

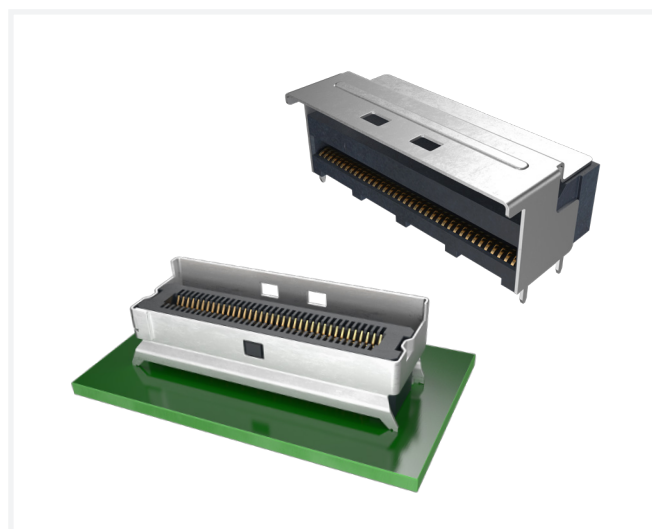
Mini Cool Edge IO Connector

NEXT-GENERATION HIGH SPEED INTERCONNECT SOLUTION – UP TO 56G PAM4/PCIe® Gen 4/ PCIe® Gen 5

Amphenol ICC introduces the next-generation OverPass™ solution – Mini Cool Edge IO. The 0.60mm pitch connector come with a slim form factor design, capable of transmitting high-speed signal up to 56G PAM4/PCIe® Gen 4/PCIe® Gen 5, and allowing much greater signal path lengths while maintaining SI performance when compared to conventional pcb routing methods.

Mini Cool Edge IO not only provides a SI performance ready signal transmission but also a new way of system design that is cost-effective, highly modular, scalable, and extremely easy to repair.

- High speed – 56Gb/s PAM4 /PCIe® Gen 4/PCIe® Gen 5 capability
- Supports both cable and card edge connection



TARGET MARKETS



FEATURES

- 0.60mm pitch, vertical and right angle configurations
- Up to 56Gb/s PAM4, PCIe® Gen 4, PCIe® Gen 5, over 1.0 meter transmission distance
- Supports both cable and card edge applications with one identical connector
- Optional for 92Ω (G42 series), 85Ω (G97 series) and 95Ω (G98 series) impedance and various pin number options – meeting PCIe®/NVMe/SAS/SFP(+)/QSFP specifications

BENEFITS

- Slim form factor for compact data center system designs
- Extends transmission range far more over the conventional PCB routes
- Provides flexibility in system design to meet highly modular, scalable and easy-to-repair requirements
- Saves system material cost, engineering and certification expenses with high succession of system design

TECHNICAL INFORMATION

MATERIAL

- Contact Base Metal: Copper alloy
- Contact Area Finish: Gold over nickel
- Solder Area Finish: Tin over nickel
- Housing & Spacer: High temperature thermoplastic (UL 94V-0)
- Shorting Bar: Conductive pastic
- Cage: Stainless steel, nickel plating overall

ELECTRICAL PERFORMANCE

- Contact Resistance: 30mΩ max. initial; 15mΩ max. change after test
- Dielectric Withstanding Voltage: 300V DC

MECHANICAL PERFORMANCE

- Durability: 250 mating cycles
- Mating Force: 0.6N/pin max.
- Unmating Force: 0.06N/pin min.

APPROVALS & CERTIFICATION

- UL

ENVIRONMENTAL

- Humidity: EIA-364-31, Method III, Subject unmated specimens to 24 cycles between 25°C/ 80%RH and 65°C/ 50% RH
- Temperature Life: EIA-364-17, Method A Test Condition 2, Test Time Condition C, Subject mated specimens to 105°C for 168 hours
- Thermal Shock: EIA-364-32, Method A Test condition 1, -55°C to 85°C (10 cycles)

SPECIFICATIONS

- Amphenol Product Specification:
 - G42 series-PS-7681
 - G97 series-PS-7755
 - G98 series-PS-7793

PACKAGING

- Carrier Tape

TARGET MARKETS/APPLICATIONS



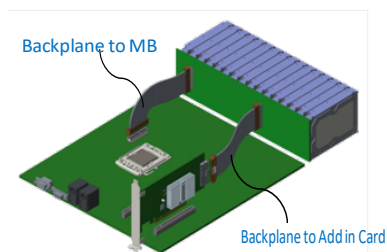
Baseband
Commercial Systems
Networking
Radio Units



