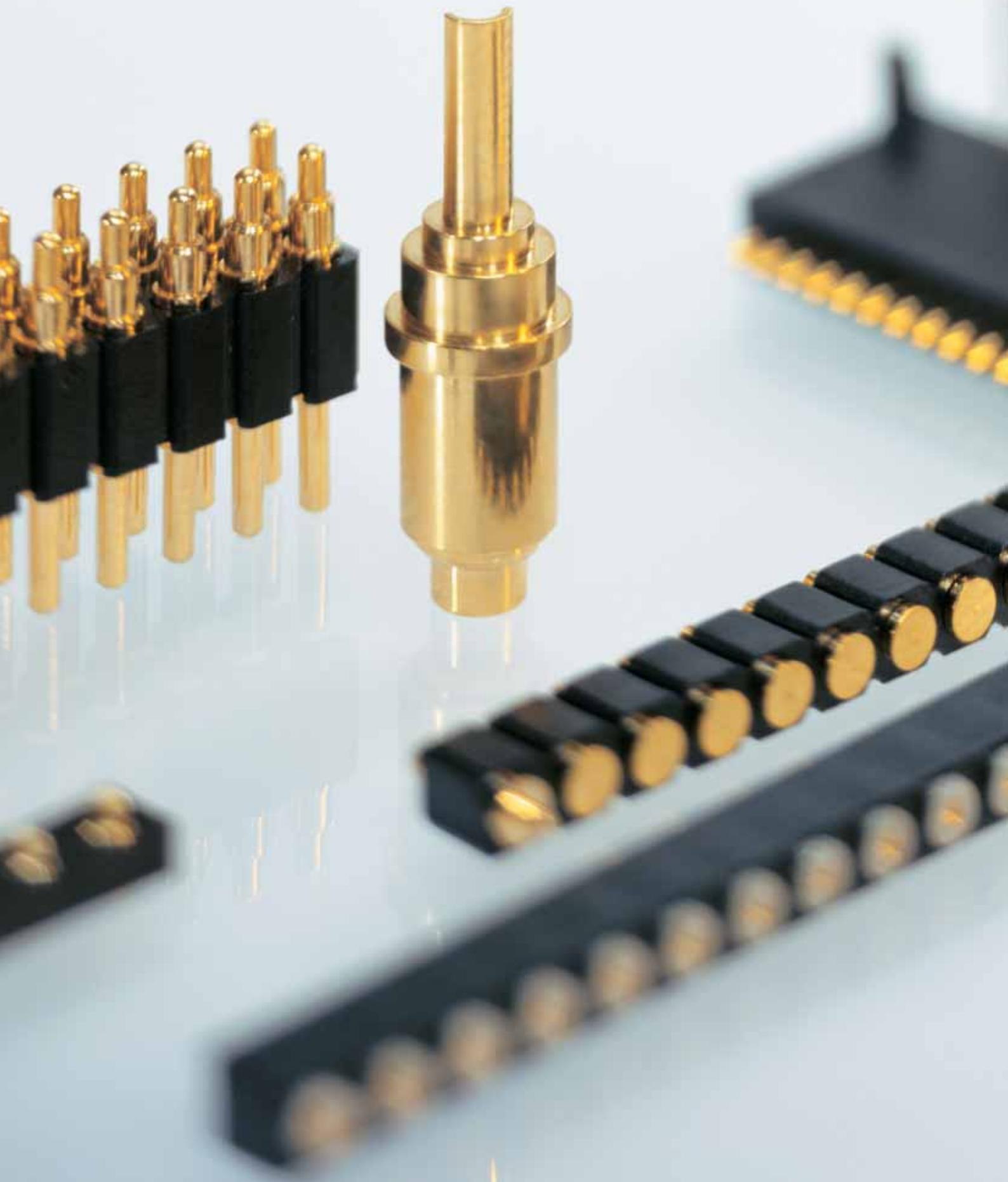


# SPRING-LOADED CONNECTORS





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# QUICK SELECTOR CHART

SPRING-LOADED CONNECTORS AND PAD CONNECTORS

## GRID

	1.25 mm	2 mm	2.54 mm
SINGLE ROW			
DOUBLE ROW			

## SLC CONNECTORS

Straight  
solder tail



SEE PAGE  
32 34 34

Right angle  
solder tail



SEE PAGE  
32

Surface mount  
perpendicular



SEE PAGE  
33 33 35, 36 35, 36

Surface mount  
perpendicular  
with positioning pins



SEE PAGE  
37 37

Surface mount  
parallel



SEE PAGE  
38

SIM card socket



SEE PAGE  
38

## PAD CONNECTORS

Surface mount  
perpendicular



SEE PAGE  
39 39

Surface mount  
parallel



SEE PAGE  
39



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# SPRING-LOADED CONNECTORS PAD CONNECTORS

## GENERAL SPECIFICATIONS

The values listed below are general specs applying for PRECI-DIP spring-loaded connectors. Please see individual catalog page for additional and product specific technical data.

