -20°C to +70°C

MECHANICAL PERFORMANCE

- Contact force: Between 0.2N – 0.6N following UTE C93421
- Durability:
  - 10,000 to 100,000 cycles (High Performance)
  - 2,500 cycles (Standard)
- Insertion force: 10N maximum
- Extraction force: 1N to 10N maximum

SWITCH

- Contact closed resistance: ≤ 100mOhms
- Open contact voltage proof: ≥ 250Vrms

SPECIFICATIONS

- Product Specification: Refer to customer drawing

APPROVALS AND CERTIFICATIONS

- The product comply with the standards of
  - ISO 7816
  - EMV 2000
  - NDS Certification (Standard only)

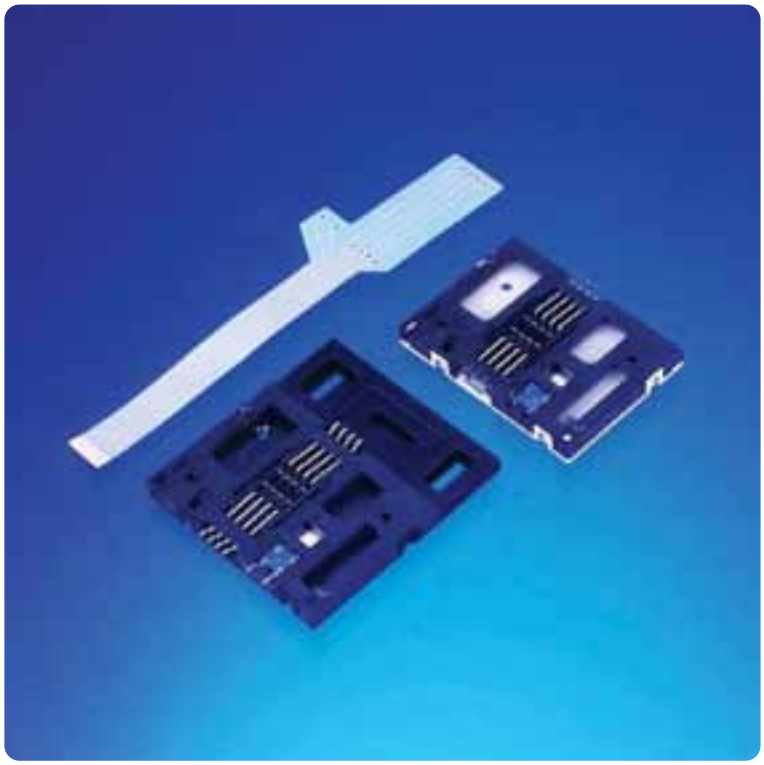
PART NUMBERS

High Performance Version	Standard Version	Specification
7334L2622F01LF	7334L2620F01LF	Low profile 3.7mm
7334L2622F02LF	7334L2620F02LF	Raised version 8.9mm with 8 stand off posts
7334L2622F04LF	7334L2620F04LF	Standard profile 4.8mm with 8 stand off posts
7334L2622F05LF	7334L2620F05LF	Raised version 7.65mm with 8 stand off posts
7334L2622F13LF	7334L2620F13LF	Raised version 9.83mm with 4 stand off posts

E-Readers

DESCRIPTION

All “E Series” use “landing” contact technology. This IC Chip Card connector is equipped with either 6 or 8 data contacts with a spoon shape mating surface. The sealed card detection switch is fully protected against dust or contaminants. The signal contacts self clean before the card is fully inserted. The distance of activation and deactivation of the switch complies with the EMV specifications. Optional guided card entry (bell mouth).



FEATURES & BENEFITS

- Offers an efficient mechanical solution to prevent vandalism as contacts are recessed when no card is inserted
- High mating cycle connector suitable for heavy-duty systems
- Direct connection to PCB (through holes or SMT) or through a flexible printed circuit
- Suitable for harsh environments (dust and water splash)

TARGET MARKETS / APPLICATIONS

- Wherever long life durability is important, as in ATM, Vending machine, POS Terminals
- Recessed contacts prevent damage against vandalism in public telephone, water / gas meter and gambling machines

TECHNICAL INFORMATION

MATERIALS

- Contact: Copper alloy
- Plating: Gold over nickel or equivalent
- Solder tail area: Matte tin over nickel
- Housing: Thermoplastic UL94V0

