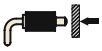
SPRING-LOADED CONNECTORS

QUICK SELECTOR CHART

SPRING-LOADED CONNECTORS AND PAD CONNECTORS

GRID		1.25 mm	2 mm		2.54 mm	
		SINGLE ROW	SINGLE ROW	DOUBLE ROW	SINGLE ROW	DOUBLE ROW
SLC CONNECTORS		**SEE PAGE**				
Straight solder tail		32			34	34
Right angle solder tail		32				
Surface mount perpendicular			33	33	35, 36	35, 36
Surface mount perpendicular with positioning pins					37	37
Surface mount parallel					38	
SIM card socket						38
PAD CONNECTORS						
Surface mount perpendicular					39	39
Surface mount parallel					39	

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

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 HOLLOW PISTON TYPE	**LOW RESISTANCE** SHAPED PISTON TYPE	**LOW RESISTANCE** 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:

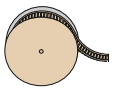
- Dry heat steady state IEC 60512-11-9.11i / 60068-2-2.Bb: 125 °C, 16 h
- Damp heat cyclic IEC 60512-11-12.11m / 60068-2-30.Db: 25/55 °C, 90 – 100 %rH, 1 cycle of 24 h
- Cold steady state IEC 60512-11-10.11j / 60068-2-1.A: -55 °C, 2 h
- Thermal shock IEC 60512-11-4.11d / 60068-2-14.Na: -55/125 °C, 5 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_2) test IEC 60068-2-42 Kc: 96 h at 25 ppm SO_2, 25 °C, 75 %rH
  3) Hydrogen sulfide (H_2S) test IEC 60068-2-43 Kd: 96 h at 12 ppm H_2S, 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** for availability, size of tape, size of reel, number of components per reel and packing units.

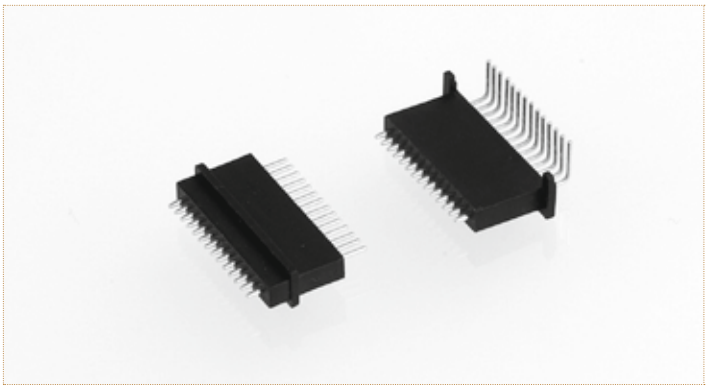
SPRING-LOADED CONNECTORS

1.25 mm GRID / SINGLE ROW / SOLDER TAIL

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 ½ stroke
MECHANICAL LIFE	40'000 cycles	
OPERATING CURRENT	Max. 2 A	
CONTACT RESISTANCE	20 mΩ (static measurement, halfway position)	



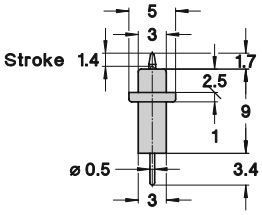
ORDERING INFORMATION ROHS COMPLIANT PARTS

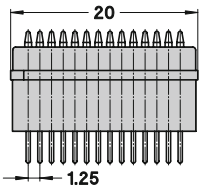
PLATING CODE	PIN	PISTON
28	Tin	0.3 µm min. gold

See page 178 for plating specs.
Surface mount miniature SLC connectors available on request.
Please consult.

