

0.8 mm SMT
Edge Card Connector

EC.8 •



EC.8 – 0.8 mm SMT Edge Card Connector

Easy-to-use, HighSpeed, compact

ept expands its connector selection with a versatile 0.8 mm pitch solution. The EC.8 connector is built for speed: Compared to traditional connectors the EC.8 is made up of less components. This reduces changes in diameter and direction as well as reflections of the signal - the application receives quick, high integrity signals, at transfer speeds of up to 28 Gbps.

The edge card technology excels in the areas of data transfer and signal integrity. Well thought out features increase usability. Nothing stands in the way of its implementation into your HighSpeed applications.

For more information please visit www.ept.de/EC8

Key Features:

- edge card connector
- 20 to 200 pins
- 28 Gbps transfer rate
- 3.2 A operational current
- 500 mating cycles
- packed in Tape & Reel, Tray
- 1.60 mm edge card thickness

Applications:

- embedded
- industrial automation
- datacom

Termination



SMT

Application



High Density



Perpendicular



Edge Card Connector

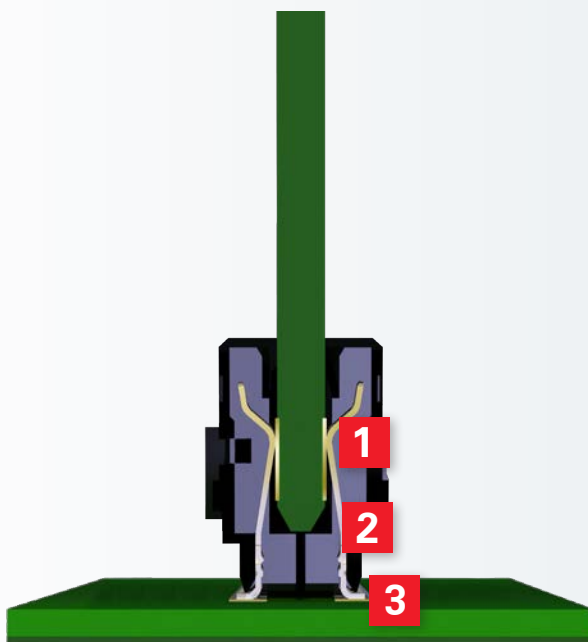


HighSpeed

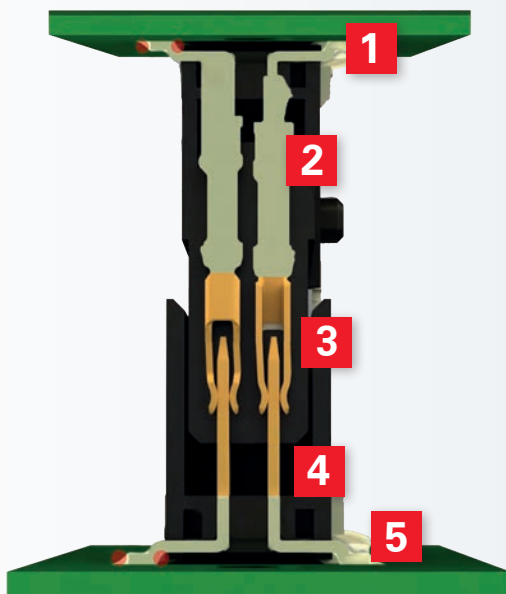


EC.8 – Edge Card Connector vs. Connector Pair

The edge card connector enables a direct connection to the printed circuit board without the necessity of a connector mate. This results in fewer points of contact and junctions in comparison to a female-male connection setup. The operational current and transfer rate properties are therefore positively affected.