OPERATING TEMPERATURE RANGE	-55 ... +125 °C (-55 °... +85 °C with music wire spring)
CLIMATIC CATEGORY (IEC)	55/85/21
OPERATING HUMIDITY RANGE	Annual mean 75%
MAX. WORKING VOLTAGE	100 VRMS/150 VDC (2.54 mm grid)



PRECI-DIP products are recognized by Underwriters Laboratories Inc. and listed under "Connectors for Use in Data, Signal, Control and Power Applications", File Nr. E174442.

## MECHANICAL CHARACTERISTICS

	BASIC	LOW RESISTANCE	LOW RESISTANCE
	HOLLOW PISTON TYPE	SHAPED PISTON TYPE	CLIP IN-LINE DESIGN TYPE
MIN. INITIAL HEIGHT	3 mm	6 mm	10 mm
STROKE/HEIGHT RATIO	Max. 0.3	Max. 0.2	Max. 0.15
MAX STROKE	2 mm	2 mm	1.5 mm
MIN. INITIAL SPRING FORCE	0.2 N	0.2 N	0.2 N

## ELECTRICAL CHARACTERISTICS

INSULATION RESISTANCE BETWEEN ANY TWO ADJACENT CONTACTS	Min. 10'000 MΩ at 500 VAC
CAPACITANCE BETWEEN ANY TWO ADJACENT CONTACTS	Max. 1 pF

## ENVIRONMENTAL CHARACTERISTICS

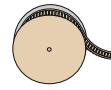
The sockets withstand the following environmental tests without mechanical and electrical defects:

- Dry heat steady state IEC 60512-11-9.11i / 60068-2-2.Bb: 125 °C, 16 h
  - Damp heat cyclic IEC 60512-11-12.11m / 60068-2-30.Db: 25/55 °C, 90 – 100 %rH, 1 cycle of 24 h
  - Cold steady state IEC 60512-11-10.11j / 60068-2-1.A: -55 °C, 2 h
  - Thermal shock IEC 60512-11-4.11d / 60068-2-14.Na: -55/125 °C, 5 cycles 30 min
  - Sinusoidal vibrations IEC 60512-6-4.6d / 60068-2-6.Fc: 10 to 500 Hz, 10 g, 1 octave/min, 10 cycles for each axis
  - Shock IEC 60512-6-3.6c / 60068-2-27.Ea: 50 g, 11 ms, 3 shocks in three axis
- During the above two tests, no contact interruption >50 ns does appear.

- Solderability J-STD-002A, Test A, 245 °C, 5 s, solder alloy SnAg3.8Cu0.7
- Resistance to soldering heat J-STD-020C, 260 °C, 20 s
- Moisture sensitivity J-STD-020C level 1
- Resistance to corrosion:
  - 1) Salt spray test IEC 60068-2-11.Ka: 48 h
  - 2) Sulfur dioxide (SO<sub>2</sub>) test IEC 60068-2-42 Kc: 96 h at 25 ppm SO<sub>2</sub>, 25 °C, 75 %rH
  - 3) Hydrogen sulfide (H<sub>2</sub>S) test IEC 60068-2-43 Kd: 96 h at 12 ppm H<sub>2</sub>S, 25 °C, 75 %rH

## PACKAGING

- Standard connector packaging is card box.
- SMD mount connectors available on request with Tape & Reel packaging acc. to EIA Standard 481. These products are marked with the symbol:



T & R Packaging

Please consult [www.precidip.com](http://www.precidip.com) for availability, size of tape, size of reel, number of components per reel and packing units.



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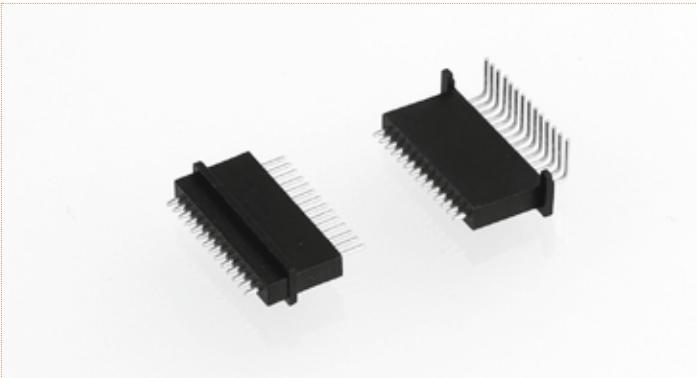
Fine pitch connectors with spring-loaded contacts (SLC), solder tail. High-rel contacts with clip, patented in-line design.