ELECTRICAL PERFORMANCE

- Insulation resistance: ≥1000MOhms
- Withstanding voltage: ≥ 750Vrms
- Contact resistance: ≤ 100mOhms
- Current rating: Minimum 10 µA to maximum 1A

ENVIRONMENTAL

- Storage temperature range: -40°C to +85 °C
- Operating temperature range: -20°C to +70°C

MECHANICAL PERFORMANCE

- Contact force: Between 0.2N – 0.5N
- Durability: 200,000 cycles
- Insertion force: 10N maximum
- Extraction force: Between 1N and 10N

SWITCH

- Contact closed resistance: ≤ 100 mOhms
- Open contact voltage proof: ≥ 250 Vrms

SPECIFICATIONS

- Product Specification : Refer to customer drawing

APPROVALS AND CERTIFICATIONS

- The product comply with the standards of EMV 2000

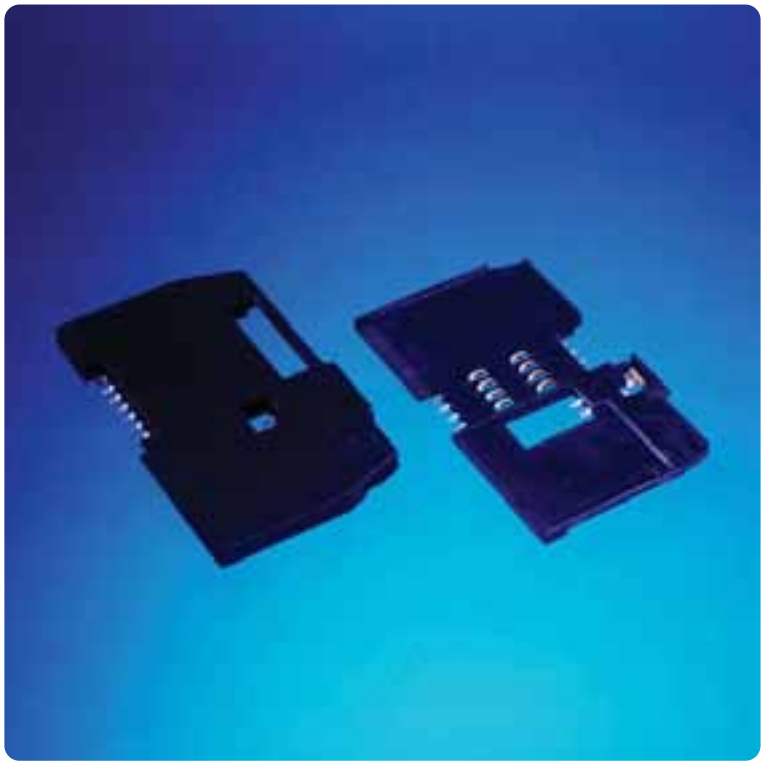
PART NUMBERS

Part Number	Number of Contacts	Special Features	Card Entry Type
7311E0225S01LF	8 contacts	SMT	Short
7312E0225S01LF	8 contacts	SMT, with Pegs	Short
7312E0525S01LF	8 contacts	SMT, with Pegs	Guided card entry
7332E0225S15LF	8 contacts	TMT, with Pegs	Short
7361E0215S08LF	6 contacts	FPC	Short
7361E0225S05LF	8 contacts	FPC	Short
7361E0525S05LF	8 contacts	FPC	Guided card ebtry
7361E0225S16LF	8 contacts	FPC	Short
7361E0225S17LF	8 contacts	FPC	Short
7411E0225S01LF	8 contacts	SMT	Short
7431E0225S01LF	8 contacts	TMT	Short
7431E0525S01LF	8 contacts	TMT	Guided card entry
7432E0225S01LF	8 contacts	TMT, with Pegs	Short
7432E0525S01LF	8 contacts	TMT, with Pegs	Guided card entry
7512E0225S01LF	8 contacts	SMT, with Pegs, Anti static Indexed Pick & Place	Short
7712E0225S01LF	8 contacts	SMT with Pegs, Indexed Pick & Place	Short

P00/P02 Series

DESCRIPTION

This IC Chip Card connector is especially designed for SMT technology and low profile needs. Normally has an open switch. Available with or without cover completely equipped. Thickness of 3.6mm. EMV compatible and in accordance with ISO 7816-2.