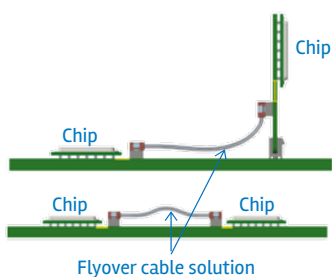
High-end Computing System
Server and Storage Systems

Amphenol OverPass™ Applications

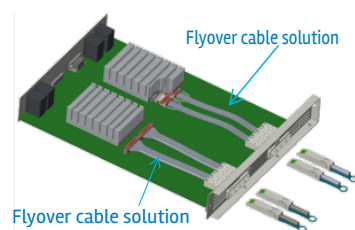
Miplane to MB Flyover



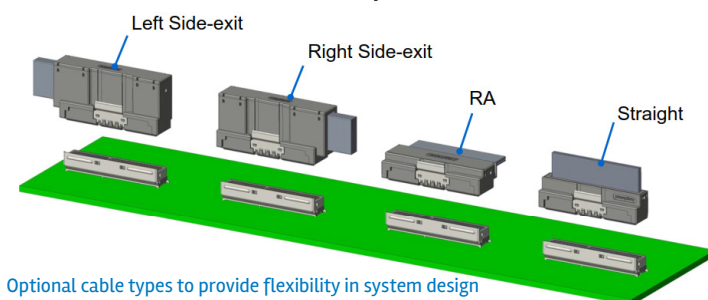
Chip to Chip Flyover



Chip to External IO Flyover



Cable Options



Optional cable types to provide flexibility in system design

PART NUMBER SELECTOR

G42	X	X	X	X	X	X	X	XX	—	X
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Form Factor

V	Vertical
R	Right Angle

Electrical Feature

1	PCIe® Gen 4
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Pin Definition

1	38 Pin (4x + sideband or 6x)
2	74 Pin (8x + sideband or 12x)
3	124 Pin (16x + sideband or 20x)
4	50 Pin (6x + sideband or 8x)
5	148 Pin (20x + sideband or 24x)

