

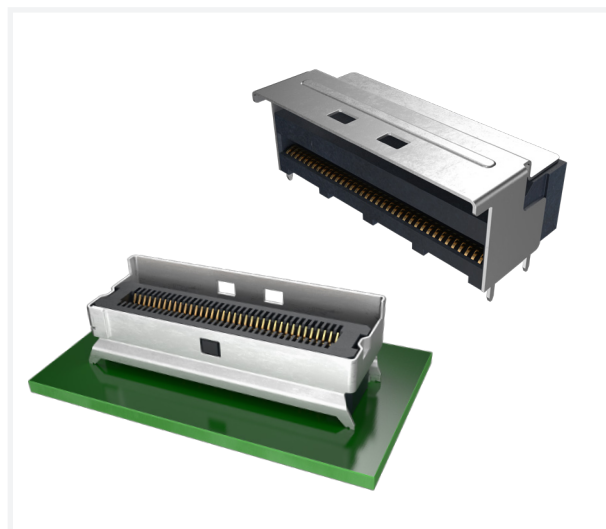
Mini Cool Edge IO® Connector

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

Amphenol introduces the next-generation OverPass™ solution – Mini Cool Edge IO®. The 0.60 mm pitch connector comes with a slim form factor design, capable of transmitting high-speed signals 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 SI performance-ready signal transmission but also a new system design approach that is cost-effective, highly modular, scalable, and extremely easy to repair.

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



TARGET MARKETS



FEATURES

- 0.60 mm pitch, vertical and right angle configurations
- Up to 56 Gb/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 92 Ω (G42 series), 85 Ω (G97 series) and 95 Ω (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 94 V-0)
- Shorting Bar: Conductive pastic
- Cage: Stainless steel, nickel plating overall

ELECTRICAL PERFORMANCE

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

MECHANICAL PERFORMANCE

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



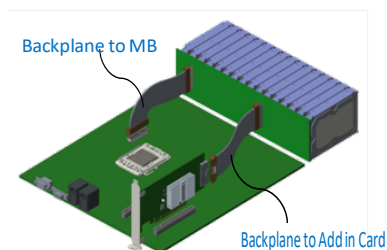
Baseband
Commercial Systems
Networking
Radio Units



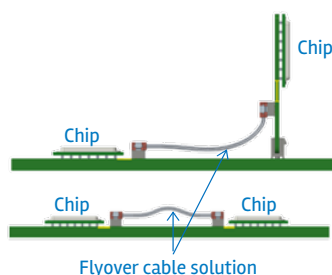
High-end Computing System
Server and Storage Systems