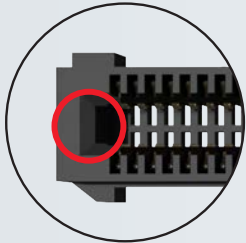


R Contact junction	[1]
R Contact	[2]
R PCB connection	[3]

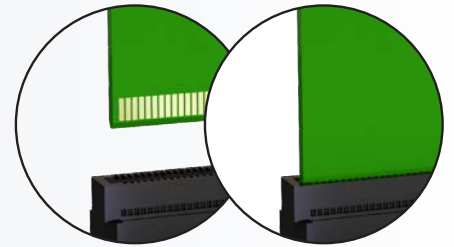


R PCB connection	[1]
R Contact	[2]
R Contact junction	[3]
R Contact	[4]
R PCB connection	[5]

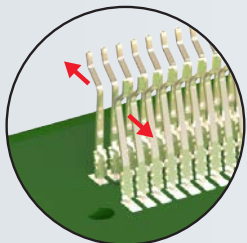
Advantages of the EC.8 Edge Card Connector



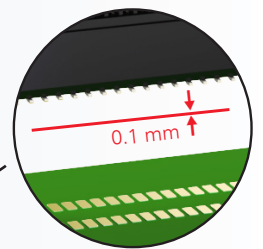
insertion chamfer
for compensation of
misalignment and
angular inclination



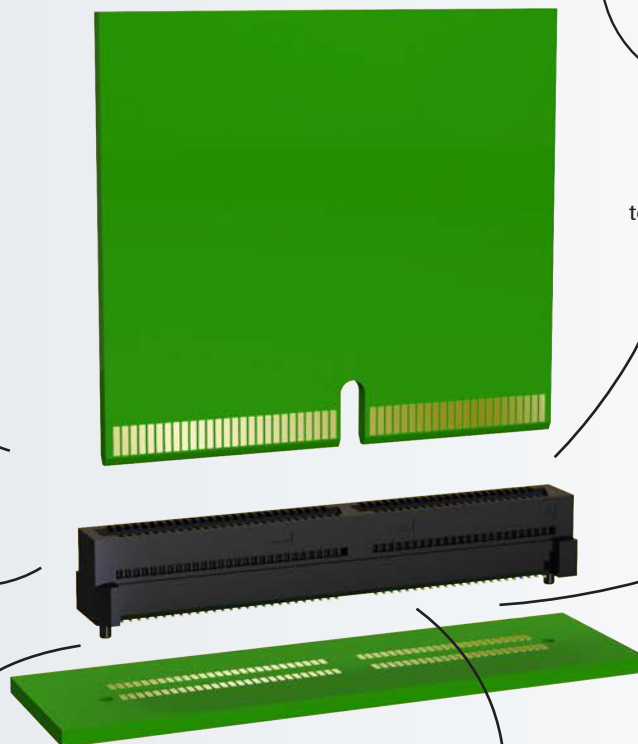
**acoustic and
haptic feedback**
to secure an accurate connection
with the edge card



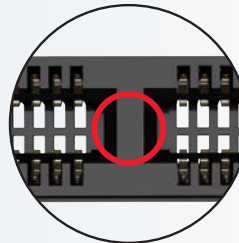
tolerance compensation
allows for easy plugging and
card thickness deviation