FEATURES & BENEFITS

- Low profile compact version
- Can be dedicated to any application

TARGET MARKETS / APPLICATIONS

- Point Of Sale terminal (POS), TV set-top box – integrated receiver decoder, personal computer

TECHNICAL INFORMATION

MATERIALS

- Contact: Copper alloy
- Plating: Gold over nickel or equivalent
- Solder tail area: Matte tin over nickel
- Housing: Thermoplastic UL94V0

ELECTRICAL PERFORMANCE

- Insulation resistance: ≥ 1000MOhms
- Withstanding voltage: ≥ 1000Vrms
- Contact resistance: ≤ 100mOhms
- Current rating: Minimum 10 µA, maximum 1A

ENVIRONMENTAL

- Storage temperature range: -40°C to +85°C
- Operating temperature range: -20°C to +70°C

MECHANICAL PERFORMANCE

- Contact force: Between 0.2N – 0.5N
- Insertion force: 10N maximum
- Extraction force: 3N minimum

SWITCH

- Contact closed resistance: ≤ 100 mOhms
- Open contact voltage proof: ≥ 300 Vrms

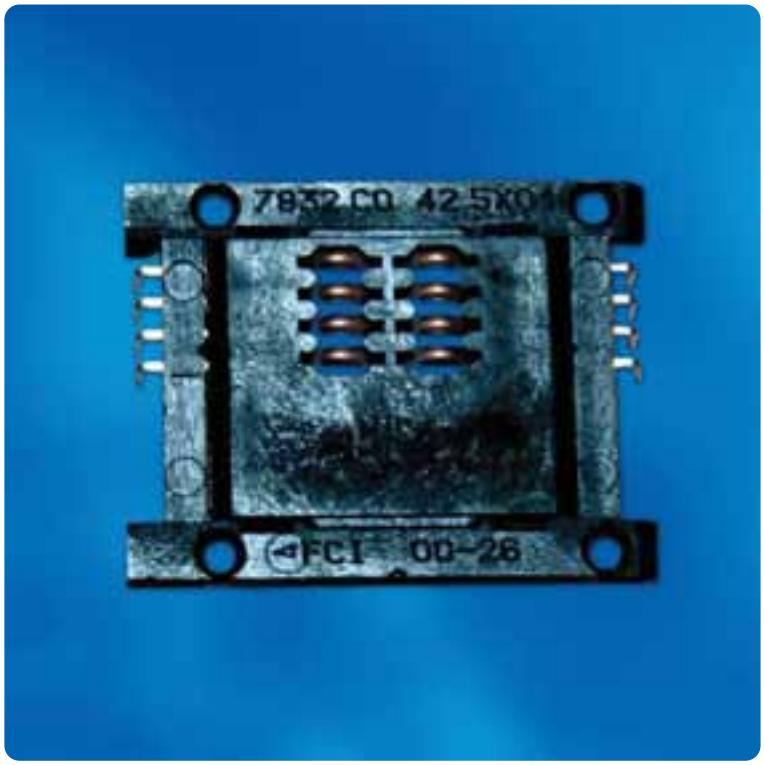
PART NUMBERS

Part Number	Number of Contacts	Cover	Thickness	Durability
7312P0025A13LF	8 contacts	Without	2.4mm	100,000 cycles
7312P0035A13LF	16 contacts	Without	2.4mm	100,000 cycles
7312P0225A13LF	8 contacts	With	3.6mm	100,000 cycles
7312P0235A13LF	16 contacts	With	3.6mm	100,000 cycles
10071782-001LF	8 contacts	With	5.6mm	100,000 cycles

C04 Series

DESCRIPTION

This IC Chip Card connector uses standard “sliding” contact technology, with the option of either 8 or 16 terminal contacts. The contacts mating surface geometry adopt the back of the spoon shape for durability & reliability against vandalism or harsh environment. A special carrier frame is included in the connector.