#### TECHNICAL SPECIFICATIONS (FOR GENERAL SPECS, SEE PAGE 31)

INSULATOR	Black glass filled polyester PCT-GF30-FR
FLAMMABILITY	UL 94V-0
PISTON AND BARREL	Brass CuZn36Pb3 (C36000)
CONTACT CLIP	Beryllium copper (C17200)
SPRING	Stainless steel X12 CrNi177, DIN 17224
MAX. STROKE	1.4 mm
FORCES	0.2 N initial 0.36 N at $1/2$ stroke
MECHANICAL LIFE	40'000 cycles
OPERATING CURRENT	Max. 2 A
CONTACT RESISTANCE	20 m $\Omega$ (static measurement, halfway position)

# SPRING-LOADED CONNECTORS

1.25 mm GRID / SINGLE ROW / SOLDER TAIL



See page 178 for plating specs.

Surface mount miniature SLC connectors available on request.  
Please consult.

#### ORDERING INFORMATION ROHS COMPLIANT PARTS

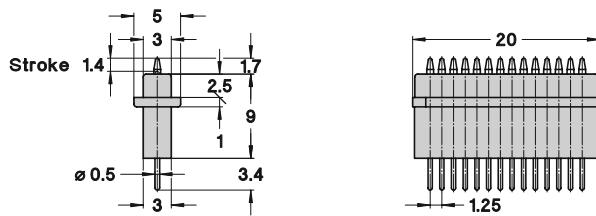
PLATING CODE	PIN	PISTON
28	Tin	0.3 $\mu$ m min. gold

#### 8PD-28-0014-01-812

Straight SLC connector, solder tail, single row

Standard number of contacts: 14

Please consult for other pin number or partially equipped connectors

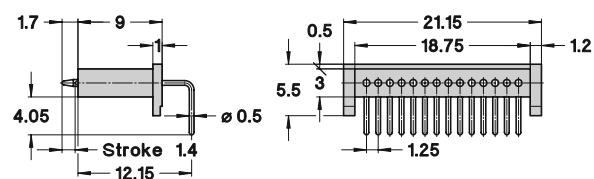


#### 8PC-28-0014-01-828

Right angle SLC connector, solder tail, single row

Standard number of contacts: 14

Please consult for other pin number or partially equipped connectors





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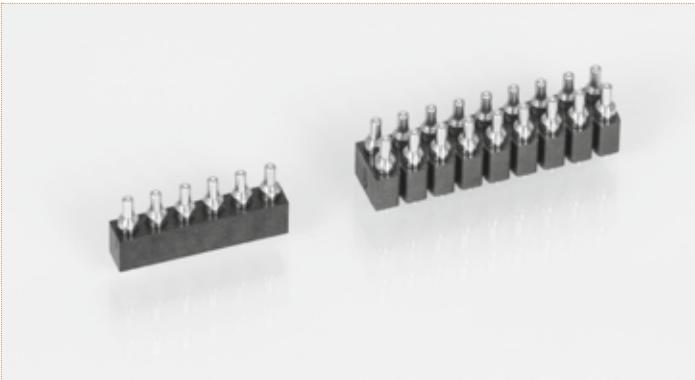
# SPRING-LOADED CONNECTORS

2 mm GRID / SINGLE ROW / DOUBLE ROW / SURFACE MOUNT

Basic modular connectors with spring-loaded contacts (SLC), surface mount. Contacts with hollow piston design for low profile.

## TECHNICAL SPECIFICATIONS (FOR GENERAL Specs, SEE PAGE 31)

INSULATOR	Black glass filled polyester PCT-GF30-FR	
FLAMMABILITY	UL 94V-0	
PISTON AND BARREL	Brass CuZn36Pb3 (C36000)	
SPRING	Stainless steel X12 CrNi177, DIN 17224	
MAX. STROKE	1.4 mm	
FORCES	0.3 N initial	0.85 N at 1/2 stroke
MECHANICAL LIFE	50'000 cycles	
OPERATING CURRENT	Max. 3.5 A	
CONTACT RESISTANCE	10 mΩ (static measurement, halfway position)	
COPLANARITY	Max. 0.1 mm (measured on 25 mm long connectors)	
SMD TERMINATIONS		



SPRING-LOADED CONNECTORS

## ORDERING INFORMATION ROHS COMPLIANT PARTS

PLATING CODE	BARREL	PISTON
S1	0.25 µm gold	0.5 µm gold

See page 178 for plating specs.

