ERNI MicroStac

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Catalog E 074521 | 10/02 | Edition 2

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Table of Contents

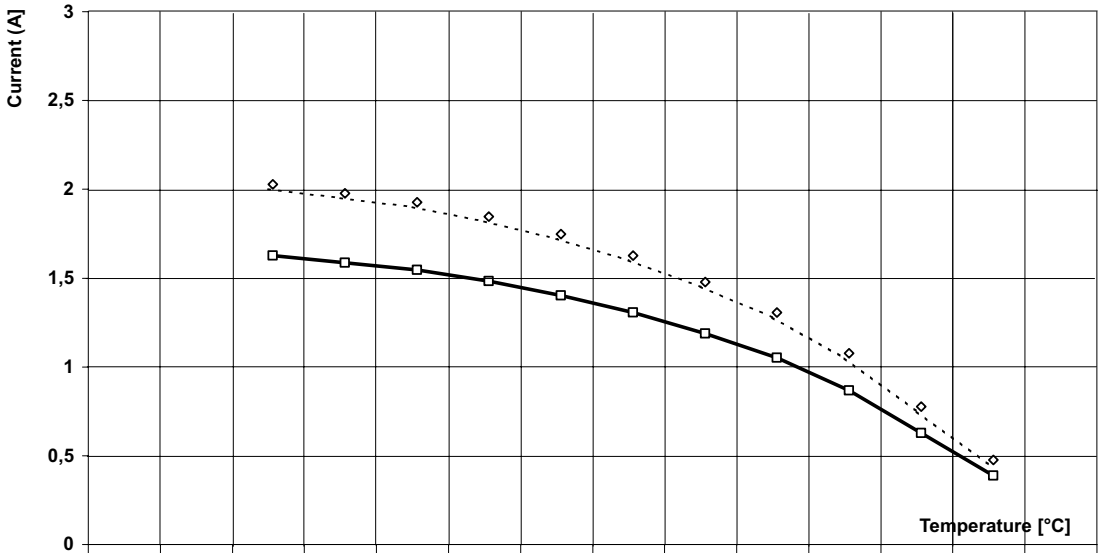
Applications

Sensor engineering:	Light barriers, switches
Medical engineering:	Intensive medical equipment, portable diagnostics
Mobile communication:	Mobile phones, PDAs, organizer, memory modules
Car electronics:	Car radios, mobile car phones, mobile car office equipment
Control engineering:	Mini PLCs, fieldbus modules, mini solenoid sytems
Facility management:	Signal and indicator devices, alarm systems and bus modules

Technical Features

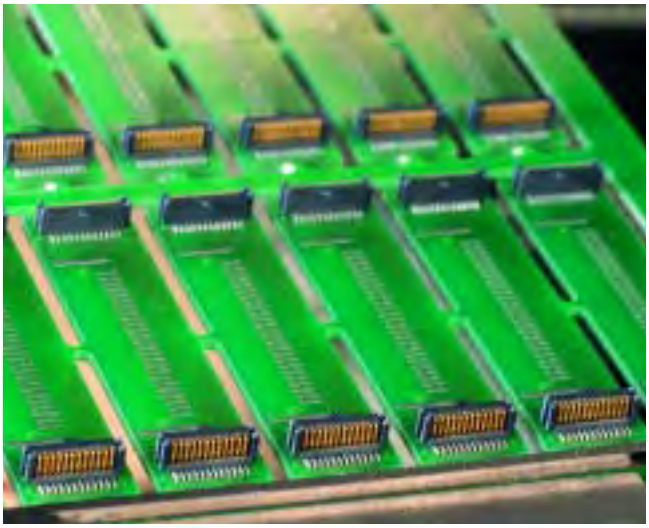
Derating Curve

In spite of the small design of the ERNI MicroStac series, they reach a high current rating. The contacts feature large radiant surfaces to derive heat. The derating curve shows the 50pin version without PCB.



