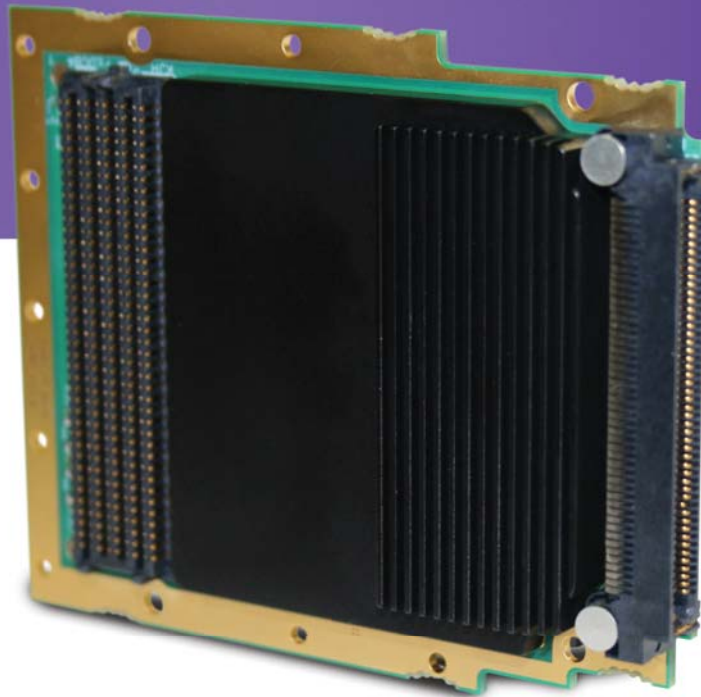


Nutaq LVDS-xIn-xOut

Up to 64 LVDS high-speed IO pairs FMC module
PRODUCT SHEET

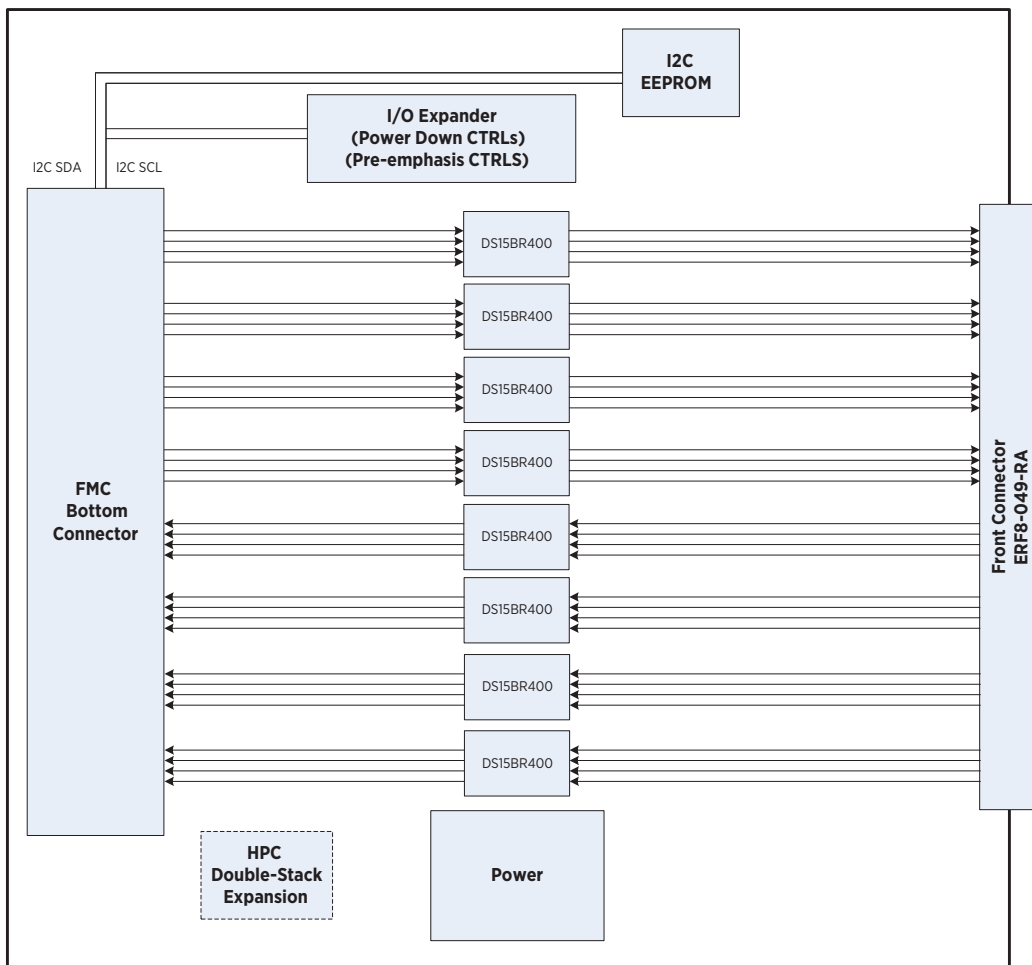


Nutaq LVDS-xIn-xOut

- 32 high speed LVDS channels/pairs [LPC version]
- 64 high speed LVDS channels/pairs [HPC version]
- LVDS/CML/LVPECL compatible input, LVDS output
- 6 dB of pre-emphasis CTRL
- Power down CTRL
- Up to 2 Gbps capable per pair (Excluding FMC carrier limitations)
- 15 KV protected IOs
- Unique robust front-panel connector Edge Rate Contact™ (ERF8-RA)
- Plug and play with Nutaq's μ TCA Perseus AMCs