coplanarity
soldering under controlled
process conditions



misalignment pins
prevents misalignment
on the board



coding key
anti-twist safeguard and
tolerance compensation for
the edge card

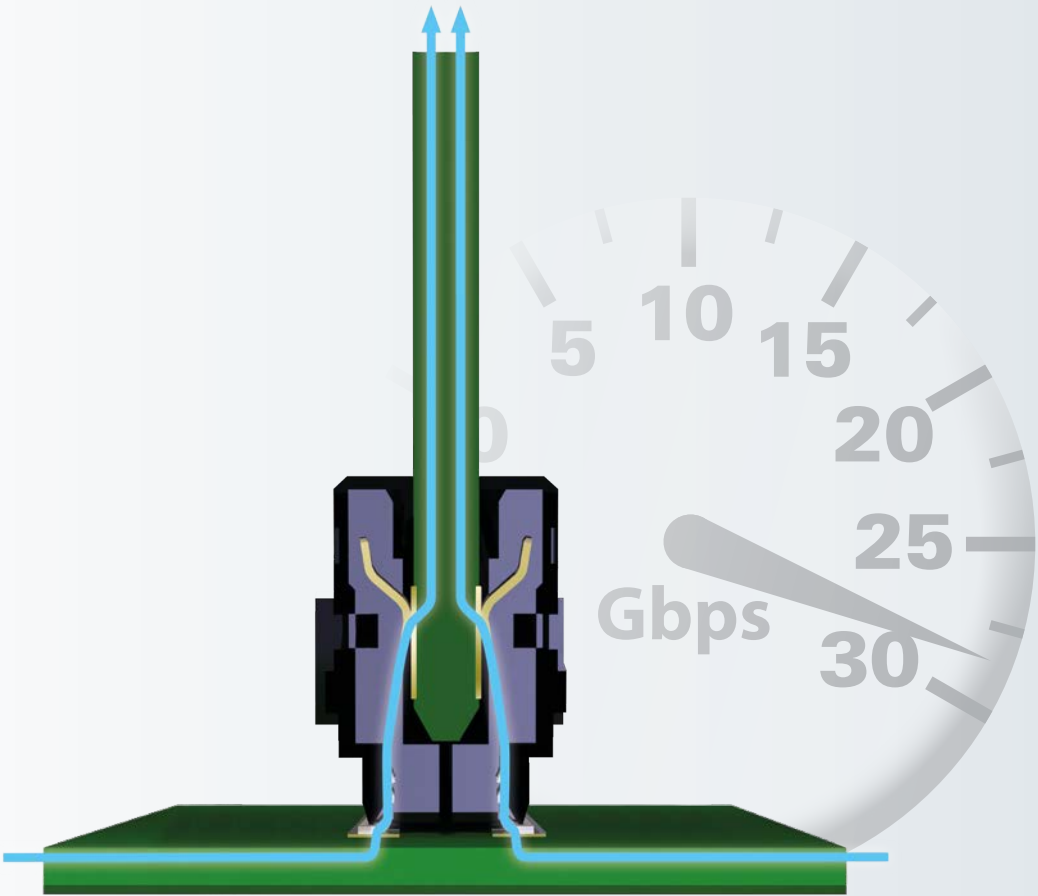
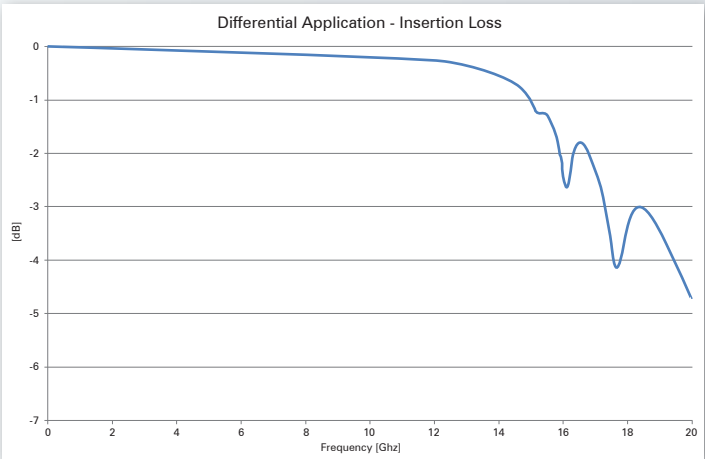
HighSpeed - EC.8

The EC.8 edge card connector setup supports up to 28 Gbps!

Edge card connectors are present in many HighSpeed applications. The EC.8 connector is ready for a seamless integration as well. Since „HighSpeed“ depends on much more than pure transfer rates many simulations have been carried out in ept development labs during which the signal integrity has been assessed based on a specific set of criteria.

A detailed report of the HighSpeed properties as well as the S-parameters of a simulation based on your own design are available upon request:

sales@ept.de

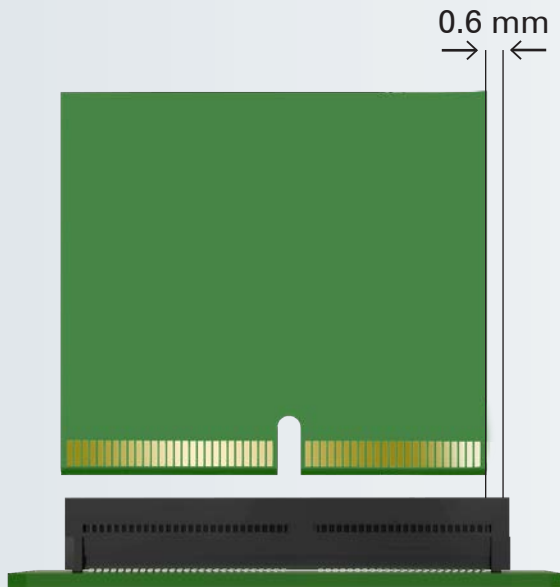




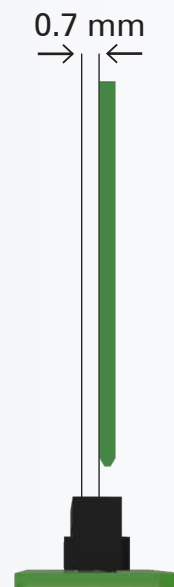
Misalignment EC.8 Connectors

Allowed misalignment tolerances

longitudinal: ± 0.6 mm



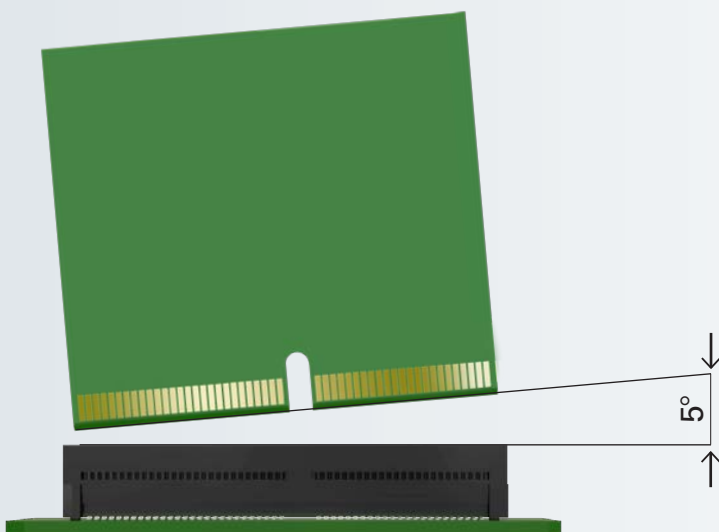
transverse: ± 0.7 mm



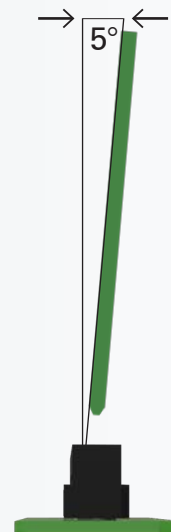
Angular Inclination EC.8 Connectors

Allowed angular inclination tolerances

longitudinal: $\pm 5^\circ$



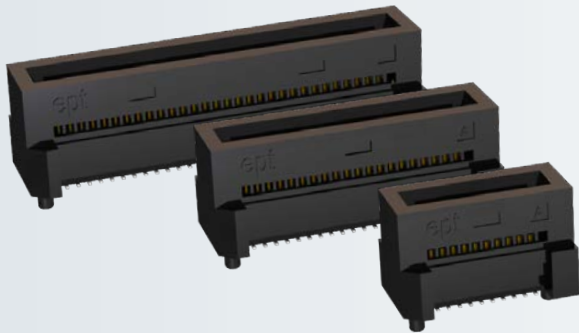
transverse: $\pm 5^\circ$



Technical specifications		EC.8	
		Test Standard	0.8 mm SMT Edge Card Connectors
Basics			
Number of pins			20 / 40 / 60 / 80 / 100 / 120 / 140 / 160 / 180 / 200
Termination			SMT
Operating temperature range			-55°C to +125°C
Material			
Insulator material			LCP, UL 94 V-0
CTI value	IEC 60112		200
Contact material			Copper alloy
Contact surface			Au over PdNi over Ni
Termination area			Sn over Ni
Mechanical			
Pitch			0.8 mm
PCB thickness			1.60 mm
Mating force per pin			≤ 0.635 N
Seperating force per pin			≥ 0.06 N
Durability	IEC 60512-9-1:2010		Performance level I: 500 mating cycles
Coplanarity			max. 0.1 mm
Vibration, sinusoidal	IEC 60512-6-4:2002		10 - 2000 Hz 20 g
Contact mating problems if vibrations occur, sinusoidal	IEC 60512-2-5:2003		≤ 1µs
Shock, semi-sinusoidal	IEC 60512-6-3:2002		50 g 11 ms
Contact mating problems if shocks occur, semi-sinusoidal	IEC 60512-2-5:2003		≤ 1µs
Electrical			
Operational current	IEC 60512-5-2:2002		3.2 A @ 20°C (8 adjacent pins) 1.35 A @ 20°C (140 pins)
Contact resistance	IEC 60512-2-1:2002		≤ 15 mΩ
Clearance and creepage			0.25 mm
Insulation resistance	IEC 60512-3-1:2002		≥ 1 GΩ
Test voltage	IEC 60512-4-1:2003		1100 V DC
Data transfer rate			28 Gbps
Processing			
Soldering temperature	JEDEC J-STD-020E		260°C
MSL	JEDEC J-STD-020E		1
Packaging			Tape and Reel, Tray (starting at 160p)
Assembly			Pick and place
Approval			
UL file			E130314
Environment			RoHS compliant