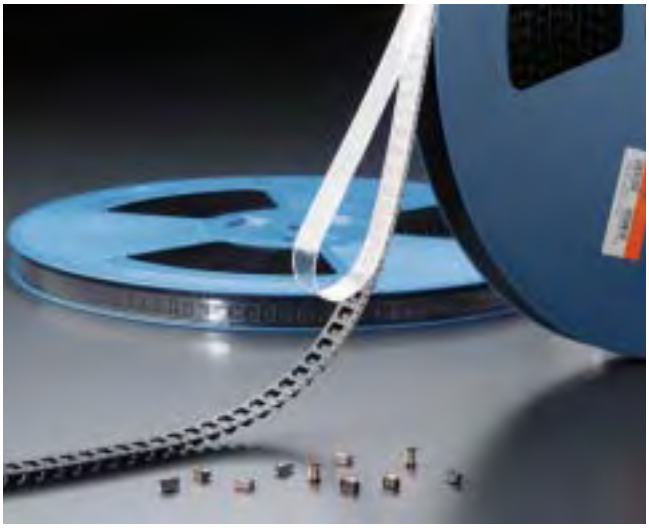
	0	10	20	30	40	50	60	70	80	90	100	110	120	130
Base curve [A]			2	1,95	1,9	1,82	1,72	1,6	1,45	1,28	1,05	0,75	0,45	
Derating curve [A]			1,6	1,56	1,52	1,456	1,376	1,28	1,16	1,024	0,84	0,6	0,36	

Technical Features



Controlled SMT Reflow Soldering Process
The heat-resistant thermoplastic insulator and precision coplanar contacts permit a controlled SMT soldering process.

Easy Recognition and Safe Handling
The black insulator ensures easy visual recognition by the automatic pick-and-place equipment.



Safe Packaging and Fully Automated Feed
The antistatic tape-and-reel packaging not only protects the high-precision contacts and coplanarity of our MicroStac connectors, but also permits placement of connectors by automated pick and place equipmentequipment

Electrical And Mechanical Characteristics

	Standard	1 Row and 2 Row Types
Number of Pins		6, 12 and 50
Technical data		
Climate Category	DIN EN 60068-1 test b	-55/125/21
Bearing and operating temperature area		-55/125 °C
Current rating	IEC60512 test 5b	By ambient temperature: 20°C 1,6 A 70°C 1,3 A 100°C 0,8 A
Air – and creepage distance		0,4mm
Comparative figure of voltage	IEC 60112	CTI-250
Voltage rating	IEC 60664	Has to be determined according to client-specific using case (degree of environmental pollution) according to IEC 60664
Dielectric strength	IEC 60512	contact – contact 500V
Contact resistance	IEC 60512 test 2a	< 10 mΩ
Insulation resistance	IEC 60512 test 3a	> 10^4 MΩ
Vibration	IEC 60512 test 6d	10 – 2000 Hz 20g
Contact disturbance (while vibration sine)	IEC 60512 test 2e	< 1 µs
Shock halfsine	IEC 60512 test 6c	50g 11 ms
Contact disturbance (while shock halfsine)	IEC 60512 test 2e	< 1 µs
Mechanical operation (mating cycles)	IEC 60512 test 9a	> 10 mating cycles
Insertion and withdrawal force	IEC 60512 test 13b	6 cont.: 12 N max. 12 cont.: 24 N max. 50 cont.: 100 N max.

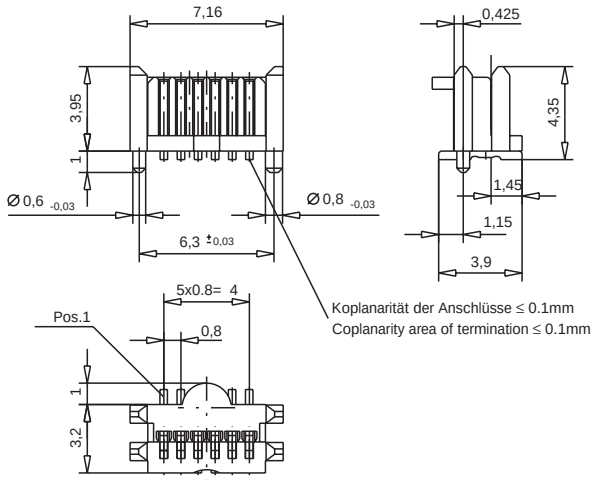
Electrical And Mechanical Characteristics