FEATURES & BENEFITS

- Special mating face design offers an efficient solution against vandalism
- Suits harsh environments (dust, water and variations in temperature)
- Can be easily integrated into a hybrid card reader, either magnetic stripe or chip

APPLICATIONS

- Indoor and outdoor
- Public telephone, vending machine, Point-of-Sales (POS), Automatic Teller Machine (ATM), gas and electricity meter

TECHNICAL INFORMATION

MATERIALS

- Contact: Copper alloy
- Plating: Gold over nickel or equivalent
- Solder tail area: Matte tin over nickel
- Housing: Thermoplastic UL94V0

ELECTRICAL PERFORMANCE

- Insulation resistance: ≥ 1000MOhms
- Withstanding voltage: ≥ 1000Vrms
- Contact resistance: ≤ 100mOhms
- Current rating: Minimum 10 µA, maximum 1 A

ENVIRONMENTAL

- Storage temperature range: -40°C to +85°C
- Operating temperature range: -20°C to +70°C

MECHANICAL PERFORMANCE

- Contact force: 0.5N maximum
- Durability: 100,000 cycles with gold plating according to UTE-C 93421 or equivalent

PART NUMBERS

Part Number	Number of Contacts
7832C0425X01LF	8 contacts
7832C0435X01LF	16 contacts

Z00 Series

DESCRIPTION

Z00 Series panel mount onto a front plate of a chassis are electrically linked to the Printed Circuit Board (PCB) by means of a Flexible Printed circuit cable (FPC). Meets the ISO (7810,7816) and AFNOR UTE 93421. The core of this panel mount version is the well proven L26 Smart Card Connector (page 11–12). The card detection switch utilizes a self cleaning, wiping blade, which is normally closed. When the card is fully inserted, 2 options for card penetration are available: 25 mm distance from card edge to the panel surface and 35 mm distance from card edge to the panel surface. FPC cable is also available with capacitors in order to keep a good signal integrity and to comply to EuropavMaster Visa (EMV) recommendations.

FEATURES & BENEFITS

- Easy to mount onto any metal front plate and yields a great flexibility to design changes and evolutions without the need of main PCB modification
- Possibility to have customized circuit of the FPC cable

TARGET MARKETS / APPLICATIONS

- Consumer TV & Internet Set-top box either cable, terrestrial or satellite
- Point of Sales Terminal (POS) transaction, security, verification
- Pre-pay utility meter (gas, water and electricity)

TECHNICAL INFORMATION

MATERIALS

- Contact: Copper alloy
- Plating: Gold over nickel or equivalent
- Solder tail area: Matte tin over nickel
- Housing: Thermoplastic UL94V0

ELECTRICAL PERFORMANCE

- Insulation resistance: ≥ 5000MOhms
- Withstanding voltage: ≥ 750Vrms
- Contact resistance: ≤ 100mOhms
- Current rating: Minimum 10 µA, maximum 1A

ENVIRONMENTAL

- Storage temperature range: -40°C to +85°C
- Operating temperature range: -20°C to +70°C

MECHANICAL PERFORMANCE

- Contact force: Between 0.2N – 0.6N following UTE C93421
- Durability: 30,000 cycles
- Insertion force: 10N maximum
- Extraction force: 1N to 10N maximum