EC.8

Edge Card Connector (without key)



Type: Edge card connector straight
2.05 mm height

Number of pins: 20 to 60

Pitch: 0.8 mm

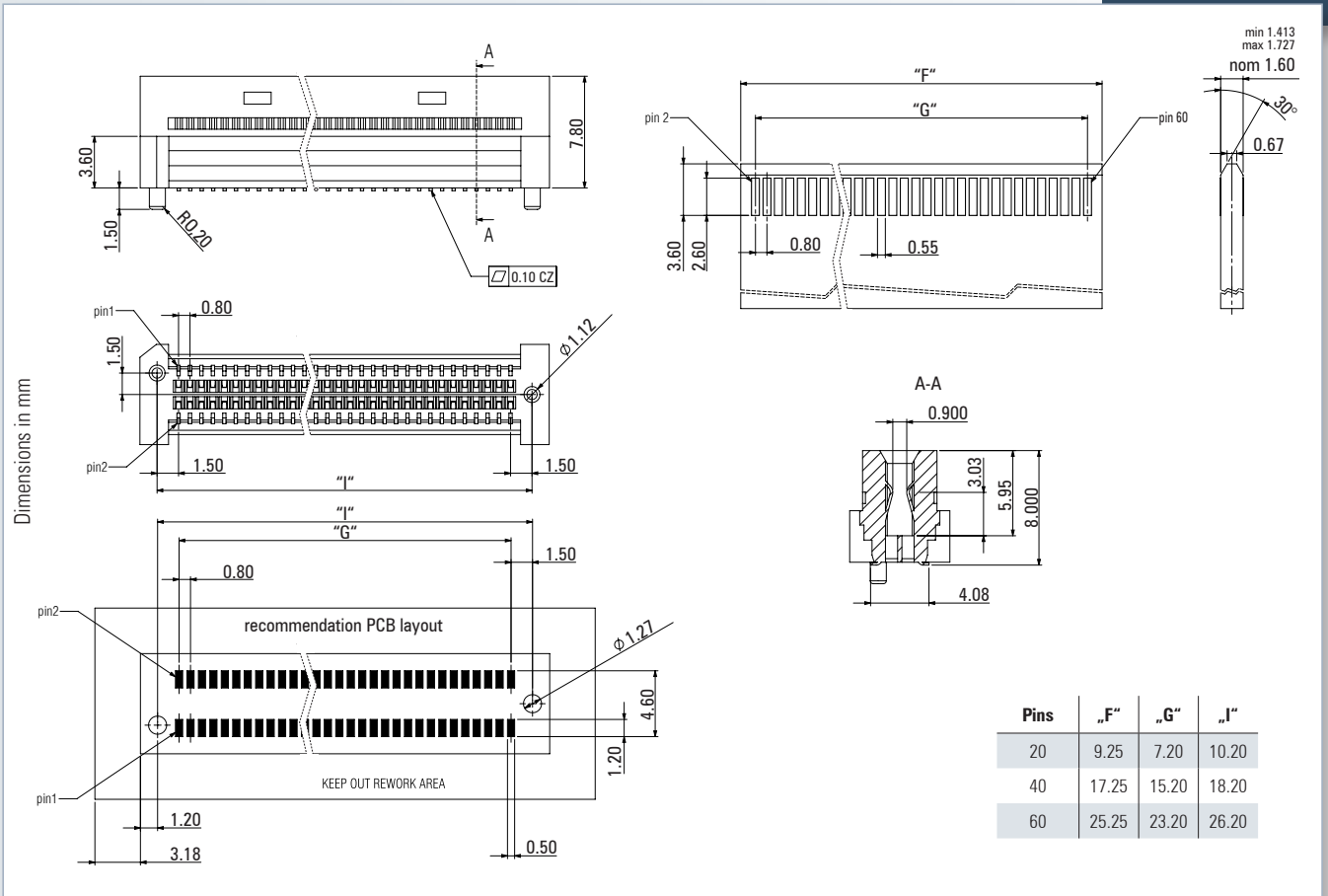
Operational current: 3.2 A at 20°C (8 adjacent pins)