**NNN number of poles.** Replace **NNN** with the requested number of poles, e.g. 821-SS-**NNN**-30-012101 for a single row version with 16 pins becomes 821-SS-**016**-30-012101.

### 821-SS-**NNN**-30-XXX101

Surface mount SLC connector, low profile, single row

AVAILABILITY FROM 2 to 10 contacts  
(standard number of contacts: 10)



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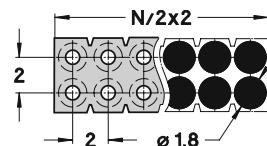
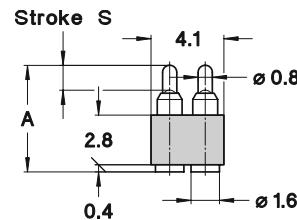
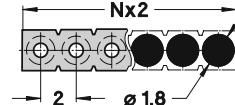
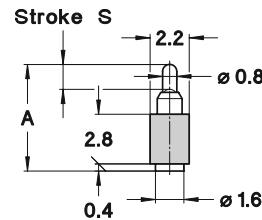
### 823-SS-**NNN**-30-XXX101

Surface mount SLC connector, low profile, double row

AVAILABILITY FROM 4 to 20 contacts  
(standard number of contacts: 20)



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## AVAILABLE CONNECTOR HEIGHTS

INITIAL HEIGHT A (mm)	STROKE S (mm)	XXX CODE
5	1.4	012
5.5	1.4	013
6	1.4	014
6.5	1.4	015



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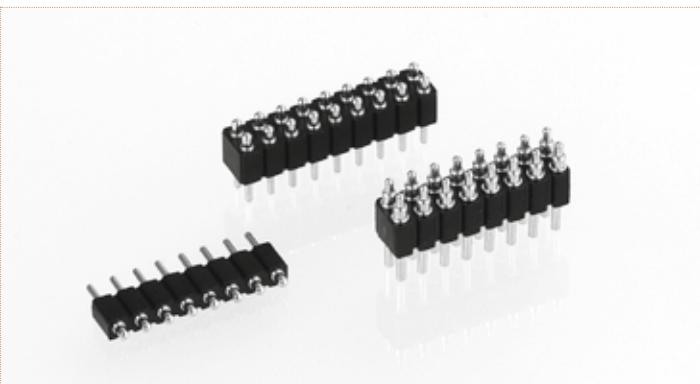
# SPRING-LOADED CONNECTORS

2.54 mm GRID / SINGLE ROW / DOUBLE ROW / SOLDER TAIL

Low resistance modular connectors with spring-loaded contacts (SLC), solder tail. Contacts with improved, shaped piston design.

## TECHNICAL SPECIFICATIONS (FOR GENERAL SPECS, SEE PAGE 31)

INSULATOR	Black glass filled polyester PCT-GF30-FR	
FLAMMABILITY	UL 94V-0	
PISTON AND BARREL	Brass CuZn36Pb3 (C36000)	
SPRING	Music wire DIN 17223, gold plated	
MAX. STROKE	1.4 mm	
FORCES	0.25 N initial	0.85 N at $1/2$ stroke
MECHANICAL LIFE	50'000 cycles	
OPERATING CURRENT	Max. 3.5 A	
CONTACT RESISTANCE	10 m $\Omega$ (static measurement, halfway position)	



See page 178 for plating specs.

**NNN number of poles:** Replace **NNN** with the requested number of poles, e.g. 813-S1-**NNN**-10-014101 for a double row version with 16 pins becomes 813-S1-016-10-01410110-001101.

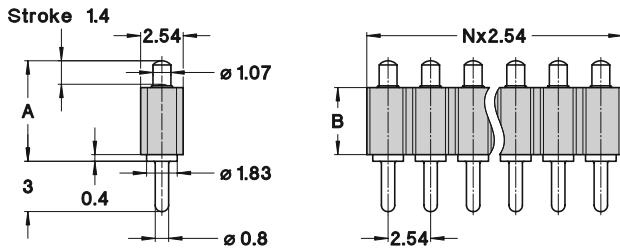
## ORDERING INFORMATION ROHS COMPLIANT PARTS

PLATING CODE	BARREL	PISTON
S1	0.25 $\mu$ m gold	0.5 $\mu$ m gold
SS	0.5 $\mu$ m gold	0.5 $\mu$ m gold