SWITCH

- Contact closed resistance: ≤ 100mOhms
- Open contact voltage proof: ≥ 250Vrms

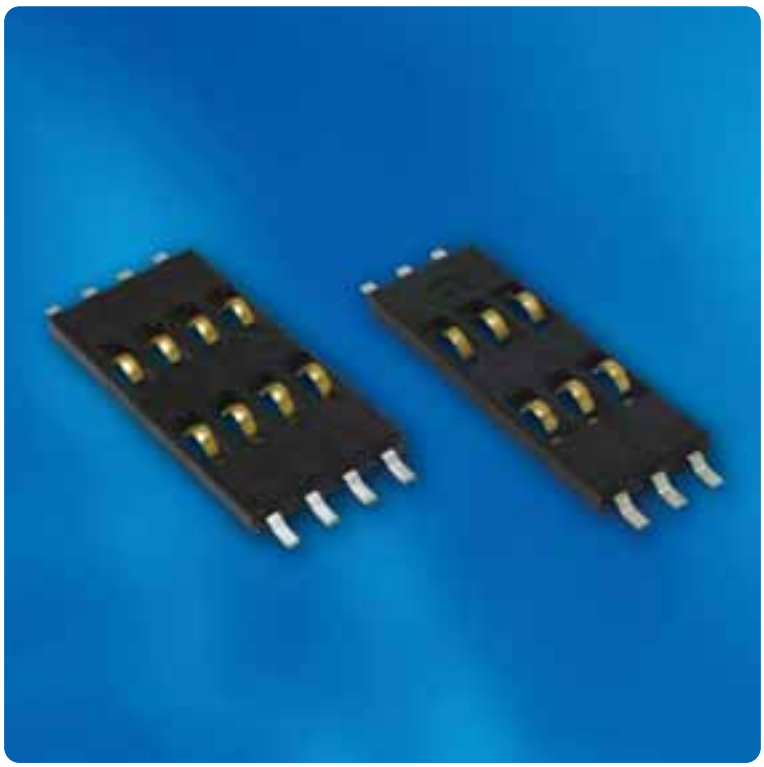
PART NUMBERS

Part Number	Number of Contacts	FPC Length (mm)	Distance Panel/ Card (mm)	Termination Pitch (mm)	Capacitor
7361Z0001S29LF	8 contacts	58	35	1.25	No
7361Z0001S40LF	8 contacts	118	35	1.25	Yes
7361Z0001S42LF	8 contacts	60	25	1.25	No
7361Z0001S43LF	8 contacts	58	25	1.25	Yes

SIM / SAM CONNECTOR – S06 / S10 Series

DESCRIPTION

Mini SIM connector range designed to meet interconnection requirements of both the full size SIM IC and the “plug in” Micro SIM cards. Designed to provide SIM card interface for GSM terminals. Available with 6 or 8 contacts. Connector insulator features over molded contacts.



FEATURES & BENEFITS

- Low profile – 1.5mm to 2.0mm above PCB
- Easily integrated into telephone handset or terminal device
- Designed for SMT automatic assembly processes, supplied in tape and reel packaging

APPLICATIONS

- Subscriber Identity Module (SIM) interface for GSM terminals

TECHNICAL INFORMATION

MATERIALS

- Contact: Gold over nickel or equivalent
- Solder tail area: Matte tin over metal
- Housing: High temperature thermoplastic UL94V0

ELECTRICAL PERFORMANCE

- Insulation resistance: ≥ 1000MOhms
- Withstanding voltage: ≥ 1000Vrms
- Contact resistance: ≤ 100mOhms
- Current rating: Minimum 10 µA, maximum 1A

ENVIRONMENTAL

- Functional temperature range : Between -40°C to +85°C
- Environmental tests :
  - CEI 68-2-36: Vibration operational test
  - CEI 68-2-27: Shock test
- Drop tests :
  - CEI 68-2-14: Thermal shock
  - EIA 481-3: Packaging
- Material can withstand SMT temperature profile peak 260°C maximum / 10 seconds

MECHANICAL PERFORMANCE

- Mating interface according to ISO 7816-2
- Contact force: 0.25N and 0.5N maximum in accordance with GSM 11.11 specification
- Contact travel: 0.61mm + 0.1mm
- Durability: 10,000 cycles
- Co-planarity: 0.15mm maximum

PART NUMBERS

Part Number	Number of Contacts	Thickness
7111S1015X01LF	6 contacts	1.5mm
7111S0625X01LF	8 contacts	1.5mm

SIM / SAM Connector – S07 Series

DESCRIPTION

SIM connector range designed to meet interconnection requirements of both full size IC Chip Card or plug in micro SIM Card. Specially equipped with integrated blade switch normally open for detection of full size IC Chip card.

FEATURES & BENEFITS

- Low profile from 0.75mm to 4.5mm above the PCB
- Meets the requirements for the automotive industry and GSM 11-11
- The integrated blade switch ensures the card detection of full size IC Chip card
- Easy mounted on PCB (SMT)

TARGET MARKETS / APPLICATIONS

- GSM, car radio, vending machine, access control, computer keyboard, payment terminal

TECHNICAL INFORMATION

MATERIALS

- Contact: Copper alloy
- Plating: Gold over nickel or equivalent
- Solder tail area: Matte tin over nickel
- Housing: Thermoplastic UL94V0

ELECTRICAL PERFORMANCE

- Insulation resistance: ≥ 1000MOhms
- Withstanding voltage: ≥ 1000Vrms
- Contact resistance: ≤ 100MOhms
- Current rating: Minimum 10 µA, maximum 1A

ENVIRONMENTAL

- Storage temperature range: -40°C to +85°C
- Operating temperature range: -20°C to +70°C

MECHANICAL PERFORMANCE

- Contact force: 0.5N maximum
- Durability: 10,000 cycles

SWITCH

- Contact closed resistance: ≤ 100 mOhms
- Open contact voltage proof: > 300 Vrms