8PD-28-0014-01-812

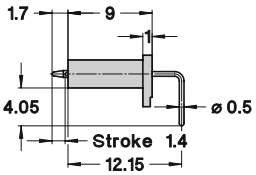
Straight SLC connector, solder tail, single row
Standard number of contacts: 14
Please consult for other pin number or partially equipped connectors

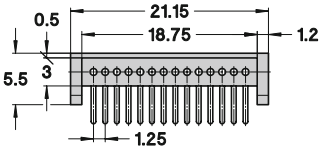




8PC-28-0014-01-828

Right angle SLC connector, solder tail, single row
Standard number of contacts: 14
Please consult for other pin number or partially equipped connectors





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

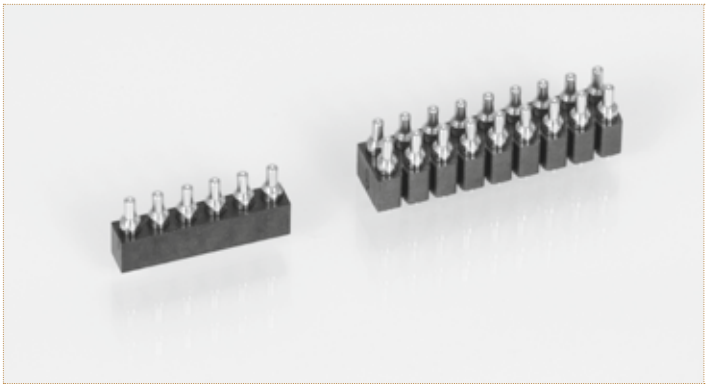
SPRING-LOADED CONNECTORS

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 ½ stroke
MECHANICAL LIFE	50'000 cycles	
OPERATING CURRENT	Max. 3.5 A	
CONTACT RESISTANCE	10 mΩ (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
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-0**16**-30-012101.

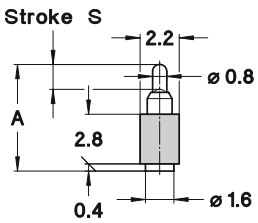
821-SS-**NNN**-30-**XXX**101

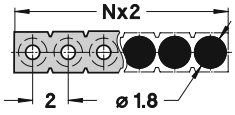
Surface mount SLC connector, low profile, single row

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

See page 31

T & R Packaging





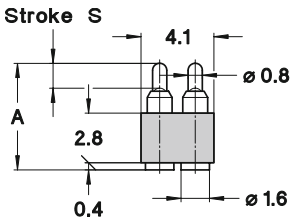
823-SS-**NNN**-30-**XXX**101

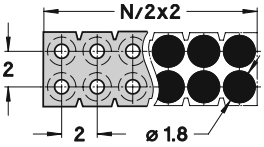
Surface mount SLC connector, low profile, double row

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

See page 31

T & R Packaging





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

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

SPRING-LOADED CONNECTORS

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

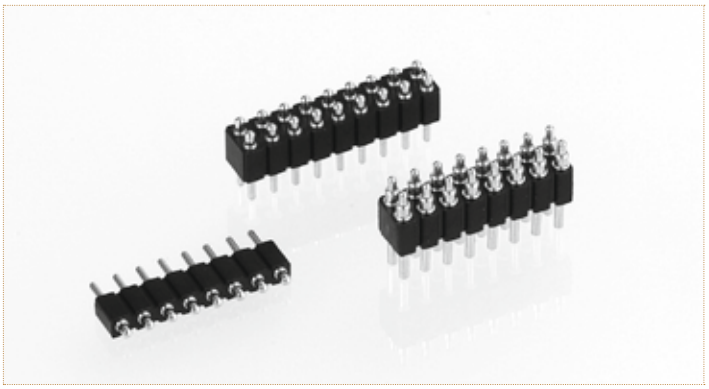
Low resistance modular connectors with spring-loaded contacts (SLC), solder tail. Contacts with improved, shaped piston design.

