



KSS104 and KSS104M

Contactless Connectivity and Power in an Incredibly Small Footprint

Overview

The KSS104 family of products are tiny, low-cost, low-power, solid-state electromagnetic connectors that enable large amounts of data to be securely transferred between devices at very high speeds. These devices can be easily integrated into customers' end products without requiring any changes to their software or firmware, by supporting several industry standard high-speed data and video protocols including USB Superspeed, DisplayPort, SATA, Ethernet, UART, PCIe, etc.

Key Features

- Comes in two form factors:
 - 3 x 3mm half duplex (KSS104M)
 - 5 x 5mm half duplex (KSS104)
- Data rates up to 6Gbps in each direction
- Supports common high-speed and low-speed protocols
- Low system BOM and easy integration
 - Clockless architecture; no external crystal needed
 - Integrated digital logic
 - Integrated antenna
- Ultra low-power
- Close-to-wire latency
- No software or drivers required

APPLICATIONS

Mobile

- Docking, second screen

Storage:

- Ruggedized SSD/HDD

Modular:

- HDTVs/Displays
- Gaming
- Computing
- Video Walls
- Peripheral attach
- Internal board-to-board connection (eliminates flex cabling)

IoT:

- Virtual connector for factory automation
- Enables device access on factory floor for device debug and diagnostics
- Factory automation/Industry 4.0

DETAILED FEATURES

Up to 6Gbps supporting the following high and low-speed protocols:

- USB SuperSpeed
- DisplayPort 1.2
- SATA 2/3
- PCIe Gen 2
- V-by-One® HS
- Ethernet

Low-speed protocols supported:

- UART
- I2C
- GPIO
- SPI

Active Power @ 5Gbps

- 70-100mW half-duplex
- 160-200mW full-duplex

Standby Power

- 7mW per KSS104

Idle Power

- <1mW

Latency

- >1 nanosecond

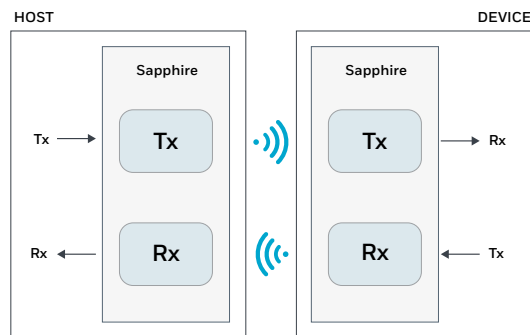
Commercial Operating Temperature

- 0 - 70 °C

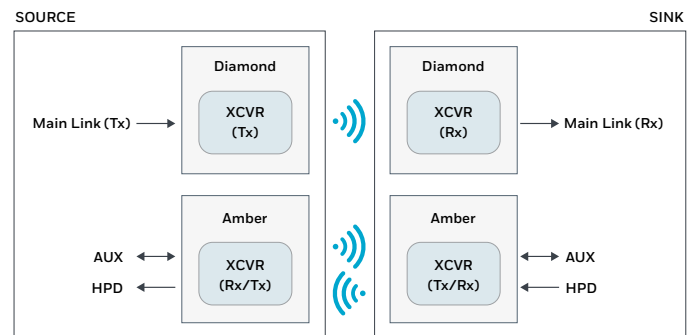
KSS104 and KSS104M Standard Product Configurations and Part Numbers

Product Configuration	Protocols Supported	Number of Keyssa devices required (one side)	Part Number: KSS104M 3 x 3 mm package	Part Number: KSS104 5 x 5 mm package
Sapphire	USB SuperSpeed PCIe	USB: bi-directional at 5Gbps per device PCIe: Minimum 2. System dependent	TX: KQS104-B3-TXB RX: KQS104-B3-RXA	TX: KHS104-B3-TXB RX: KHS104-B3-RXA
Diamond and Amber	DisplayPort and AUX	Minimum 2: • 1—1-lane video signal operating at 5.4Gbps • 1-AUX Note: Increase bandwidth by adding additional lanes (1 Keyssa device per lane)	Diamond (DP) TX: KQP104-B3-TXB RX: KQP104-B3-RXA Amber (AUX) KQX104-B3-TRA	Diamond (DP) TX: KHP104-B3-TXB RX: KHP104-B3-RXA Amber (AUX) KHX104-B3-TRA
Glass	Ethernet, V-by-One, SATA, Other high-speed SerDes protocols	Protocol dependent	TX: KQG104-B3-TXB RX: KQG104-B3-RXA	TX: KHG104-B3-TXB RX: KHG104-B3-RXA
Lilac	UART, other bi-directional low speed signals	1	TX: KQL104-B3-TXB RX: KQL104-B3-RXA Bidirectional: KQL104-B3-TRA	TX: KHL104-B3-TXB RX: KHL104-B3-RXA Bidirectional: KHL104-B3-TRA

Typical USB SuperSpeed Application



Typical Single Lane DisplayPort Application



Ordering information

Contact your local Keyssa representative

For additional information on KSS104 products, please email info@keyssa.com

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