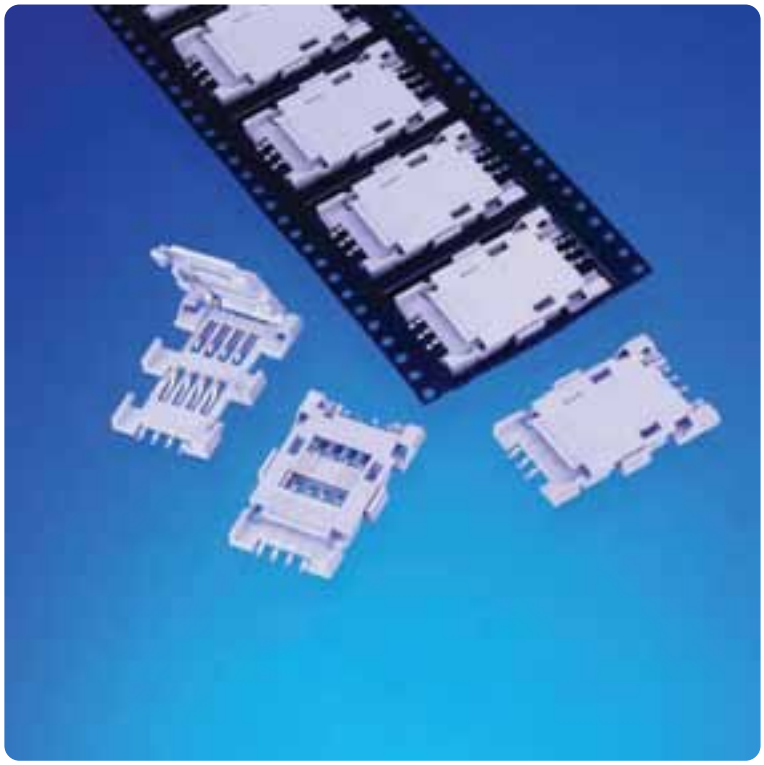
PART NUMBERS

Part Number	Number of Contacts	Thickness	Special Features	Exit Type
7311S0725A01LF	8 contacts	1.5mm	-	SMT
7311S0725A06LF	8 contacts	1.5mm	Window mount on PCB, height 0.75 mm	SMT
7312S0725A05LF	8 contacts	4.5mm	With pegs and lead shelter	SMT

SIM / SAM CONNECTOR – S08 Series

DESCRIPTION

Plug in SIM/SAM connector, with open or full cover, opening up to 120°, with or without spring. Connector is equipped with 6 or 8 contacts, locating pegs and SIM card guidance system.



FEATURES & BENEFITS

- Reliable and durable locking/latching mechanism
- Correct orientation of the SIM card guaranteed by integral polarizing feature
- Locking of the cover by sliding action
- Self cleaning of the contact provided by translatory motion of the connector cover before locking
- Visible SMT contact tails and “open window” cover allow easy electrical testing of the soldered connector
- Designed for SMT assembly processes. Supplied in tray & tape and reel packaging

APPLICATIONS

- All portable applications
- Point Of Sales (POS)
- Public telephone

TECHNICAL INFORMATION

MATERIALS

- Contact: Copper alloy
- Plating: Gold over nickel or equivalent
- Solder tail area: Matte tin over nickel
- Housing: High Temperature Thermoplastic UL94V0

ELECTRICAL PERFORMANCE

- Insulation resistance: ≥ 1000MOhms
- Withstanding voltage: ≥ 1000Vrms
- Contact resistance: ≤ 100mOhms
- Current rating: Minimum 10 µA, maximum 1A

ENVIRONMENTAL

- Storage temperature range: -40°C to +85°C
- Operating temperature range: -20°C to +70°C