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 ½ stroke
MECHANICAL LIFE	50'000 cycles	
OPERATING CURRENT	Max. 3.5 A	
CONTACT RESISTANCE	10 mΩ (static measurement, halfway position)	

ORDERING INFORMATION ROHS COMPLIANT PARTS

PLATING CODE	BARREL	PISTON
S1	0.25 µm gold	0.5 µm gold
SS	0.5 µm gold	0.5 µm gold



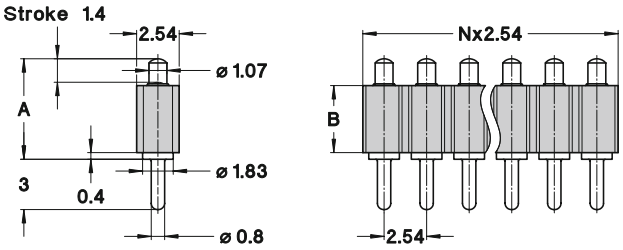
See page 178 for plating specs.

NNN number of poles: Replace **NNN** with the requested number of poles, e.g. 813-S1-**NNN**-10-014101 for a double row version with 16 pins becomes 813-S1-0**16**-10-01410110-001101.

811-S1-**NNN**-10-**XXX**101

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

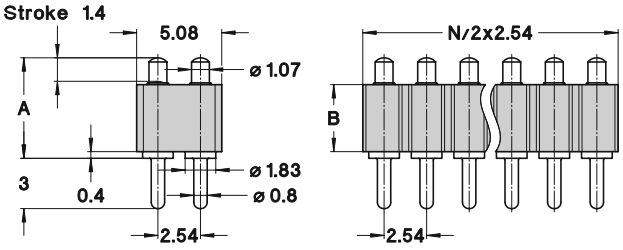
AVAILABILITY FROM 2 to 64 contacts (standard number of contacts: 64)



813-S1-**NNN**-10-**XXX**101

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

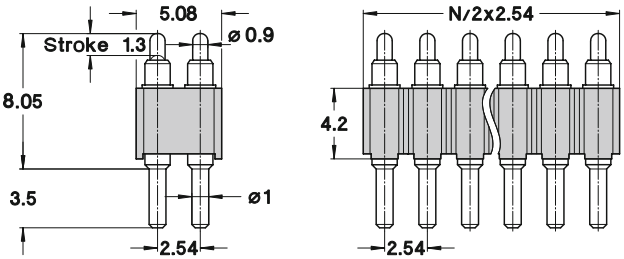
AVAILABILITY FROM 4 to 72 contacts (standard number of contacts: 72)



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

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

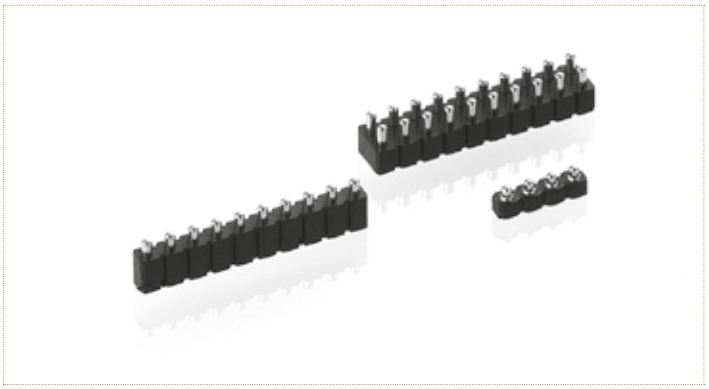
SPRING-LOADED CONNECTORS

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 ½ stroke
MECHANICAL LIFE	100'000 cycles	
OPERATING CURRENT	Max. 3.5 A	
CONTACT RESISTANCE	15 mΩ (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 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. 811-SS-**NNN**-30-002101 for a single row version with 16 pins becomes 811-SS-0**16**-30-002101.

