

SIM CARD CONNECTORS

SIM (Subscriber Identity Module) and UIM (Universal Identity Module) cards are widely used in a variety of mobile applications, including, billing, security and number storage purposes in mobile devices. The SIM card parameters are defined by ISO, ETSI and GSM standards.

TE Connectivity's (TE's) outstanding technological capability delivers a high comfort for the end customer and great durability and longevity of the SIM connectors. In addition, TE has the ability to fabricate very high volume products in a cost-efficient, lean manufacturing process. The huge array of products, combined with TE's ability to redesign existing products to customer requirements, allow TE to be a reliable source for SIM and UIM card connectors.

FEATURES

- Large portfolio covering several styles and card sizes
- Connectors optimized for reliability (i.e. by spherical contact points increasing hertz stress, pre-loaded contacts and anti-retention features in the contacts.)
- The SIM connector series offers the best possible design freedom; many products are even scalable in height within the same form factor
- Best possible applied cost by fully-automated processing

BENEFITS

- Large, versatile portfolio offers the best product closest to your need
- Highly reliable connector technology helps customers reduce production line defect rates – ultimately reducing costs for quality control and service
- Very broad design freedom creates optimal possibilities for the design engineer to match the device's requirements
- Fully-automated processing leads to stable quality
- Global footprint means enhanced support for all regions

APPLICATIONS

- Mobile phones
- Tablets
- Personal computers
- Ultraportable devices
- Data cards
- Portable GSM modems
- Servers

www.te.com/products/SIMCardConnectors

TE Offers a Variety of SIM Card Connectors



Push-pull Type

- Card guidance and card stops provides fixation of the SIM card in X, Y and Z direction
- Card is typically located inside the device shell. Consumer must open the device shell to extract the card, and must insert and eject card manually
- Full single clip, provides shielding, and prevents card bending. This ensures a stable connection with all card types
- Components underneath the SIM card are possible (optional)



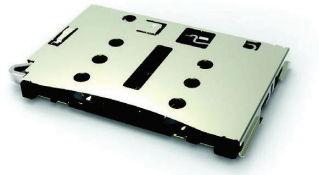
Block Type

- Basic SIM connector without enhanced features in combination with an efficient manufacturing process leads to an extremely cost-effective component
- Anti-lifting contact prevents the contact from being accidentally lifted, reducing the risk of damaged contacts
- Two (2) directional mating allows for card insertion from two directions



Push-push Type

- Push to insert, push to eject mechanism provides enhanced card handling for the end user
- Push-push type connectors are typically used under the battery cover or behind a door at the device exterior
- The card detection switch senses card removal
- The connector reduces the risk of inserting the card in the wrong direction



Tray Type

- Tray type SIM connectors are typically used on the exterior of a device. The tray forms a unity with the device covers
- Tray can be fully separated from the body, allowing for easy card handling by the end user
- The connector reduces the risk of inserting the card in the wrong direction
- The card detection switch senses card removal



Combo Type

- Integrated card connector to support two cards: micro SD and micro SIM
- The stacking of two card connectors reduces the connector layout on the PCB
- There is a detect switch for micro SD
- Two types of insertion exist: cross insertion type and inline insertion type

Size comparison: Mini SIM (2FF) vs Micro SIM (3FF) vs Nano SIM (4FF)



Mini SIM/2FF
25L x 15W x 0.76H(mm)

Micro SIM/3FF
15L x 12W x 0.76H (mm)

Nano SIM/4FF
12.3L x 8.8W x 0.67H (mm)

*FF = Form Factor

Product Offerings

	P/N	Picture	Height Range	Length x Width	Description	Features and Benefits	Status	Applicable SIM Size
Push-push Type	2174918-1		1.40	26 x 17	Push-push SIM, super low profile	**Features** • Push-push function allows SIM card ejection by connector itself • Lower profile • Dual slanted contacts • Card detection switch **Benefits** • Easy to handle SIM card • Low profile saves PCB space • Dual slanted contacts provide strong mating force and minimizes contact jam • Card detect switch is available	MP GD	Mini SIM / 2FF
	2174803-2 2822541-1 *Anti-buckling*		1.27	15.98 x 15.1	Ultra low profile push-push	• Push-push function allows SIM card ejection by connector itself to help the end customer handle SIM card easily and reduces risk of inserting the card in the wrong direction, minimizes card jamming • Low profile saves space • Dual slanted contacts provide strong mating force and avoid contact jam • Card detect switch is available • 2822541-1 applies an anti-buckling feature to original connector	MP SH	Micro SIM / 3FF
Push-pull Type	*-2042647-* *-2042920-*		1.8 – 2.0	15.5 x 10	Scalable shielded SIM	**Features** • Shielded • Holes for additional components under the connector • Test holes for automatic inline testing **Benefits** • Shield protects against radio interference • Holes under the connector save space • Test holes reduce applied costs	MP SH	Mini SIM / 2FF
	-1551663-		1.8 – 2.0	15.5 x 10	Narrow shield version		MP SH	Mini SIM / 2FF