### 811-S1-**NNN**-10-XXX101

Straight SLC connector, low profile, solder tail, single row

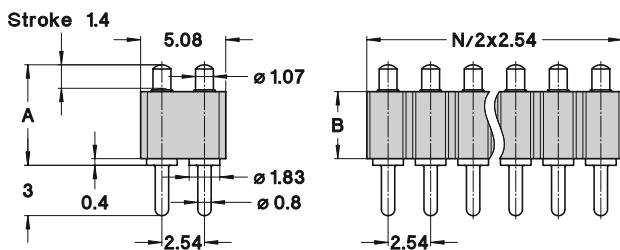
AVAILABILITY FROM 2 to 64 contacts  
(standard number of contacts: 64)



### 813-S1-**NNN**-10-XXX101

Straight SLC connector, low profile, solder tail, double row

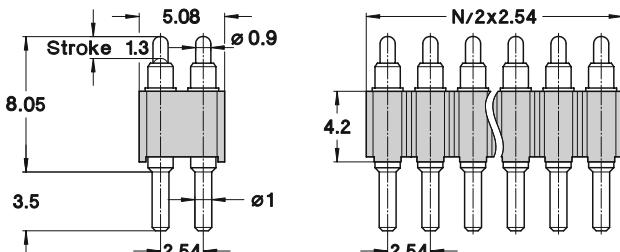
AVAILABILITY FROM 4 to 72 contacts  
(standard number of contacts: 72)



### 813-SS-**NNN**-10-474101

Straight SLC connector, solder tail, double row

AVAILABILITY FROM 4 to 64 contacts  
(standard number of contacts: 64)



## AVAILABLE CONNECTOR HEIGHTS

INITIAL HEIGHT A (mm)	PLASTIC BODY HEIGHT B (mm)	XXX CODE
6	4	014
6.5	4	015
7	4	016
7.5	4	017



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# SPRING-LOADED CONNECTORS

2.54 mm GRID / SINGLE ROW / DOUBLE ROW / SURFACE MOUNT

Basic modular connectors with spring-loaded contacts (SLC), surface mount. Contacts with hollow piston design for low profile.

## TECHNICAL SPECIFICATIONS (FOR GENERAL SPECS, SEE PAGE 31)

INSULATOR	Black glass filled polyester PCT-GF30-FR
FLAMMABILITY	UL 94V-0
PISTON AND BARREL	Brass CuZn36Pb3 (C36000)
SPRING	Stainless steel X12 CrNi177, DIN 17224 (Music wire DIN 17223, gold plated for 811...008101)
MAX. STROKE	1.4 mm (1 mm for 811-...-008101 and 1.5 mm for 811/813-...-001101)
FORCES	0.25 N initial 0.6 N at $1/2$ stroke
MECHANICAL LIFE	100'000 cycles
OPERATING CURRENT	Max. 3.5 A
CONTACT RESISTANCE	15 m $\Omega$ (static measurement, halfway position)
COPLANARITY SMD TERMINATIONS	Max. 0.1 mm (measured on 25 mm long connectors)



## ORDERING INFORMATION ROHS COMPLIANT PARTS

PLATING CODE	BARREL	PISTON
SS	0.5 $\mu$ m gold	0.5 $\mu$ m gold

See page 178 for plating specs.

**NNN** number of poles. Replace **NNN** with the requested number of poles, e.g. 811-SS-**NNN**-30-002101 for a single row version with 16 pins becomes 811-SS-**016**-30-002101.

### 811-SS-**NNN**-30-008101

Surface mount SLC connector, very low profile, single row

AVAILABILITY FROM 2 to 10 contacts  
(standard number of contacts: 10)



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### 811-SS-**NNN**-30-XXX101

Surface mount SLC connector, low profile, single row

AVAILABILITY FROM 2 to 10 contacts  
(standard number of contacts: 10)



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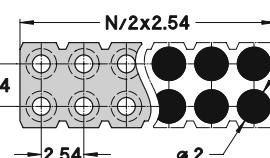
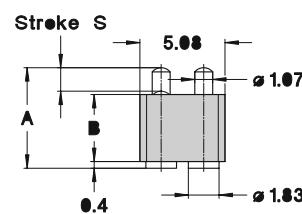
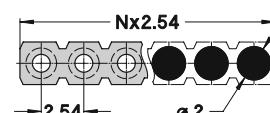
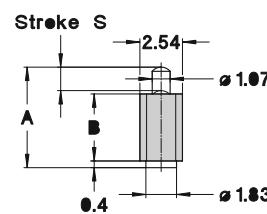
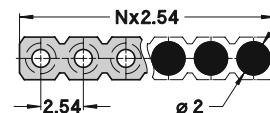
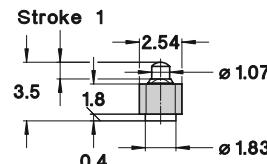
### 813-SS-**NNN**-30-XXX101

Surface mount SLC connector, low profile, double row

AVAILABILITY FROM 4 to 20 contacts  
(standard number of contacts: 20)



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## AVAILABLE CONNECTOR HEIGHTS

INITIAL HEIGHT A (mm)	STROKE S (mm)	PLASTIC BODY HEIGHT B (mm)	XXX CODE
4.5	1.15	2.95	001
5	1.4	2.95	002
5.5	1.4	2.95	003
6	1.4	4	004
6.5	1.4	4	005
7	1.4	4	006
7.5	1.4	4	007

Due to technical progress, all information provided is subject to change without prior notice.