Nutaq's LVDS-xIn-xOut mezzanine card (FMC) is 32/64 LVDS channels IO card designed around the Texas Instrument DS15BR401 4-channel LVDS buffer/repeater to allow for the direct use of the high speed LVDS pairs of a carrier's FPGA to communicate with the outside world. The LVDS card has 32 LVDS pairs on LPC-FMC form factor or 64 LVDS pairs on Nutaq double-stack HPC-FMC form factor. The direction of these pairs is fixed by hardware and can be selected by groups of 16. The LVDS card comes in two different default standard configurations which are 16in-16out (LPC) or 32in-32out (HPC); other configurations available upon requests.

The LVDS FMC complies with VITA 57.1, a widely used standard in the FPGA-based digital signal processing industry, making it easier for developers to integrate FPGAs into embedded system designs. The LVDS FMC is also completely integrated to the Nutaq μ TCA Perseus AMCs, but it can as easily be used on any other FMC carrier on the market. It is compatible with low-pin-count (32 channels) or high-pin-count (64 channels) FMC interfaces.

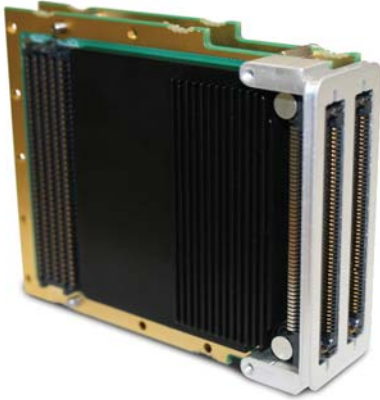


HARDWARE ARCHITECTURE

The VITA 57.1 standard comes to the rescue of complex designs with its unprecedented mechanical and electrical flexibility. It offers standard specifications for small, mezzanine modules designed to adapt an FPGA-based carrier card to different I/O requirements.

APPLICATIONS

- Low-latency inter-carrier high speed communication
- GPIO-based high-speed interface control
- Cable extension applications
- Inter-system adaptation



32 OR 64 CHANNELS CONFIGURATIONS

The LVDS-16In-16Out is an LPC FMC that complies with all the electrical and mechanical specifications of VITA 57.1, making it possible to use on any FMC-LPC compliant carrier on the market. On Nutaq's Perseus AMC, it fits in a mid-size μ TCA slot. For the 64 channel option, an LVDS-16In-16Out and LVDS-16In-16Out-E — an LVDS HPC with an LPC on top— are stacked to become the LVDS-32In-32Out (64 channels). The LVDS-32In-32Out complies with all the electrical specifications of VITA 57.1, but the height of the module exceeds the mechanical specifications. An additional 10 mm in height must therefore be allotted when using the LVDS-32In-32Out on an FMC HPC carrier other than Nutaq's Perseus AMC. On the Perseus, it fits in a full-size μ TCA slot.

SPECIFICATIONS

General

- Number of channels: LPC: 32, HPC: 64
- Differential Input voltage range: 100-2400mV
- Differential Output voltage range: 250-500mV

FMC connectivity

LVDS-16In-16Out

- Low-pin-count connector
 - LA (00-31)

LVDS-16In-16Out-E

- Low-pin-count connector
 - LA (00-31)
- High-pin-count connector
 - LA (00-31), HA (00-23), HB (00-07)

LVDS-32In-32Out

- High-pin-count connector
 - LA (00-31), HA (00-23), HB (00-07)

Front panel

LVDS-16In-16Out / LVDS-16In-16Out-E

- 1x ERF8-RA Samtec Edge Rate Contact™
- 32x LVDS pairs

LVDS-32In-32Out

- 2x ERF8-RA Samtec Edge Rate Contact™
- 64x LVDS pairs

Mechanical

Rugged FMC form factor — designed for conduction cooling, but not tested or implemented.

Contact info@nutaq.com for details.

LVDS-16In-16Out

- Dimensions (W×H×D): 69 mm × 10 mm × 86 mm, 52 g

LVDS-16In-16Out-E

- Dimensions (W×H×D): 69 mm × 15.4 mm × 86 mm, 54 g

LVDS-32In-32Out-E

- Dimensions (W×H×D): 69 mm × 20 mm × 86 mm, 106 g

Standards compliance

LVDS-16In-16Out

- VITA 57.1

LVDS-16In-16Out-E

- VITA 57.1 electrical specifications
- Out of mechanical specifications by H = 5.4 mm

LVDS-32In-32Out-E

- VITA 57.1 electrical specifications
- Out of mechanical specifications by H = 10 mm

Electrical

- 12 V, 3V3 or 3V3MP

Power consumption

- Total: typically TBD W
- 12 V: TBD W
- 3V3: TBD W
- 3V3MP: TBD W

Nutaq products are constantly being improved; therefore, Nutaq reserves itself the right to modify the information herein at any time and without notice.