Packaging: Tape & Reel

Approval: RoHS COMPLIANT

Technical Specification on page 7

For drawings and technical data visit www.ept.de/EC8



More Options:

for connectors with key (p. 10-11)

Edge Card Connector (without key)



Edge Card Connector - Performance Level I

Number of pins	Part number	PU (Tape & Reel)
20	408-52020-000-11	250
40	408-52040-000-11	
60	408-52060-000-11	

EC.8

Edge Card Connector (with key)



Type: Edge card connector straight
2.05 mm height

Number of pins: 60 to 200

Pitch: 0.8 mm

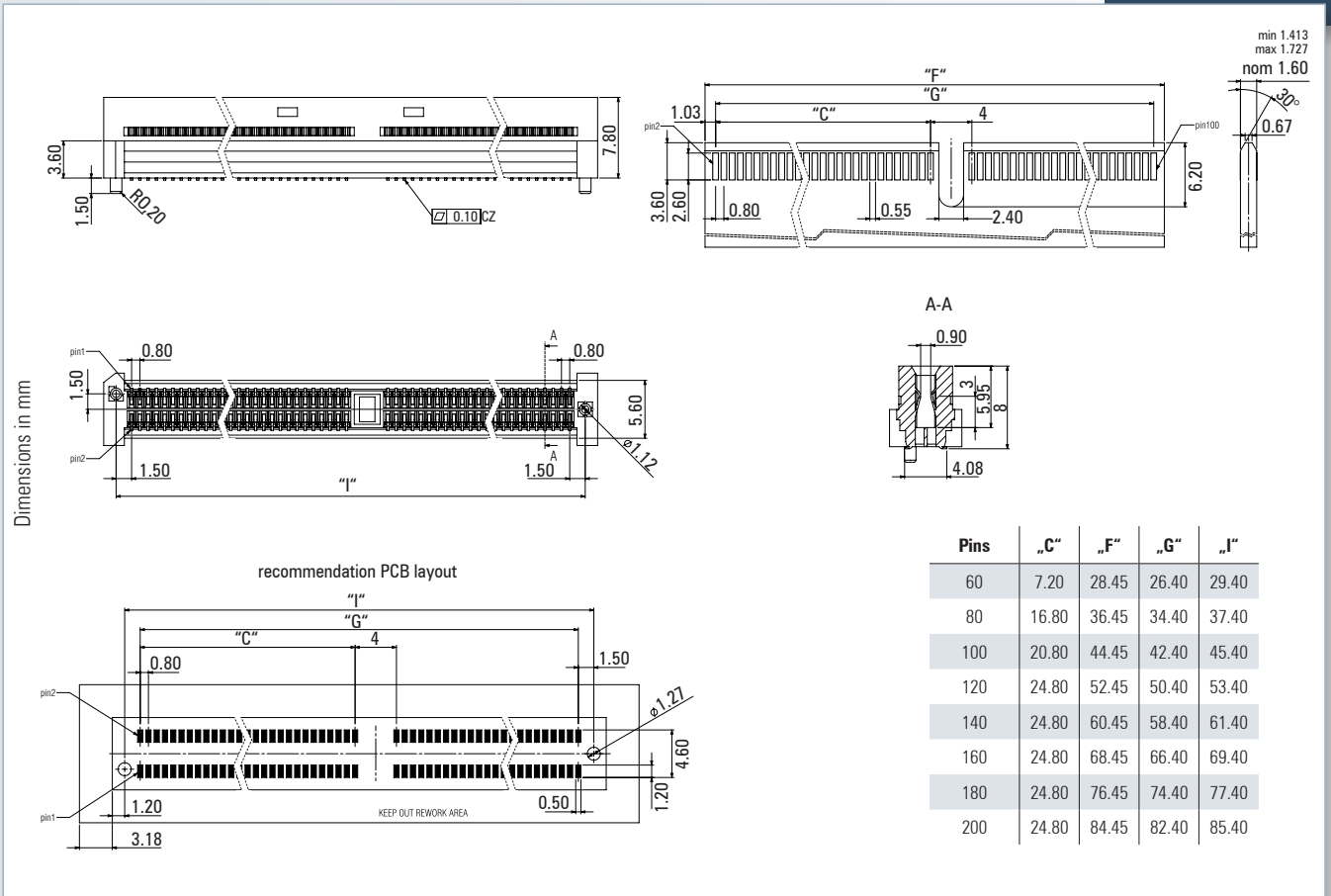
Operational current: 3.2 A at 20°C (8 adjacent pins)