Amphenol OverPass™ Applications

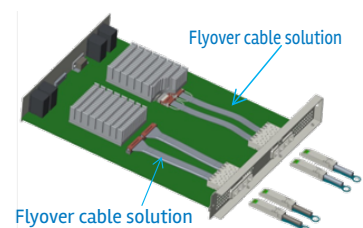
Miplane to MB Flyover



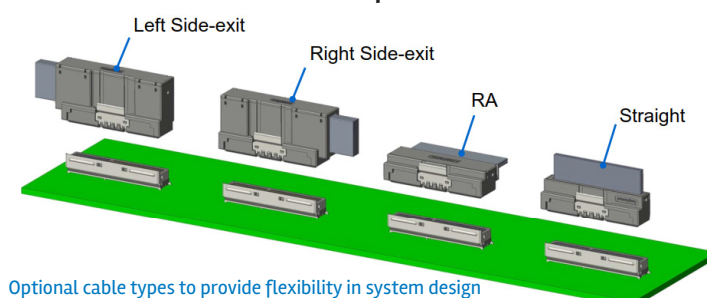
Chip to Chip Flyover



Chip to External IO Flyover



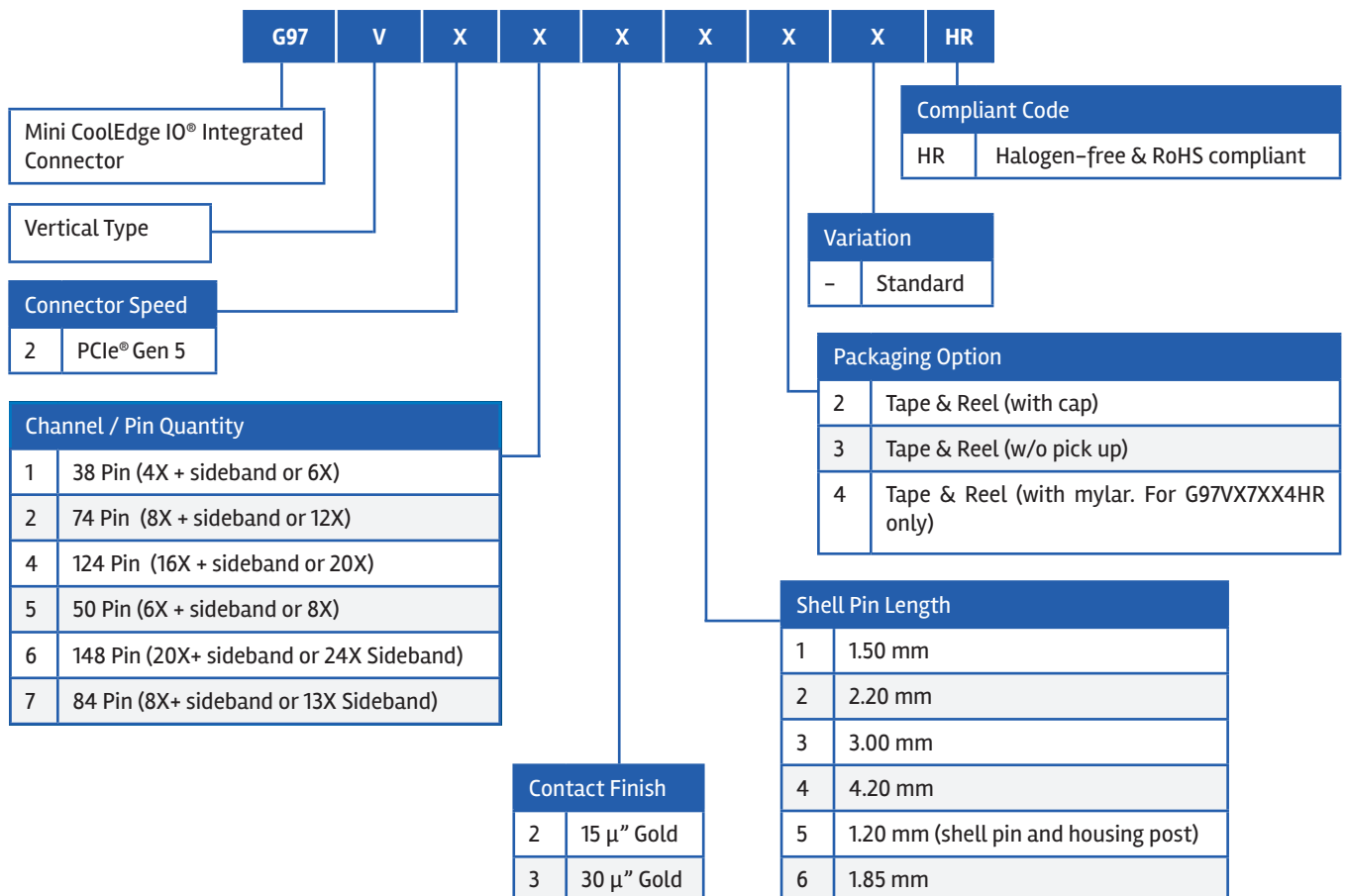
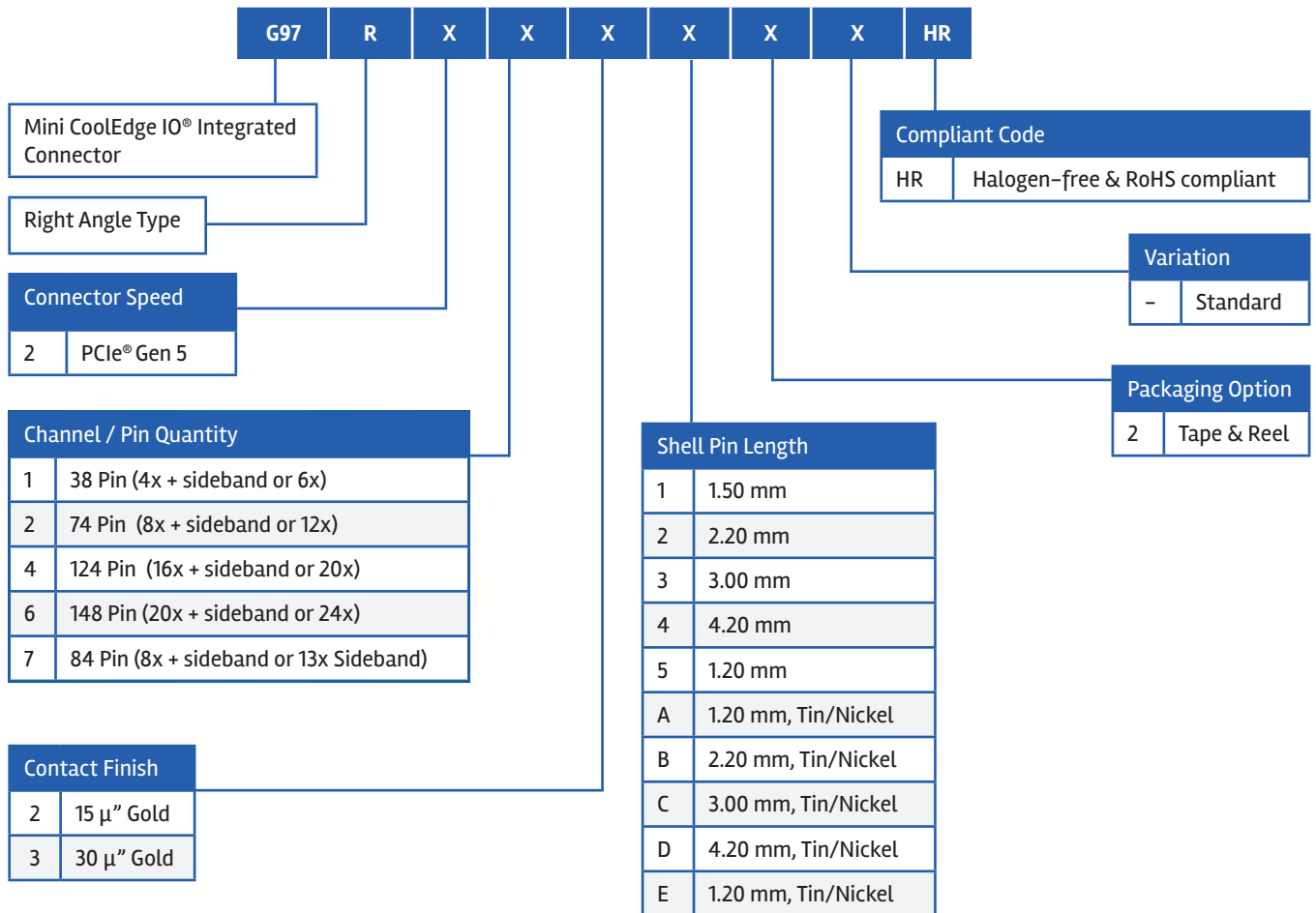
Cable Options