Shell Pin Length

1	1.50mm
2	2.20mm
3	3.00mm
4	4.20mm
5	1.20mm

Contact Plating

2	15u" Gold
3	30u" Gold

Identification

X	Option
—	Standard

Compliant

HR	Halogen-free & RoHS compliant
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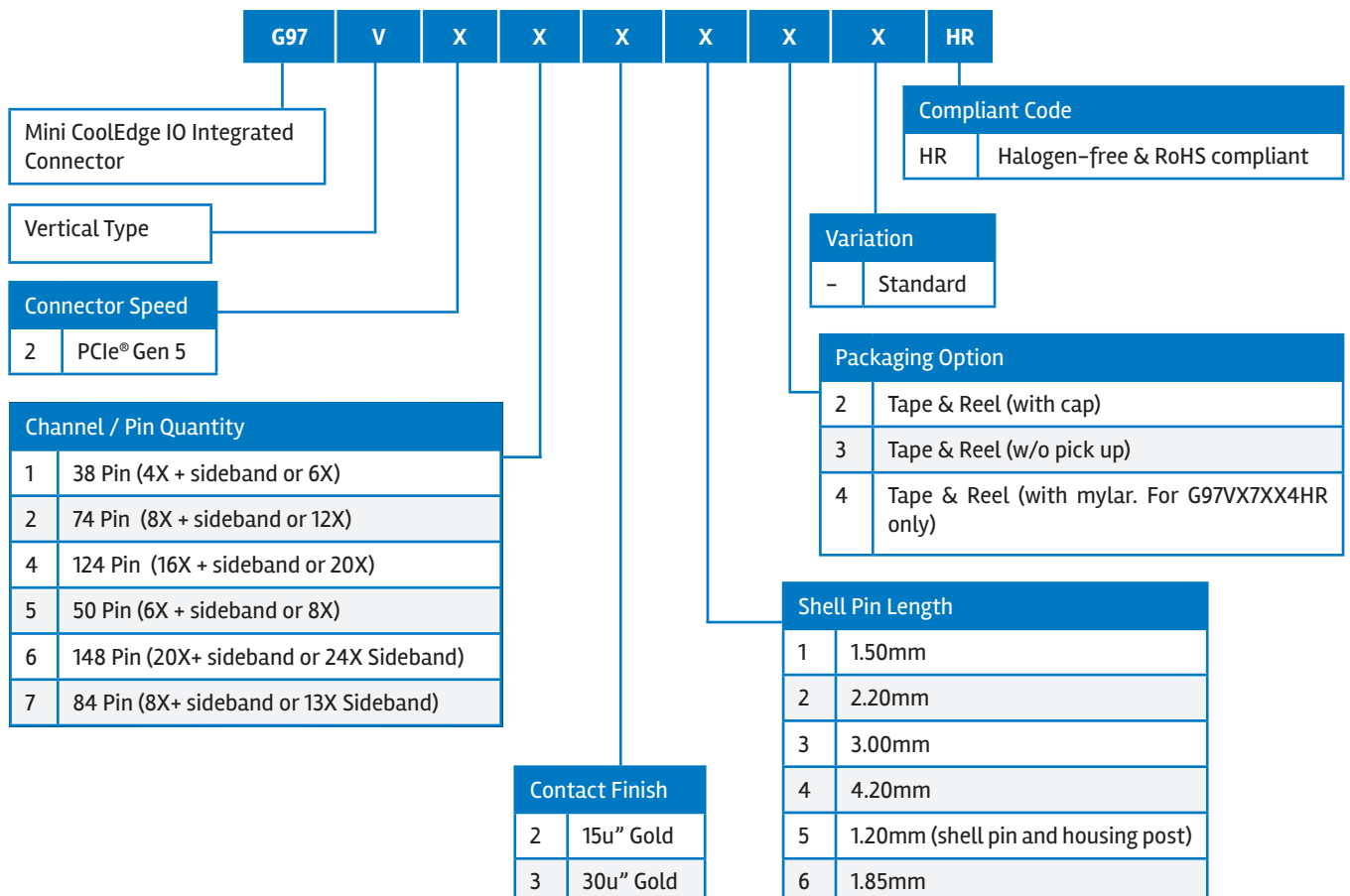
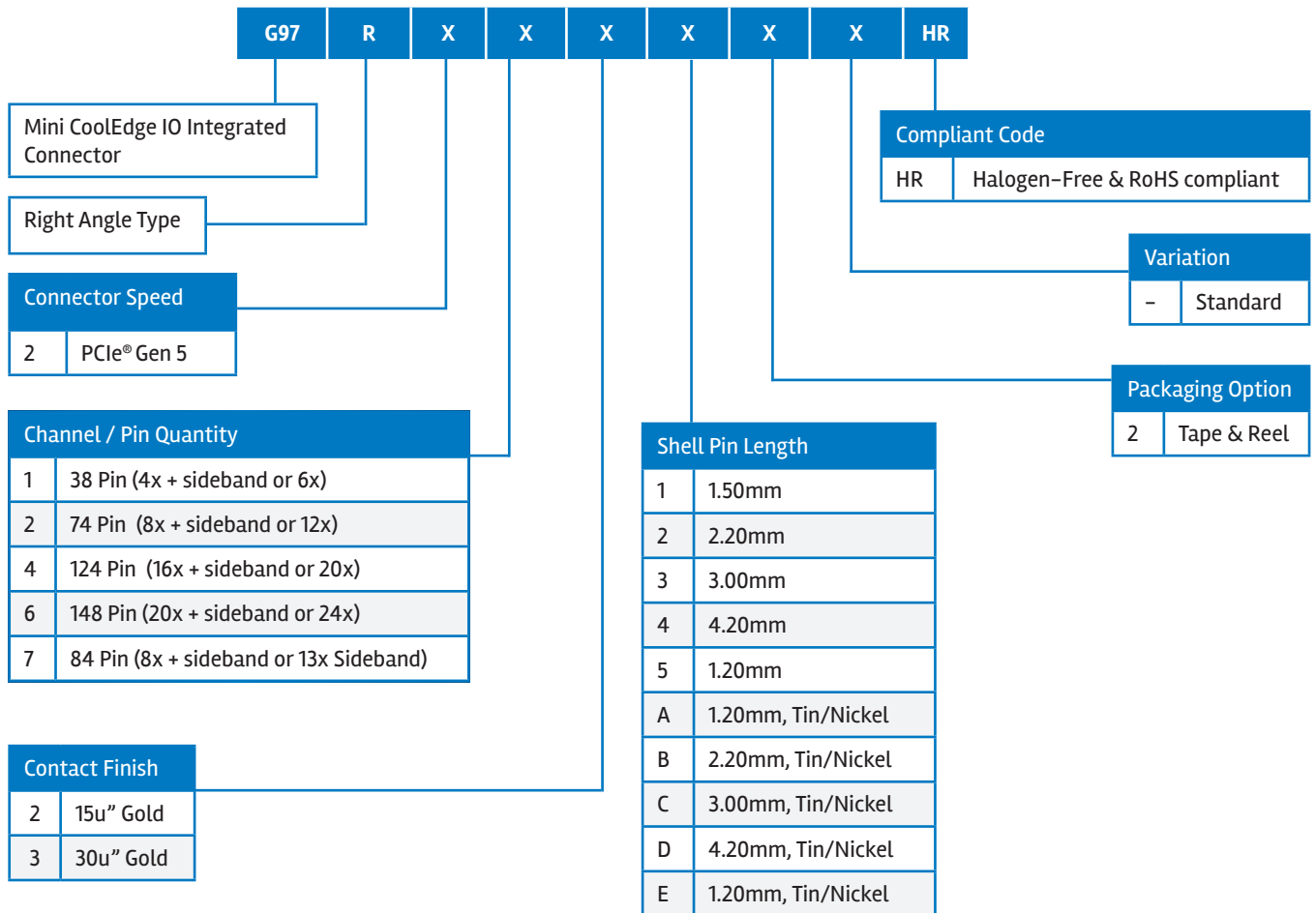
Variation