	Standard	1 Row and 2 Row Types
Number of Pins		6, 12 and 50
Process-conditions		
Hand soldering temperature max.	IEC 68-2-20	3,5s at 350°C
SMT-Reflow soldering temperature max.	IEC 68-2-20	10s at 260°C
Coplanarity		< 0,1mm
Materials		
Housing: plastic material (symbol)		PA 46
CTI value	IEC 60112	CTI 250
UL flame rating		UL 94 V-0
UL file		E 119177
Contact and mating area		
Base material		Cu alloy
Plating		Au over Ni
Termination area		
Base material		Cu alloy
Plating		Au
Enviroment compatibility		
recycling	no flame-retardent additives, no toxic additives allow easy recycling	

6 Pin Single Row Version

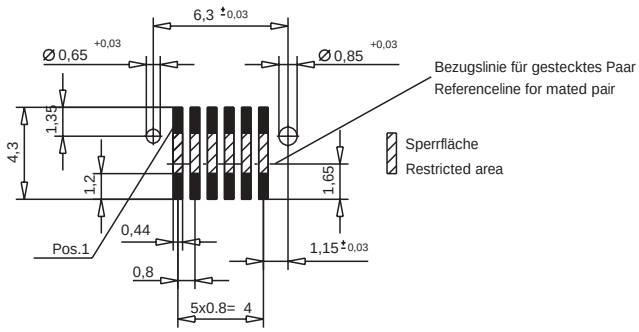
The SMT connector series MicroStac with 0.8 mm pitch and with SMT termination is based on a hermaphroditic design. As result of this the male and the female connector are identical. The same style for male and female connector meet the requirement for a economical connector solution in modern applications in electronics. The dual-sided PCB application contact principle provides for a tilt-proof and insertion-proof connector position on the PCB. The gripper surface is integrated within the insulator body. This obviates the need for the standard assembly hood. Optionally, versions featuring positioning pegs are also available. Using the MicroStac a board-to-board height from 5.0 mm up to 6.5 mm is achieved.

Dimensional Drawing



Leiterplatten-Layout Vorschlag

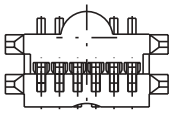
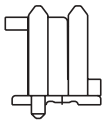
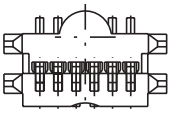
PCB-Layout Proposal

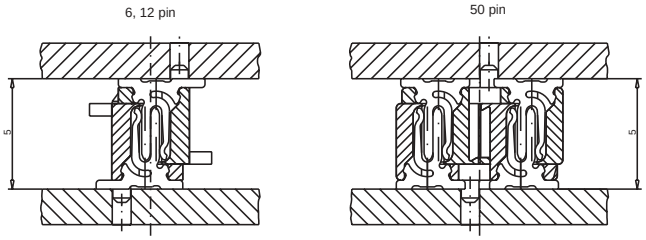


All dimensions in mm

6 Pin Single Row Version

Ordering Information

Configuration	Height	No. of Pins	Part Number
Single row with peg, tape and reel, 1500 pcs/reel			
 		6	**114711**
Single row without peg, tape and reel, 1500 pcs/reel			
 		6	**114881**