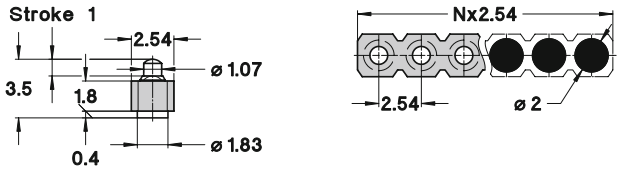
811-SS-**NNN**-30-008101

Surface mount SLC connector, very low profile, single row

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

See page 31

T & R Packaging



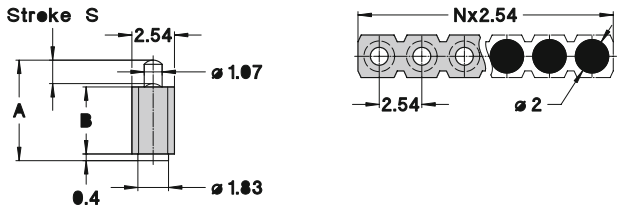
811-SS-**NNN**-30-**XXX**101

Surface mount SLC connector, low profile, single row

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

See page 31

T & R Packaging



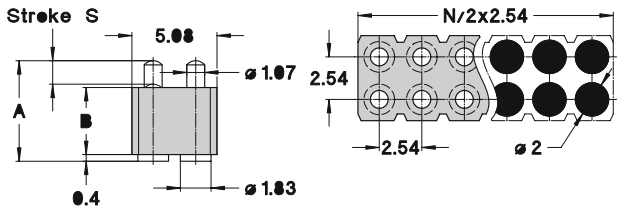
813-SS-**NNN**-30-**XXX**101

Surface mount SLC connector, low profile, double row

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

See page 31

T & R Packaging



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.

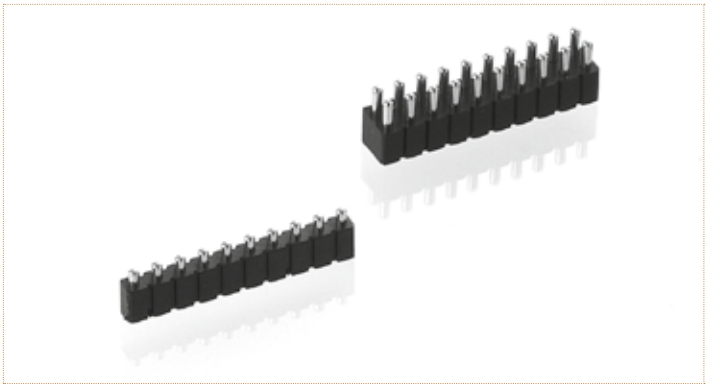
SPRING-LOADED CONNECTORS

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

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 ½ stroke
MECHANICAL LIFE	50'000 cycles	
OPERATING CURRENT	Max. 3.5 A	
CONTACT RESISTANCE	10 mΩ (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
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. 813-S1-**NNN**-30-014101 for a double row version with 16 pins becomes 813-S1-0**16**-30-014101.

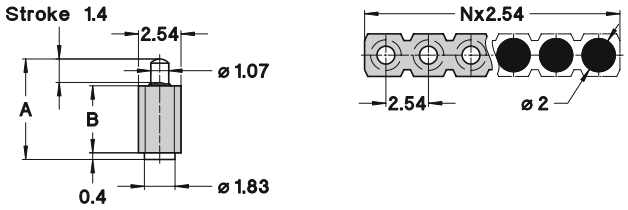
811-S1-**NNN**-30-**XXX**101

Surface mount SLC connector, low profile, single row

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

See page 31

T & R Packaging



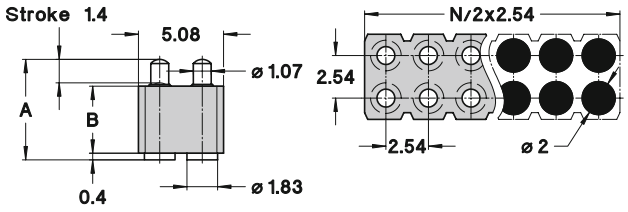
813-S1-**NNN**-30-**XXX**101

Surface mount SLC connector, low profile, double row

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

See page 31

T & R Packaging



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

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

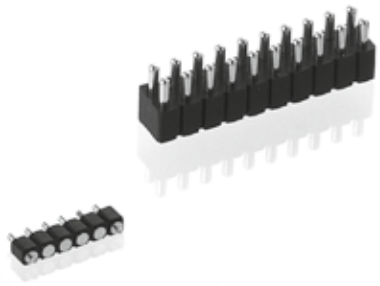
SPRING-LOADED CONNECTORS

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 ½ stroke
MECHANICAL LIFE	100'000 cycles	
OPERATING CURRENT	Max. 3.5 A	
CONTACT RESISTANCE	15 mΩ (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 µm gold	0.5 µm gold