MECHANICAL PERFORMANCE

- Contact force : 0.5N
- Durability : 10,000 cycles

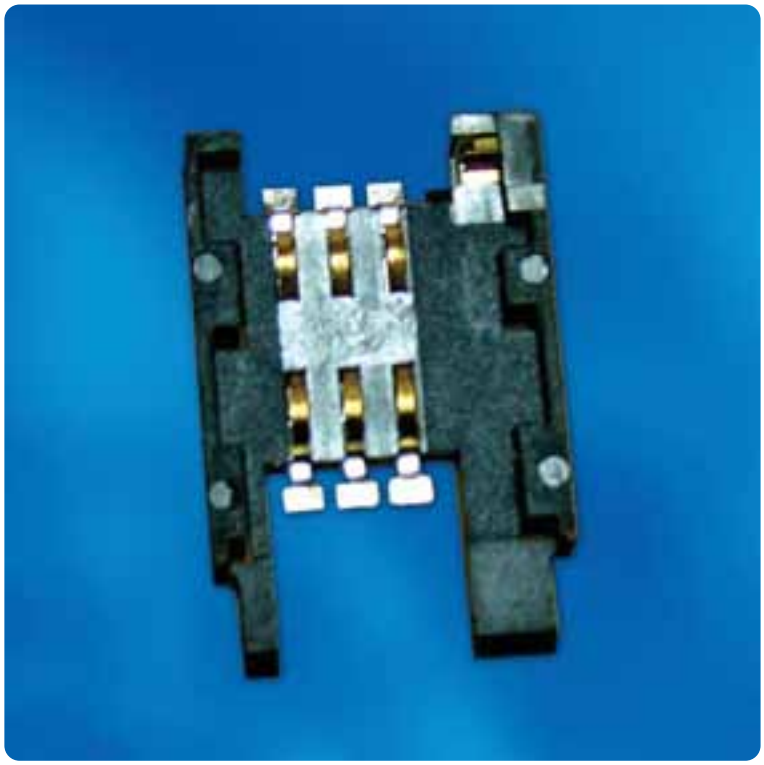
PART NUMBERS

Part Number	Number of Contacts	Spring	Cover
7112S0815X01LF	6 contacts	With	With windows
7112S0815X11LF	6 contacts	With	Full
7112S0815X19LF	6 contacts	Without	Full
7112S0815X29LF	6 contacts	Without	With windows
7112S0825X01LF	8 contacts	With	With windows
7112S0825X11LF	8 contacts	With	Full
7112S0825X19LF	8 contacts	Without	Full
7312S0815X19LF	6 contacts	Without	Full
7312S0825X19LF	8 contacts	Without	Full

SIM Connector – S16 Series

DESCRIPTION

This connector is designed to meet interconnection requirements of “plug in” microSIM cards. Designed to provide reliable SIM card interface for GSM terminals. The S16 series is equipped with 6 contacts, guided insulator and with or without a switch terminal.



FEATURES & BENEFITS

- Compact design: only 3.75mm above board profile
- Connector can be easily integrated into the terminal, as the card guidance, card end stop and detection switch are already incorporated into the connector design
- Sliding connector interface provides reliable self cleaning of the contact before locking
- Designed for SMT automatic assembly processes.
- Supplied in tape and reel packaging

TARGETS / APPLICATIONS

- Subscriber Identity Module (SIM), Connector interface for GSM terminals, Digital PAMR Terminals

TECHNICAL INFORMATION

MATERIALS

- Contact: Copper alloy
- Plating: Gold over nickel or equivalent
- Solder tail area: Matte tin over nickel
- Housing: High temperature thermoplastic UL94V0

ELECTRICAL PERFORMANCE

- Insulation resistance: ≥ 1000MOhms
- Withstanding voltage: ≥ 1000Vrms
- Contact resistance: ≤ 100mOhms
- Current rating: Minimum 10 µA, maximum 1A

PART NUMBERS

- 7111S1615A01LF
- 7111S1615A02LF
- 7111S1615A05LF

ENVIRONMENTAL

- Functional temperature range: -40°C to +85°C
- Environmental tests :
  - CEI 68-2-36: Vibration operational test
  - CEI 68-2-27: Shock test
- Drop tests:
  - CEI 68-2-14: Thermal shock
  - EIA 481-3: Packaging
- Material can withstand SMT temperature profile peak 260°C maximum / 10 seconds

MECHANICAL PERFORMANCE

- Mating interference according to ISO 7816-2
- Contact force: 0.5N maximum in accordance with GSM 11.11 specification
- Contact travel: 0.61mm +/- 0.07mm
- Durability: 10,000 cycles
- Co-planarity: 0.1mm maximum
- Operating forces:
  - card insertion force: 2.5N +/- 0.3 N
  - card removal force: ≤ 2N