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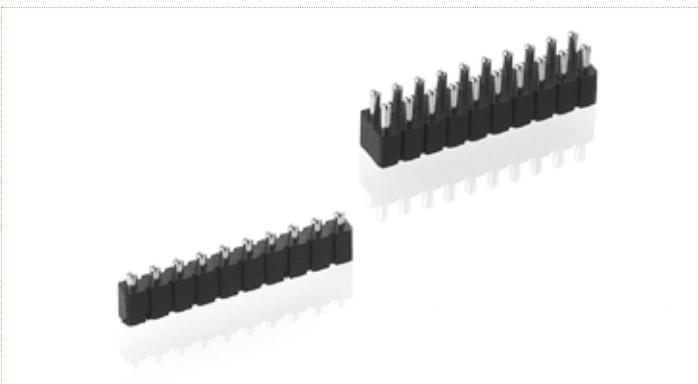
Low resistance modular connectors with spring-loaded contacts (SLC), surface mount. Contacts with improved shaped piston design.

## TECHNICAL SPECIFICATIONS (FOR GENERAL SPECS, SEE PAGE 31)

INSULATOR	Black glass filled polyester PCT-GF30-FR	
FLAMMABILITY	UL 94V-0	
PISTON AND BARREL	Brass CuZn36Pb3 (C36000)	
SPRING	Music wire DIN 17223, gold plated	
MAX. STROKE	1.4 mm	
FORCES	0.25 N initial	0.85 N at $1/2$ stroke
MECHANICAL LIFE	50'000 cycles	
OPERATING CURRENT	Max. 3.5 A	
CONTACT RESISTANCE	10 m $\Omega$ (static measurement, halfway position)	
COPLANARITY		
SMD TERMINATIONS	Max. 0.1 mm (measured on 25 mm long connectors)	

# SPRING-LOADED CONNECTORS

2.54 mm GRID / SINGLE ROW / DOUBLE ROW / SURFACE MOUNT



## ORDERING INFORMATION ROHS COMPLIANT PARTS

PLATING CODE	BARREL	PISTON
S1	0.25 $\mu$ m gold	0.5 $\mu$ m gold

See page 178 for plating specs.

**NNN number of poles.** Replace **NNN** with the requested number of poles, e.g. 813-S1-**NNN**-30-014101 for a double row version with 16 pins becomes 813-S1-**016**-30-014101.

### 811-S1-**NNN**-30-**XXX**101

Surface mount SLC connector, low profile, single row

AVAILABILITY FROM 2 to 10 contacts  
(standard number of contacts: 10)



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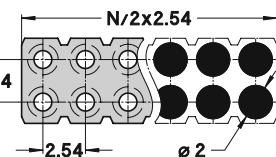
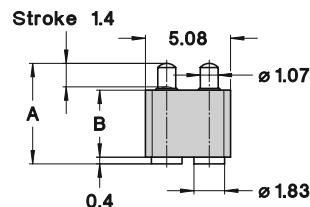
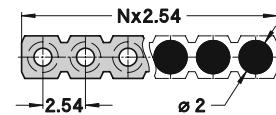
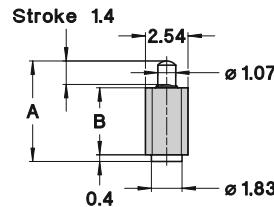
### 813-S1-**NNN**-30-**XXX**101

Surface mount SLC connector, low profile, double row

AVAILABILITY FROM 4 to 20 contacts  
(standard number of contacts: 20)



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## AVAILABLE CONNECTOR HEIGHTS

INITIAL HEIGHT A (mm)	PLASTIC BODY HEIGHT B (mm)	XXX CODE
6	4	014
6.5	4	015
7	4	016
7.5	4	017



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# SPRING-LOADED CONNECTORS

2.54 mm GRID / SINGLE ROW / DOUBLE ROW / SURFACE MOUNT

Basic modular connectors with spring-loaded contacts (SLC), surface mount with positioning pins. Contacts with hollow piston design for low profile.