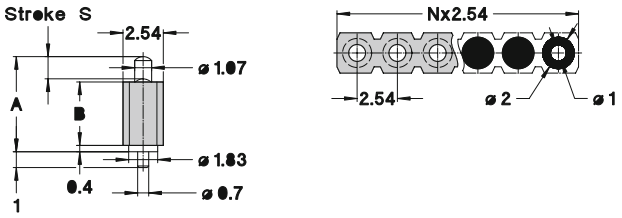
See page 178 for plating specs.

NNN number of poles. Replace **NNN** with the requested number of poles, e.g. 813-SS-**NNN**-30-021101 for a double row version with 16 pins becomes 813-SS-0**16**-30-021101.

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

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

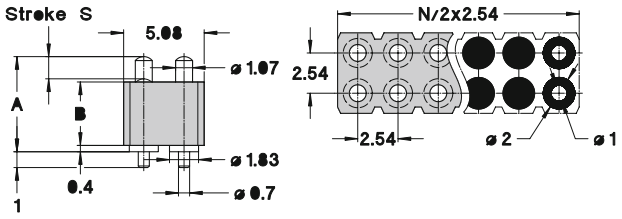
AVAILABILITY FROM 2 to 10 contacts
(standard number of contacts: 10)



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

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

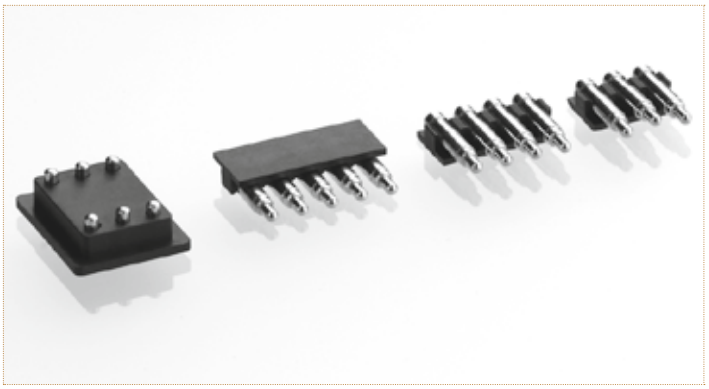
SPRING-LOADED CONNECTORS

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

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)		
	8PM...131	**8PM...219**	**8PM...260**
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
	(static measurement, halfway position)		
COPLANARITY SMD TERMINATIONS	Max 0.1 mm (measured on 25 mm long connectors)		



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-11-00**NN**-02-131 with 5 pins becomes 8PM-11-00**05**-02-131.

ORDERING INFORMATION ROHS COMPLIANT PARTS

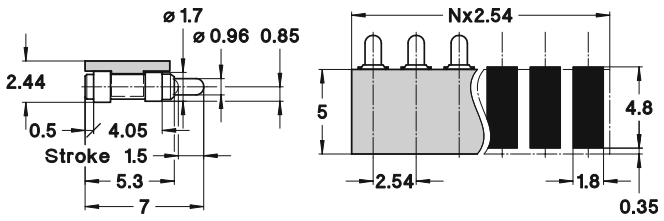
PLATING CODE	BARREL	PISTON
11	0.25 µm gold	0.25 µm gold
SS	0.5 µm gold	0.5 µm gold