SPECIFICATIONS

- Product Specification: Refer to customer drawing

SWITCH

- Contact closed resistance: ≤ 100mOhms
- Open contact voltage proof: ≥ 250Vrms

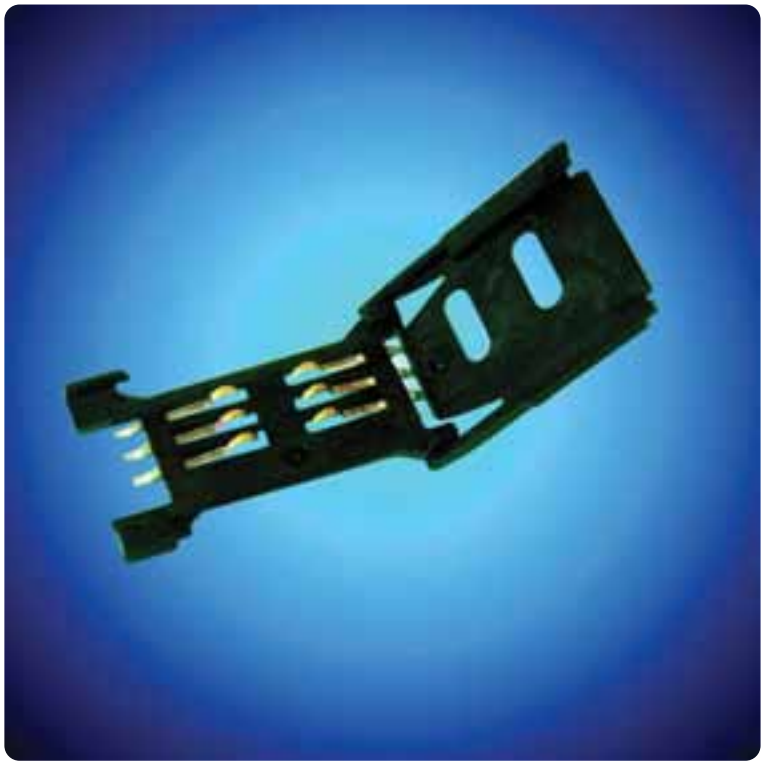
APPROVALS AND CERTIFICATIONS

- The product comply with the standards of GSM 11.11

SIM Connector – S20 Series

DESCRIPTION

Connector is designed to meet interconnection requirements of «plug in» SIM cards and also to provide SIM card interface for GSM terminals. This connector is equipped with 6 contacts, hinge, cover and SIM card guidance system.



FEATURES & BENEFITS

- Compact design: only 2.5 mm above board profile
- Reliable and durable locking/latching mechanism
- Correct orientation of the SIM card guaranteed by integral polarizing feature.
- Locking of the cover by sliding action
- Self cleaning of the contact provided by a translatory motion of the connector cover before locking
- Visible SMT contact tails and “open window” cover allow easy electrical testing of the soldered connector
- Designed for SMT automatic assembly processes. Supplied in tape and reel packaging

APPLICATIONS

- Subscriber Identity Module (SIM) connector interface for GSM terminals
- Security Access Module (SAM) for applications like P.O.S. terminal, public phone, set top box, vending machine, consumer good

TECHNICAL INFORMATION

MATERIALS

- Contact: Copper alloy
- Plating: Gold over nickel or equivalent
- Solder tail area: Matte tin over nickel
- Housing: High temperature thermoplastic UL94V0

ELECTRICAL PERFORMANCE

- Insulation resistance: ≥ 1000MOhms
- Withstanding voltage: ≥ 1000Vrms
- Contact resistance: ≤ 100mOhms
- Current rating: Minimum 10 µA, maximum 1A

PART NUMBERS

- 7111S2015X02LF

ENVIRONMENTAL

- Functional temperature range: -40°C to + 85°C
- Environmental tests :
  - CEI 68-2-36: Vibration operational test
  - CEI 68-2-27: Shock test
- Drop tests:
  - CEI 68-2-14: Thermal shock
  - EIA 481-3: Packaging
- Material can withstand SMT temperature profile peak 260°C maximum / 10 seconds

MECHANICAL PERFORMANCE

- Mating interference according to ISO 7816-2
- Contact force: 0.5N maximum in accordance with GSM 11.11 specification
- Contact travel: 0.7mm
- Durability: 10,000 cycles
- Co-planarity: 0.1mm maximum
- Operating forces to lock or unlock the cover: Between 2N and 8N
- Operating angle: Cover can be opened between 0° and 180°

SPECIFICATIONS

- Product Specification: Refer to customer drawing

APPROVALS AND CERTIFICATIONS

- The product comply with the standards of GSM 11.11

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