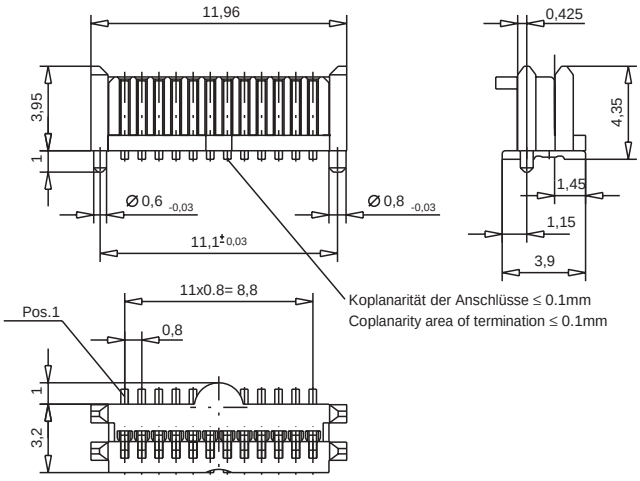


All dimensions in mm

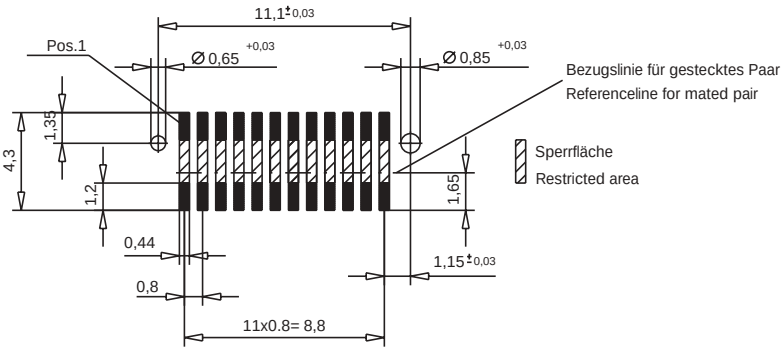
12 Pin Single Row Version

The SMT connector series MicroStac with 0.8 mm pitch and with SMT termination is based on a hermaphroditic design. As result of this the male and the female connector are identical. The same style for male and female connector meet the requirement for a economical connector solution in modern applications in electronics. The dual-sided PCB application contact principle provides for a tilt-proof and insertion-proof connector position on the PCB. The gripper surface is integrated within the insulator body. This obviates is the need for the standard assembly hood. Optionally, versions featuring positioning pegs are also available. Using the MicroStac a board-to-board height from 5.0 mm up to 6.5 mm is achieved.

Dimensional Drawing



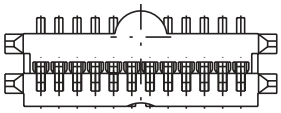
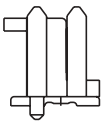
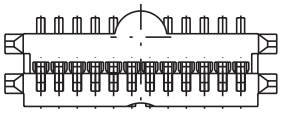
Leiterplatten-Layout Vorschlag
PCB-Layout Proposal

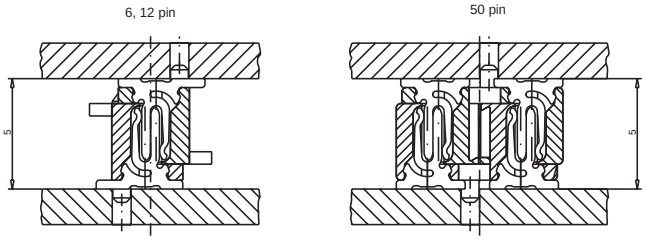


All dimensions in mm

12 Pin Single Row Version

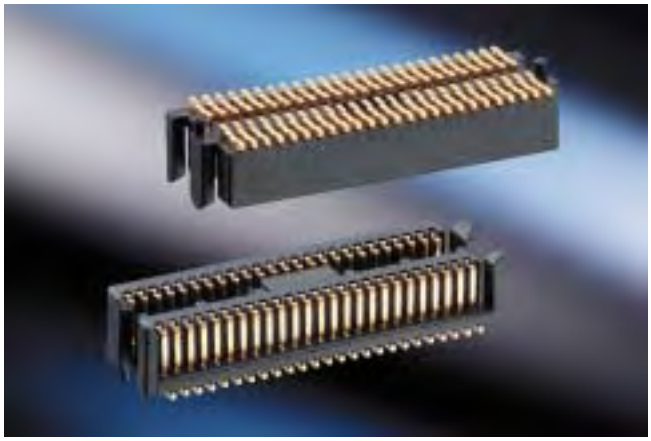
Ordering Information

Configuration	Height	No. of Pins	Part Number
Single row with peg, tape and reel, 1500 pcs/reel  		12	**114712**
Single row without peg, tape and reel, 1500 pcs/reel  		12	**114882**