(dimenions:mm)

SIM Card Connectors

	P/N	Picture	Height Range	Length x Width	Description	Features and Benefits	Status	Applicable SIM Size
Push-pull Type	1932766-1		1.5	17.6 x 16.1	SIM 1.5mm height	**Features** • Provides card stop • Shielded • Preloaded contacts • Holes under the connector • Test holes **Benefits** • Card stop helps protect against damage to the SIM card • Shield prevents EMI, RF distortion and card bend • Preloaded anti-lifting contacts protect card from abuse • Mounting components under the connector save space • Automated testing reduces costs	MP GD	Mini SIM / 2FF
	1932768-1		1.95	16.3 x 14.8	Super low profile SIM with flange (big shield)	**Features** • One clip type (bridge type) • Shielded • Holes under the connector • Card stop and guide • Preloaded contacts • Test holes **Benefits** • Prevents card damage • Shield helps protect against EMI, RF distortion and card bend • Preloaded anti-lifting contacts protect card from abuse • Mounting components under the connector save space • Automated testing reduces costs	MP SH	Micro SIM / 2FF
	2199337-5 *Anti-buckling*		1.18	14.1 x 13.3	Anti-buckling ultra low profile push pull	• Low profile to save space • Card detect switch is available • Reduces risk of card insertion in wrong direction • Card stop confirms full insertion to user • The new contact design prevents buckling in use of a nano SIM card to an adapter	MP SH	Micro SIM / 3FF

Combo Type Connector for Micro SIM + Micro SD	2199003-2		2.5	17.75 x 14.0	Micro SIM + micro SD combo 90 degree	• Dual card reader micro SIM/micro SD type, space saving design transverse card orientation • Push-pull type • Micro SD card retention feature • Micro SD detect switch • Pick and place design on shell	MP GD	Micro SIM / 3FF & micro SD
	2199260-5 *Anti-buckling*		2.12	16.9 x 14.31	Micro SIM + micro SD Combo Inline	• Low profile design • Two cards (micro SIM/3FF & micro SD) are both supported • Push-pull type • Micro SIM slot has anti-buckling contact to make it robust and reliable • Slider to extract micro SIM card is available • Card detect switch for micro SD	MP GD	Micro SIM / 3FF & micro SD

(dimenions:mm)

SIM Card Connectors

	P/N	Picture	Height Range	Length x Width	Description	Features and Benefits	Status	Applicable SIM Size
Combo Type Connector for Micro SIM + Micro SD	2290741-1 NEW Anti-buckling 2295782-1 NEW Anti-buckling		1.32	28 x 18.3	3-in-2 Card Connector	• Accepts either two nano SIM/4FF cards, or one nano SIM/4FF and one micro SD card • Innovative anti-buckling contact design provides a more robust solution • Helps prevent damage to contacts during card insertion and removal • Proven pin-push type solution with mechanical lock function • Tray detect switch helps prevent malfunction • Space-efficient design with two cavities • About 20% PCB savings over other combo type card connectors • Better coplanarity control helps ensure fewer defects during the manufacturing process and makes the soldering process easier	MP SH	Nano SIM / 4FF & micro SD
Tray Type	2286990-1 Anti-buckling		1.35	12.26 x 17.76	Nano SIM tray side entry	• Low profile design 1.35mm • Card insertion direction is side entry type • Good click feeling to insert tray and enough tray eject length by pin insertion operation • Tray detect switch is available • Anti-buckling contact minimizes contact deformation • Both single card type & dual card type are available Contact a TE Representative for further details and other tray type requests.	MP GD	Nano SIM / 4FF
	2296830-1 Anti-buckling		1.35	12.26 x 17.76	Dual Nano SIM tray side entry		MP GD	Two piece Nano SIM / 4FF
Block Type	2286237-1 Anti-buckling		0.3	12.95 x 7.5	Block SIM Normal Entry	• Low profile design, all product HSG height is 0.3mm • Minimize the connector layout to minimize the space • Flexible layout to use several cards in one application • Both block SIM connectors can connect to mini SIM/2FF, micro SIM/3FF and nano SIM/4FF • The card position can be fixed on the application side or by adding a shell as another component • Anti-buckling contact is available for insertion/extraction direction	MP SH	Mini SIM / 2FF or Micro SIM / 3FF or Nano SIM / 4FF
	2287217-1 Anti-buckling		0.3	8 x 8.2	Block SIM Side Entry		MP GD	Mini SIM / 2FF or Micro SIM / 3FF or Nano SIM / 4FF
	2286981-1 Anti-buckling		0.3	8x 9.6	Block micro SD		MP GD	Micro SD

(dimenions:mm)

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