## TECHNICAL SPECIFICATIONS (FOR GENERAL SPECS, SEE PAGE 31)

INSULATOR	Black glass filled polyester PCT-GF30-FR	
FLAMMABILITY	UL 94V-0	
PISTON AND BARREL	Brass CuZn36Pb3 (C36000)	
SPRING	Stainless steel X12 CrNi177, DIN 17224	
MAX. STROKE	1.4 mm (1.15 mm for 811/813-...-021101)	
FORCES	0.25 N initial	0.6 N at $\frac{1}{2}$ stroke
MECHANICAL LIFE	100'000 cycles	
OPERATING CURRENT	Max. 3.5 A	
CONTACT RESISTANCE	15 m $\Omega$ (static measurement, halfway position)	
COPLANARITY SMD TERMINATIONS	Max. 0.1 mm (measured on 25 mm long connectors)	



## ORDERING INFORMATION ROHS COMPLIANT PARTS

PLATING CODE	BARREL	PISTON
SS	0.5 $\mu$ m gold	0.5 $\mu$ m gold

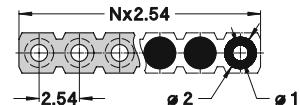
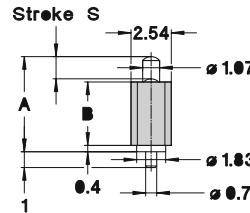
See page 178 for plating specs.

**NNN number of poles.** Replace **NNN** with the requested number of poles, e.g. 813-SS-**NNN**-30-021101 for a double row version with 16 pins becomes 813-SS-**016**-30-021101.

### 811-SS-**NNN**-30-**XXX**101

Surface mount SLC connector, low profile, single row, with 2 positioning pins

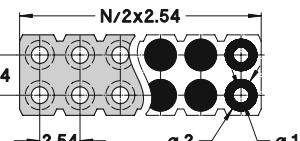
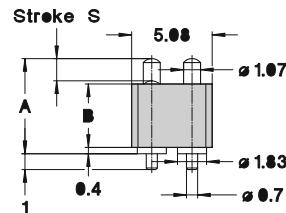
AVAILABILITY FROM 2 to 10 contacts  
(standard number of contacts: 10)



### 813-SS-**NNN**-30-**XXX**101

Surface mount SLC connector, double row, with 4 positioning pins

AVAILABILITY FROM 4 to 20 contacts  
(standard number of contacts: 20)



## AVAILABLE CONNECTOR HEIGHTS

INITIAL HEIGHT A (mm)	STROKE S (mm)	PLASTIC BODY HEIGHT B (mm)	XXX CODE
4.5	1.15	2.95	021
5	1.4	2.95	022
5.5	1.4	2.95	023
6	1.4	4	024
6.5	1.4	4	025
7	1.4	4	026
7.5	1.4	4	027



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Connectors with spring-loaded contacts (SLC), surface mount.

## TECHNICAL SPECIFICATIONS (FOR GENERAL SPECS, SEE PAGE 31)

INSULATOR	Black glass filled polyester PCT-GF30-FR		
FLAMMABILITY	UL 94V-0		
PISTON AND BARREL	Brass CuZn36Pb3 (C36000)		
	<b>8PM...131</b>	<b>8PM...219</b>	<b>8PM...260</b>
SPRING	Music wire DIN 17723, gold plated	Stainless steel X12 CrNi177, DIN 17224	Stainless steel X12 CrNi177, DIN 17224
MAX. STROKE	1.5 mm	1 mm	1.5 mm
FORCES	0.2 N initial 0.9 N at 1/2 stroke	0.25 N initial 0.95 N at 1/2 stroke	0.25 N initial 0.6 N at 1/2 stroke
MECHANICAL LIFE	50'000 cycles	50'000 cycles	100'000 cycles
OPERATING CURRENT	Max. 3 A	Max. 3 A	Max. 3 A
CONTACT RESISTANCE	10 mΩ	10 mΩ	15 mΩ
COPLANARITY	(static measurement, halfway position)		
SMD TERMINATIONS	Max 0.1 mm (measured on 25 mm long connectors)		

# SPRING-LOADED CONNECTORS

2.54 mm GRID / SINGLE ROW / DOUBLE ROW / SURFACE MOUNT



Other plating on request (see page 178 for plating specs).

**NN** number of poles. Replace **NN** with the requested number of poles, e.g. 8PM-11-00NN-02-131 with 5 pins becomes 8PM-11-0005-02-131.