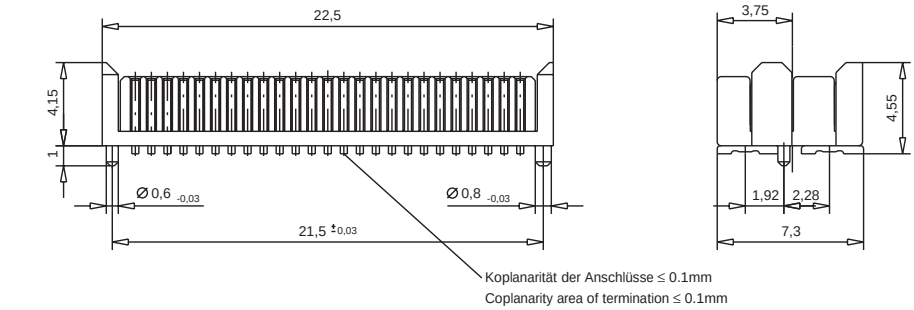
All dimensions in mm

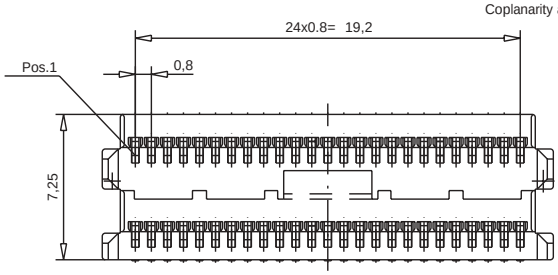
50 Pin Dual Row Version



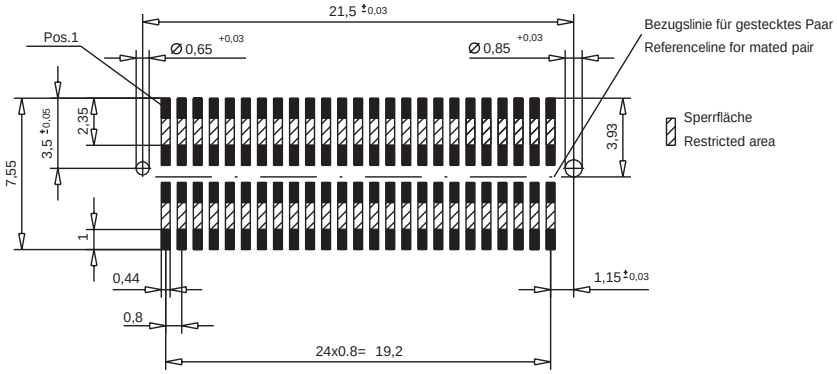
The SMT connector series MicroStac with 0.8 mm pitch and with SMT termination is based on a hermaphroditic design. As result of this the male and the female connector are identical. The same style for male and female connector meet the requirement for a economical connector solution in modern applications in electronics. The dual-sided PCB application contact principle provides for a tilt-proof and insertion-proof connector position on the PCB. The gripper surface is integrated within the insulator body. This obviates is the need for the standard assembly hood. Optionally, versions featuring positioning pegs are also available. Using the MicroStac a board-to-board height from 5.0 mm up to 6.5 mm is achieved.