Packaging: Tape & Reel, Tray

Approval: **US** **RoHS COMPLIANT**

Technical Specification on page 7

For drawings and technical data visit www.ept.de/EC8



More Options:

for connectors without key (p. 8-9)

Edge Card Connector (with key)



Edge Card Connector - Performance Level I

Number of pins	Part number	PU (Tape & Reel)
60	408-52060-100-11	250
80	408-52080-100-11	
100	408-52100-100-11	
120	408-52120-100-11	
140	408-52140-100-11	



Edge Card Connector - Performance Level I

Number of pins	Part number	PU (Tray)
160	408-52160-100-12	90
180	408-52180-100-12	
200	408-52200-100-12	
	408-52200-103-12 (strengthened element along insulator)	

On Request
• Tape & Reel available

ept connectors

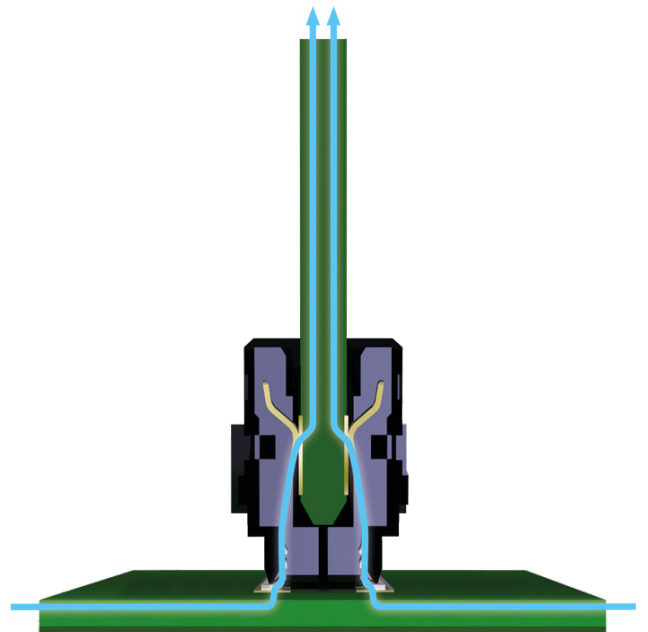
Product Samples

Fast and Simple

You can receive product samples from ept quickly, easily and free of charge. Either with a few easy steps on www.ept.de or by contacting us directly under +49-8861-2501-0 (recommended for special features, such as modifications).

For detailed coordination as well as individual consultation, you can choose between our sales representative in your area, our service representative in Peiting or a local sales partner or distributor.

Order your product samples here:



One Stop Supplier

ept is a German quality supplier with sophisticated products in the field of electrical connectivity. Our products and capabilities are used in high-quality and demanding applications such as industrial automation, healthcare, measurement and traffic technology as well as automotive electronics.

At six locations worldwide, connectors are manufactured in-house using highly automated processes across four manufacturing steps (stamping, electroplating injection molding and assembly). Over five decades, we have formed trusting and successful partnerships with our customers, who are at the center of everything we do.





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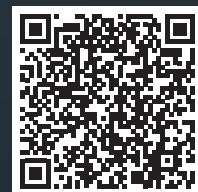
Augsburg, Germany

Habartov, Czech Republic

South Chesterfield, USA

Shanghai, China

Distributors Worldwide



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