## ORDERING INFORMATION ROHS COMPLIANT PARTS

PLATING CODE	BARREL	PISTON
11	0.25 µm gold	0.25 µm gold
SS	0.5 µm gold	0.5 µm gold

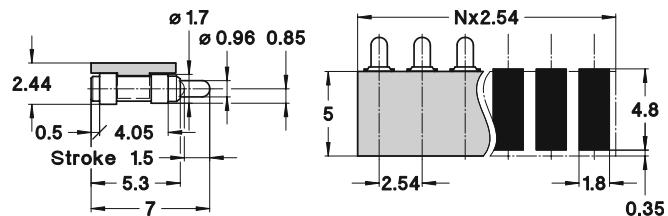
### 8PM-11-00NN-02-260

Parallel surface mount SLC connector for pick & place automatic assembly

AVAILABILITY FROM 2 to 10 contacts  
(standard number of contacts: 10)



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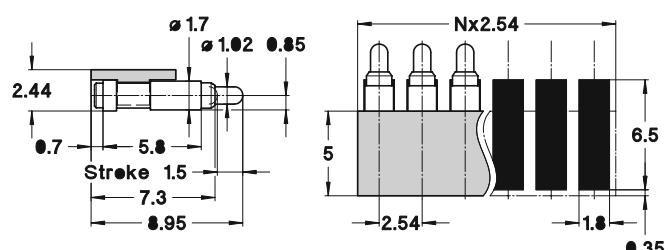
### 8PM-11-00NN-02-131

Parallel surface mount SLC connector for pick & place automatic assembly

AVAILABILITY FROM 2 to 10 contacts  
(standard number of contacts: 10)



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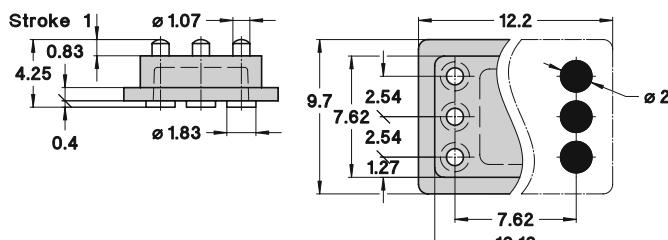
### 8PM-SS-0006-02-219

SLC connector for chipcards with contacting pads  
acc. to ISO 7816

Standard number of contacts: 6



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# PAD CONNECTORS

SINGLE ROW / DOUBLE ROW / SURFACE MOUNT

Pad connectors with fixed contacts, counterparts for spring-loaded connectors.

## TECHNICAL SPECIFICATIONS (FOR GENERAL SPECS, SEE PAGE 31)

INSULATOR	Black glass filled polyester PCT-GF30-FR
FLAMMABILITY	UL 94V-0
CONTACT	Brass CuZn36Pb3 (C36000)
CONTACTING AREA Ø	1.5 mm
OPERATING CURRENT	Max. 3.5 A
DIELECTRIC STRENGTH	Min. 1'000 V <sub>RMS</sub>
COPLANARITY SMD TERMINATIONS	Max. 0.1 mm (measured on 25 mm long connectors)



SPRING-LOADED CONNECTORS

## ORDERING INFORMATION ROHS COMPLIANT PARTS

PLATING CODE	TERMINATION	CONTACTING AREA
10, 11	0.25 µm gold	0.25 µm gold

See page 178 for plating specs.

**NNN / NN number of poles.** Replace **NNN** or **NN** with the requested number of poles, e.g. 802-10-**NNN**-30-507101 for a double row version with 20 pins becomes 802-10-0**20**-30-507101.

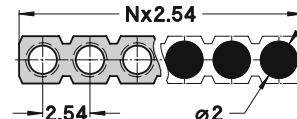
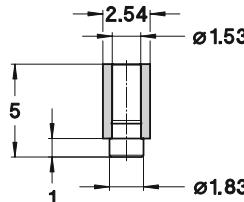
### 800-10-**NNN**-30-507101

SMD pad connector, single row, perpendicular mount

AVAILABILITY FROM 2 to 10 contacts  
(standard number of contacts: 10)



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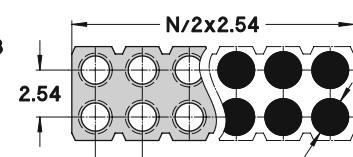
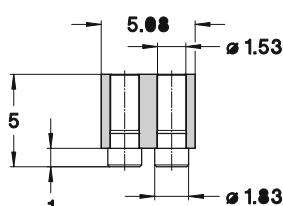
### 802-10-**NNN**-30-507101

SMD pad connector, double row, perpendicular mount

AVAILABILITY FROM 4 to 20 contacts  
(standard number of contacts: 20)



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### 8MM-11-00NN-02-131

SMD pad connector, single row, parallel mount

AVAILABILITY FROM 2 to 10 contacts  
(standard number of contacts: 10)



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