Dimensional Drawing





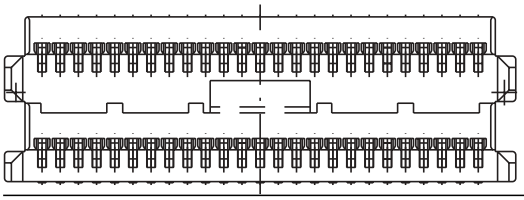
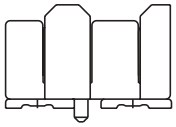
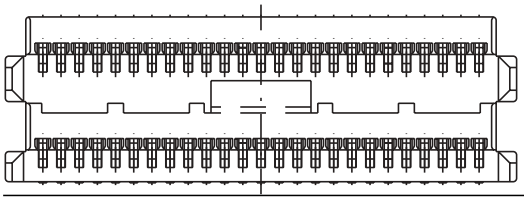
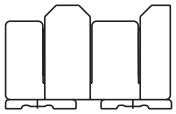
Leiterplatten-Layout Vorschlag
PCB-Layout Proposal

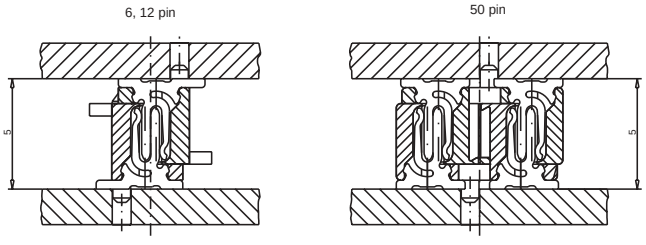


All dimensions in mm

50 Pin Dual Row Version

Ordering Information

Configuration	Height	No. of Pins	Part Number
Dual row with peg, tape and reel, 1000 pcs/reel  		50	**114713**
Dual row without peg, tape and reel, 1000 pcs/reel  		50	**114883**

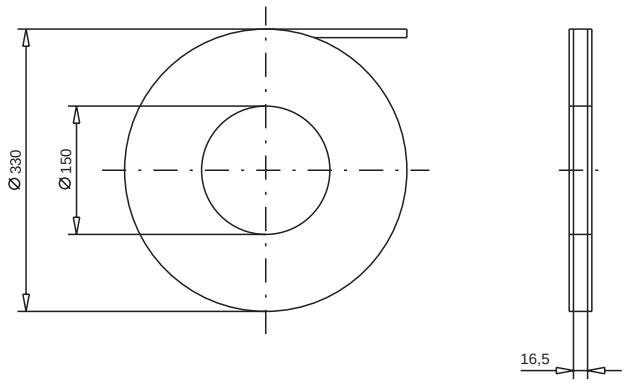


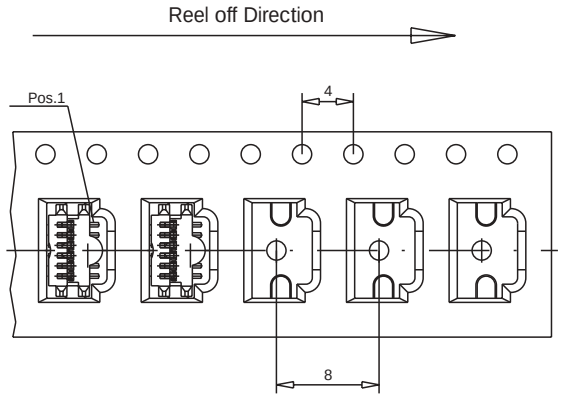
All dimensions in mm

Packaging

6 Pin Version

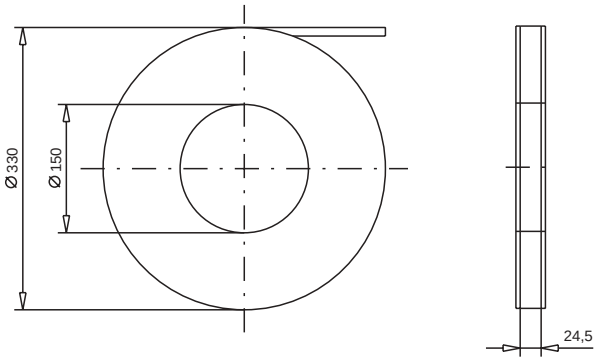
Tape and Reel Packaging - Packaging unit: 1500 pcs

