

Technical Characteristics

Specifications

Number of Contacts:

Half module - 72; Full module - 144

Pitch:

1.8mm

Current Rating:

1.5625 A per contact 12.5 A per power wafer
(derated using a 30°C temperature rise and 1 oz copper)

Extraction Force:

1.2 oz per contact typical

Temperature Rating:

-55°C to 125°C

Insulator Material:

LCP (Liquid Crystal Polymer)

Contact Plating:

50 µin gold over nickel

Flammability Rating:

UL94-VO

Dielectric Withstanding Voltage:

500 VAC

Low Level Circuit Resistance:

8 milliohms maximum

Insulation Resistance:

500 megohms maximum

Random Vibration:

11.95 Grms 50 to 2000 Hz for 90 mins per axis

Mechanical Shock:

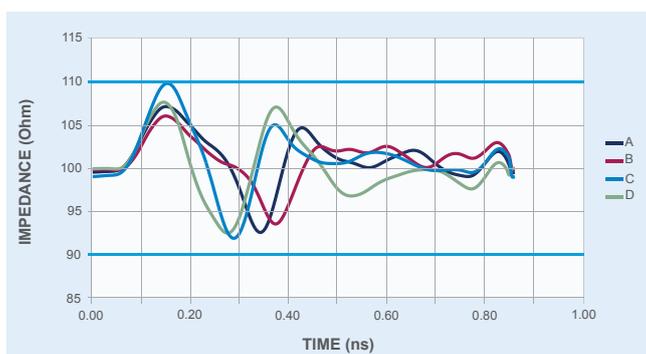
50G

Features

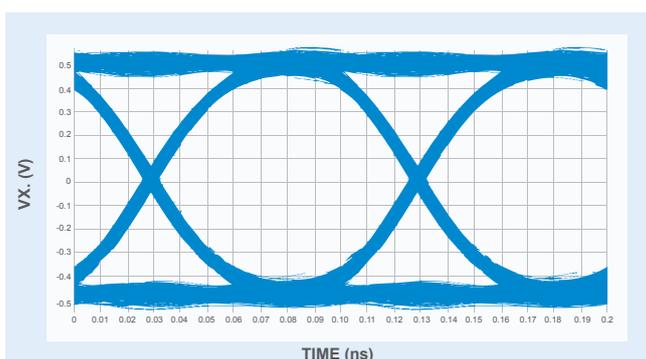
- Compatible with VITA 46, 47 and 78 (Space) standards
- Up to 16 Gbps data rate performance
- 100 Ohm impedance for differential pair configuration

- Differential, single-ended and power modules
- 0.56 mm (0.022") diameter via for backplane connector
- Flexible modular design for standard 3U and 6U as well as custom configurations
- Press-fit termination
- Reliable Hypertac hyperboloid contact technology

Performance



Measured impedance through TDR
50 ps Rise Time



Eye diagram @ 10 Gbps

Crosstalk from 6 Adjacent Channels (NEXT and FEXT)

Speed is another critical factor when comparing VPX connector solutions and as technology evolution continues to push the limits. For system solution providers speed is a critical element in their ability to address the computation and I/O requirements of data driven applications. When evaluating the speed capability of a connector the key factors are impedance, return loss, insertion loss and crosstalk.

The use of impedance-controlled connectors is standard practice in radio frequency applications and is now being utilized for high-speed data transmission. In a transmission line, impedance matching is necessary to minimize reflections, to deliver the correct amplitude signal and to maximize power at the receiving end. To maximize signal performance, it is critical to maintain a differential impedance as close to 100 Ω as possible. The KVPX connector has an impedance variation <10% of the target 100 Ω with a 50 ps rise time (0%, no signal, to 100%, full signal) which is representative of the rise time of a 6 Gbps signal.

Due to the matched impedance profile and low loss performance of KVPX, signals travel with minimal disruption through it. The eye patterns of the intrinsic connector indicates a low amount of jitter and a wide eye opening which indicates that the KVPX connector is more than capable for 16 Gbps data rates. The eye pattern combines the impacts of impedance matching, return loss, insertion loss and crosstalk talk performance to ultimately determine the speed capability of the connector.

[*See back for ordering information](#)