—	Standard
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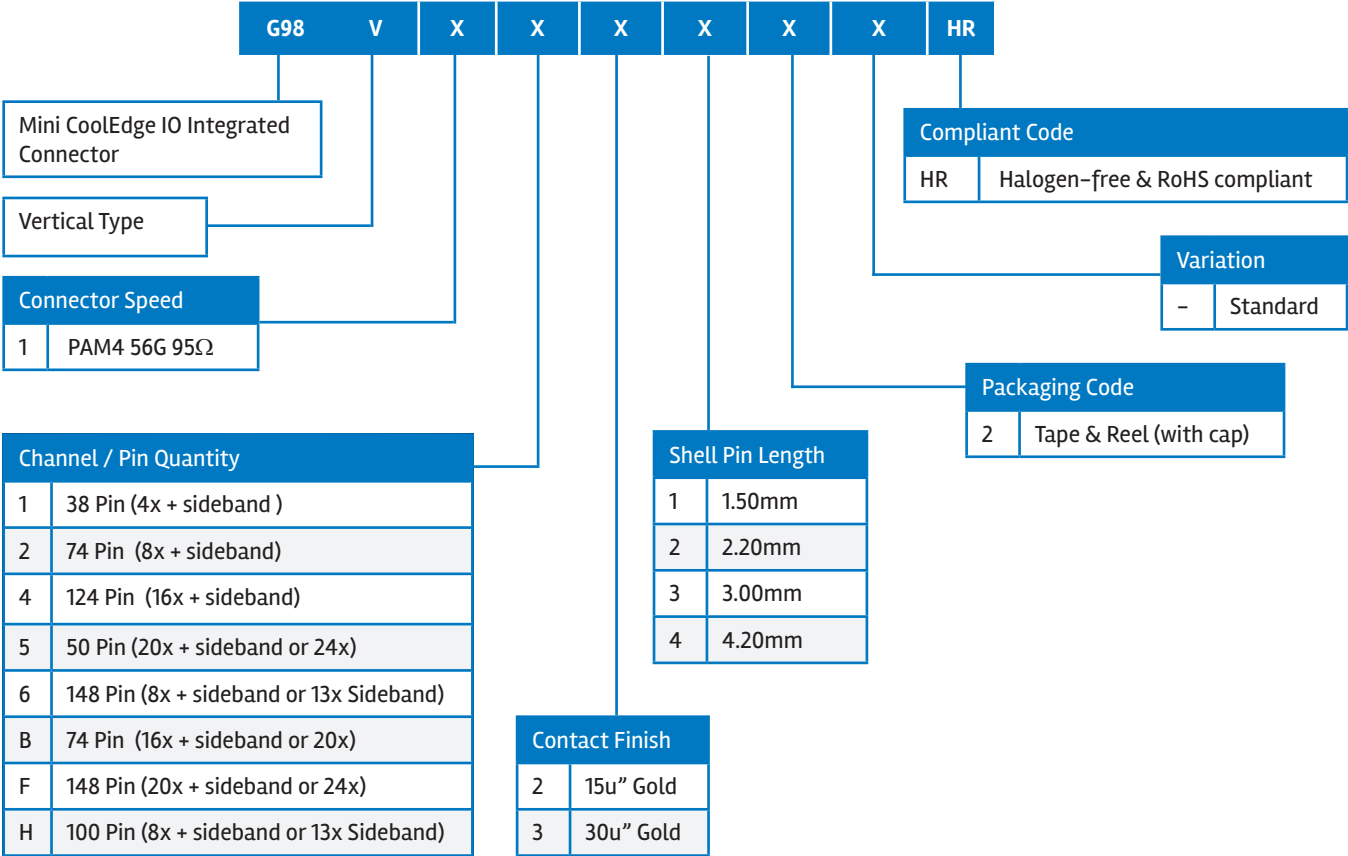
Packaging Option

2	Tape & Reel
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▶ Mini Cool Edge IO Connector



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CM10MCI0082IE44