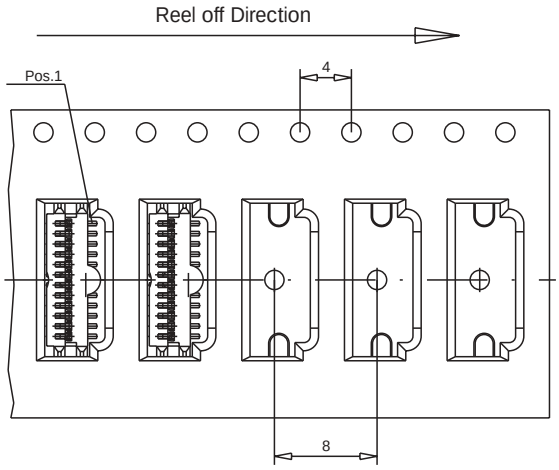




12 Pin Version

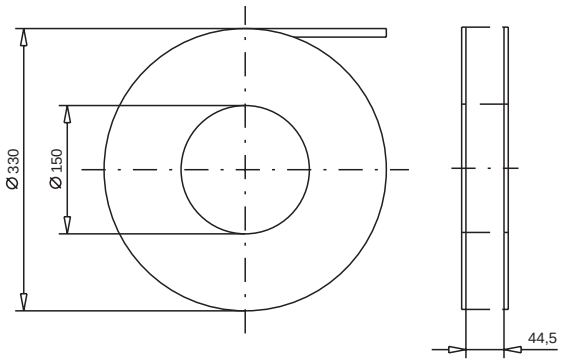
Tape and Reel Packaging - Packaging unit: 1500 pcs