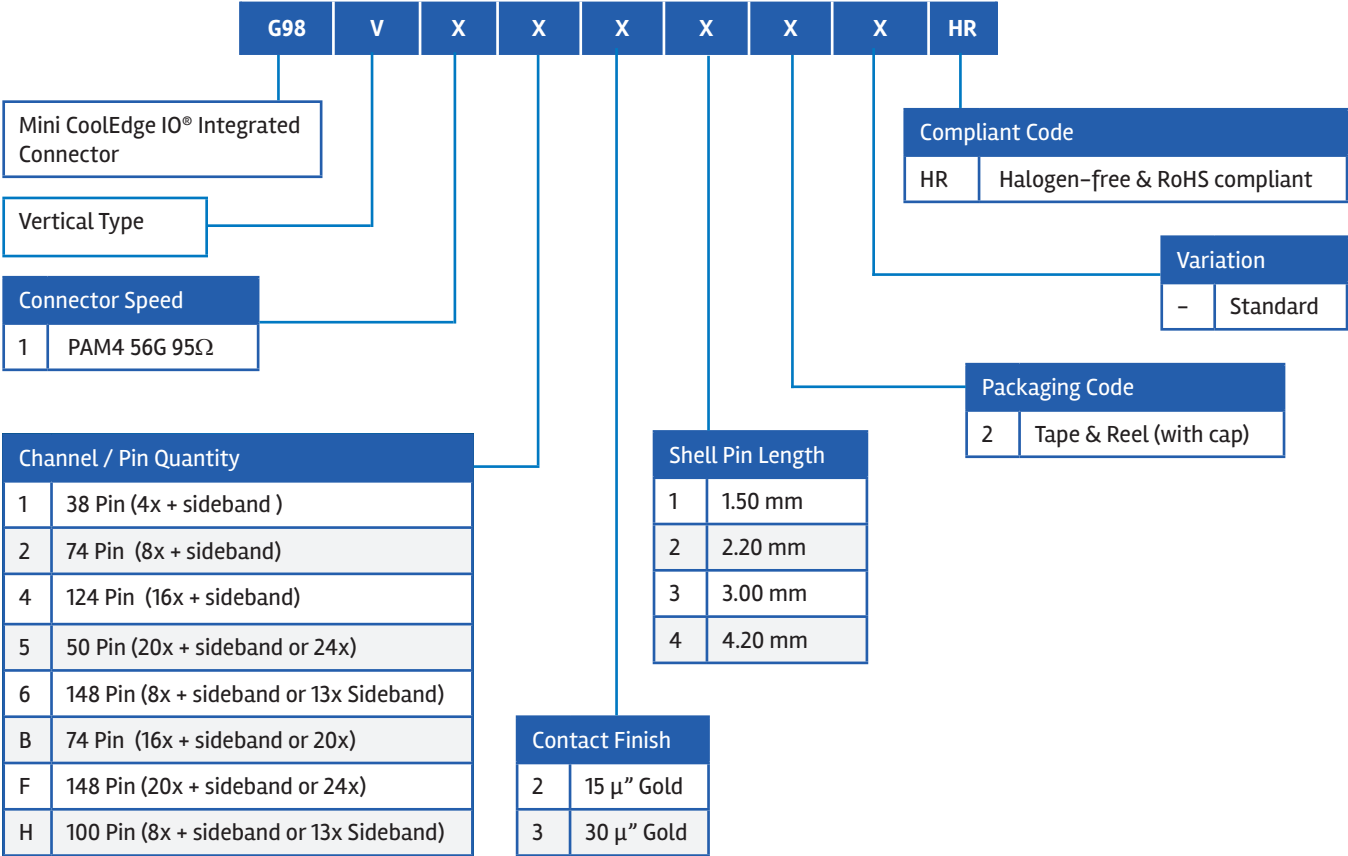
PART NUMBER SELECTOR

G42	X	X	X	X	X	X	X	XX	—	X
Form Factor										
V	Vertical									
R	Right Angle									
Electrical Feature										
1	PCIe® Gen 4									
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	1.50 mm									
2	2.20 mm									
3	3.00 mm									
4	4.20 mm									
5	1.20 mm									
Contact Plating										
2	15 μ" Gold									
3	30 μ" Gold									
Packaging Option										
2	Tape & Reel									
Variation										
—	Standard									
Compliant										
HR	Halogen-free & RoHS compliant									
Identification										
X	Option									
—	Standard									

▶ Mini Cool Edge IO® Connector



▶ **Mini Cool Edge IO® Connector**



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CM10MCI0026EA4