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

Parallel surface mount SLC connector for pick & place automatic assembly

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

See page 31
T & R Packaging

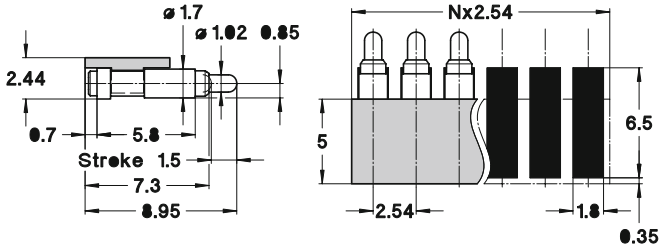


8PM-11-00**NN**-02-131

Parallel surface mount SLC connector for pick & place automatic assembly

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

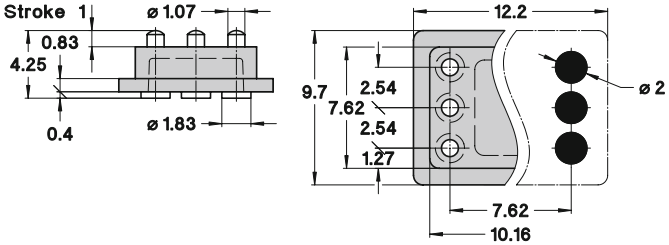
See page 31
T & R Packaging



8PM-SS-0006-02-219

SLC connector for chipcards with contacting pads acc. to ISO 7816
Standard number of contacts: 6

See page 31
T & R Packaging



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

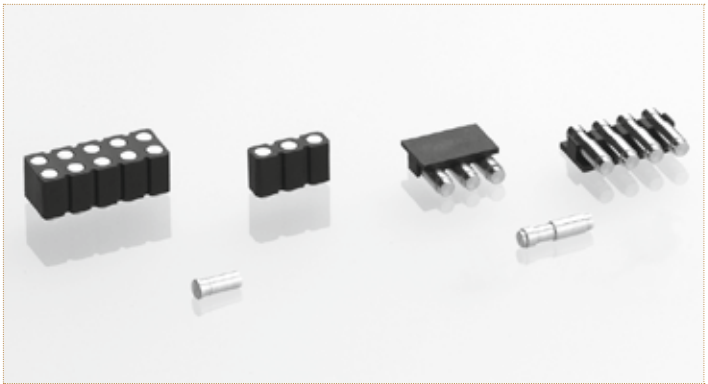
PAD CONNECTORS

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 VRMS
COPLANARITY SMD TERMINATIONS	Max. 0.1 mm (measured on 25 mm long 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.

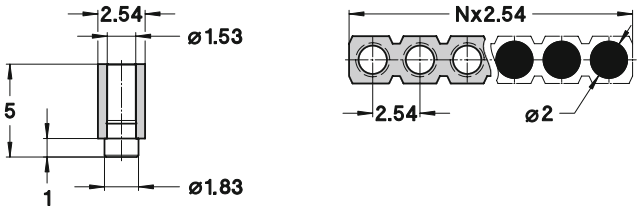
800-10-**NNN**-30-507101

SMD pad connector, single row, perpendicular mount

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

See page 31

T & R Packaging



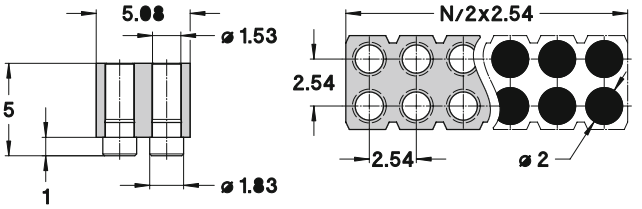
802-10-**NNN**-30-507101

SMD pad connector, double row, perpendicular mount

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

See page 31

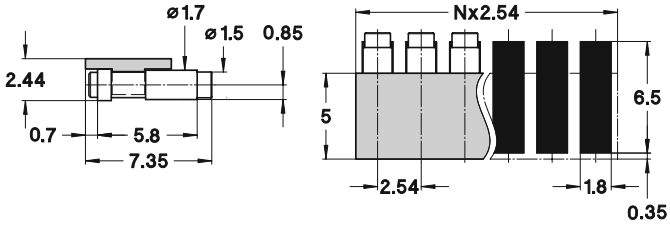
T & R Packaging



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

SMD pad connector, single row, parallel mount

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

See page 31

T & R Packaging