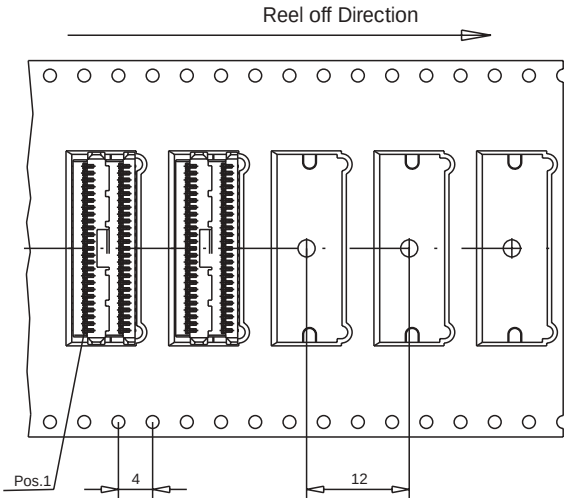




50 Pin Version

Tape and Reel Packaging - Packaging unit: 1000 pcs

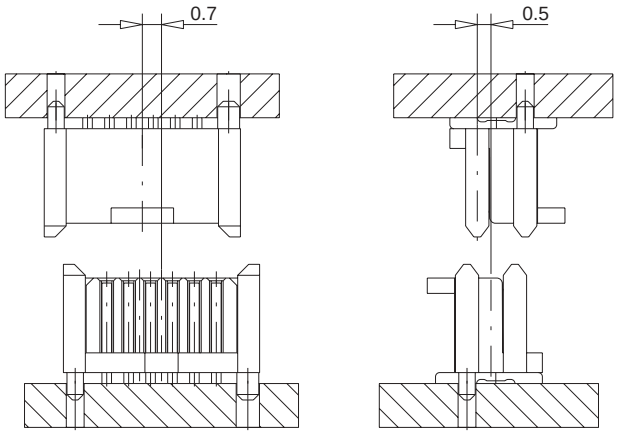




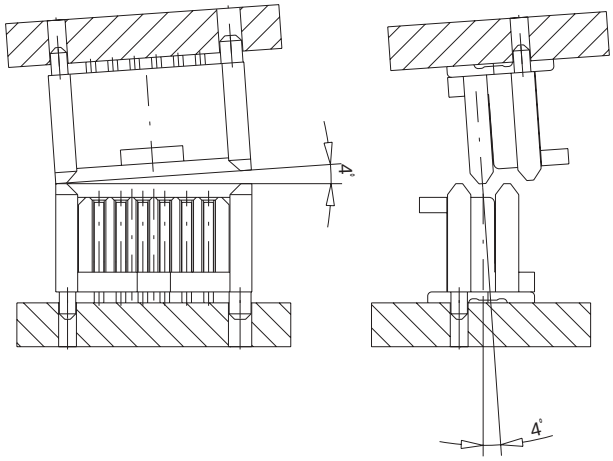
All dimensions in mm

Mating Conditions for MicroStac

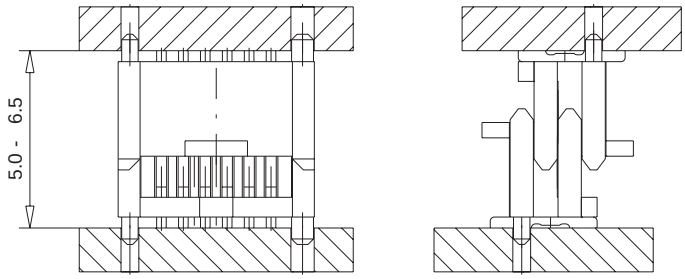
Misalignment Tolerances longitudinal: ±0.7mm; transverse: ±0.5mm



Angular Inclination Tolerances longitudinal: ±4°; transverse: ±4°



"Board to Board" Height distance: 5.0-6.5 mm

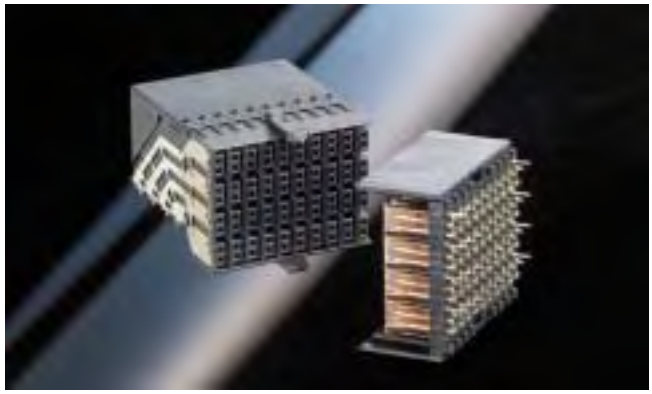


All dimensions in mm

More SMT Connectors from ERNI

Right Angle Surface Mount D-Sub Connector
Modern Sub Rack Technology is increasing the demand for SMT components along with the requirement for the connectors supporting this technology. ERNI is meeting the need by developing a new generation of the classic I/O D-Sub connector which uses surface mount technology.

High Speed Differential Connector System ERmet zeroXT for 10 GBit/s
For modern high speed backplane designs with data transmission rates up to 10 Gbit/s ERNI has developed the new ERmet zeroXT Connector System with 100 Ohm matched differential impedance for enhanced signal integrity. The new connector system is specifically designed to meet the challenging electrical performance needs required by next generation designs utilizing low voltage differential signaling. The ERmet zeroXT now offers an innovative shielding design and SMT termination to provide very low cross-talk, low skew and improved trace routing. Additional features and benefits are a reliable female contact design, different mating levels and a rugged housing.



SMC 1.27 mm pitch
SMC connectors are excellently suited for efficient processing in modern SMT soldering systems. Easy population, optimum seating and attachment by integrated retaining clips, and the exact position of the connection pins make SMC connectors into a real SMT component. We supply SMC connectors on a reel for the automatic assembly.

Single Port Mod Jacks
- Various pin configurations e.g. RJ 11, RJ 45
- Shielded or unshielded
- Standard or ultra low profile
- Right angle Versions
- SMT termination
- LED versions

Part Number Index

ERNI

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