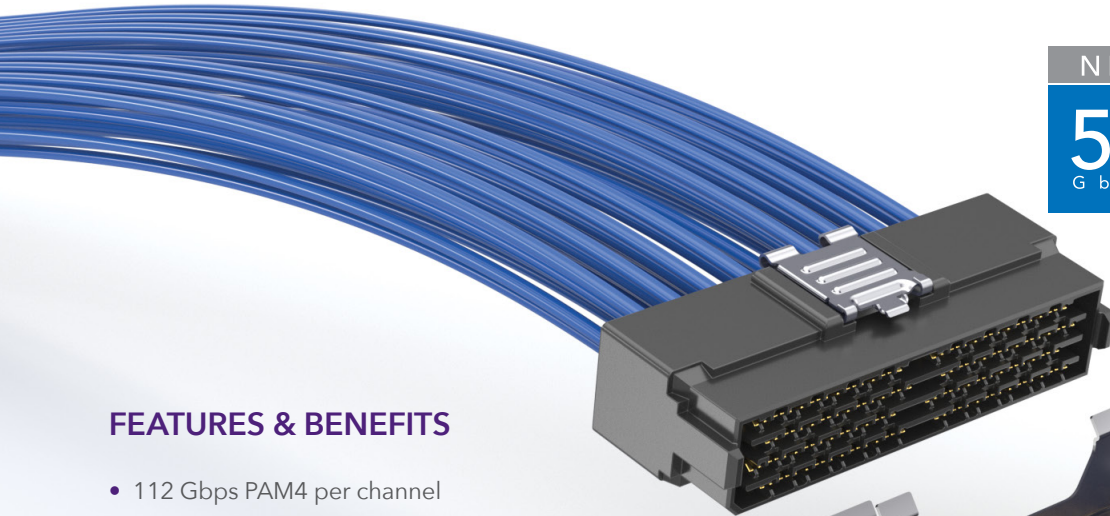


NOVARAY®

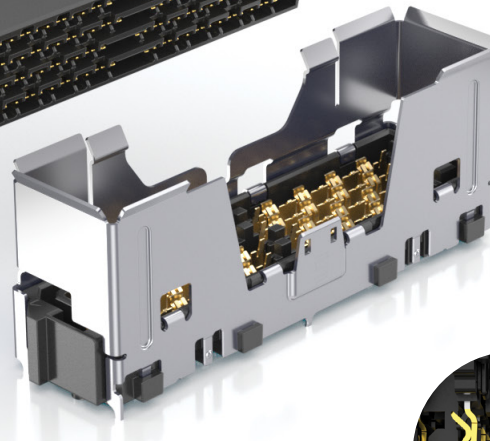
EXTREME HIGH-SPEED, HIGH-DENSITY CABLE



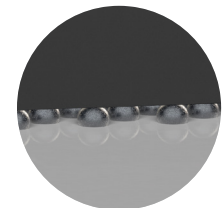
NRZ	PAM4
56 Gbps	112 Gbps

FEATURES & BENEFITS

- 112 Gbps PAM4 per channel
- 4.0 Tbps aggregate data rate - 9 IEEE 400G channels
- PCIe® 6.0/CXL™ 3.1 capable
- Innovative, fully shielded differential pair design enables extremely low crosstalk (beyond 40 GHz) and tight impedance control
- 48 differential pairs per square inch
- Industry leading aggregate data rate density - 2x the data rate in 60% of the space
- 8 to 32 differential pairs; up to 72+ pairs in development
- Panel I/O solution available with extended EMI shielding (NVACE/NVACP) or rugged 38999 shell (NVA3E/NVA3P); see page 100-103
- Eye Speed® Thinax™ ultra performance twinax cable version in development



Two reliable points of contact guaranteed



BGA attach for density and optimized trace breakout region

Aggregate Data Rate (NRZ)						
448 Gbps	672 Gbps	896 Gbps		1344 Gbps	1792 Gbps	4032 Gbps*
1 Bank			2 Bank			3 Bank*
2 Row	3 Row	4 Row	2 Row	3 Row	4 Row	6 Row*
8 Pairs	12 Pairs	16 Pairs		24 Pairs	32 Pairs	72 Pairs*
*In development						

KEY SPECIFICATIONS (NVAC/NVAM-CT)

CABLE	SIGNAL ROUTING	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE
34 AWG ultra low skew twinax	92 Ω & 100 Ω	LCP	Copper Alloy	Au over 50 μ" (1.27 μm) Ni	-40 °C to +125 °C

PCI-SIG®, PCI Express® and the PCIe® design marks are registered trademarks and/or service marks of PCI-SIG.

EXTREME PERFORMANCE & DENSITY SYSTEM

NVAC	STYLE	CABLE STYLE	NO. OF ROWS	NO. OF BANKS	CABLE LENGTH	01	PIN OUT	OPTION
------	-------	-------------	-------------	--------------	--------------	----	---------	--------

-DP
= 4 pairs
per wafer

-1
= 34 AWG,
100 Ω ultra low
skew twinax

-3
= 34 AWG,
92 Ω ultra low
skew twinax

-02
= 2 Rows

-03
= 3 Rows

-04
= 4 Rows

-1
= 1 Bank

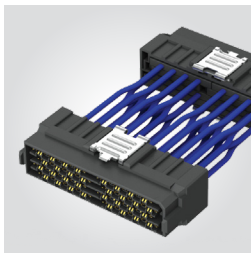
-2
= 2 Banks

-"XX.X"
= Length in inches
(152.4 mm) 06.0"
minimum

-1
= Pin A01
to Pin AN
(N equals last
position)

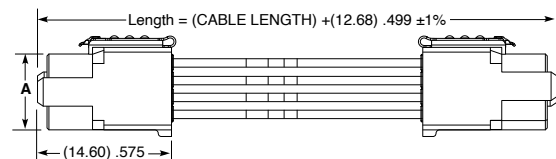
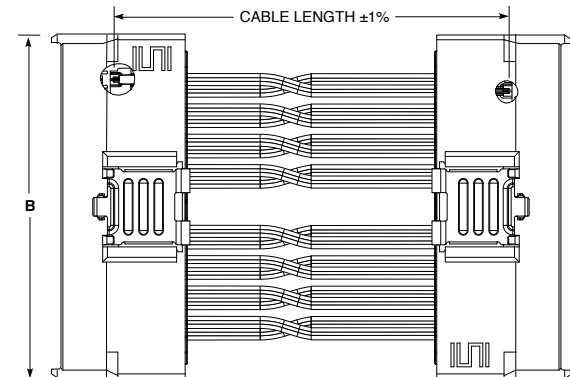
-L
= Latch

NVAC
Board Mates:
NVAM-CT



NO. OF BANKS	N	B
-1	16	(20.25) .797
-2	32	(36.25) 1.427

ROWS	A
-02	(4.40) .173
-03	(6.20) .244
-04	(8.00) .315



Notes:
Cable lengths longer than
40.00" (1 meter) are not
supported with S.I. test data.

View complete specifications at: samtec.com?NVAC

NVAM	STYLE	NO. OF ROWS	NO. OF BANKS	02.0	PLATING OPTIONS	SOLDER TYPE	CT	"X"R
------	-------	-------------	--------------	------	-----------------	-------------	----	------

-DP
= 4 pairs
per wafer

-02
= 2 Rows

-03
= 3 Rows

-04
= 4 Rows

-1
= 1 Bank

-2
= 2 Banks

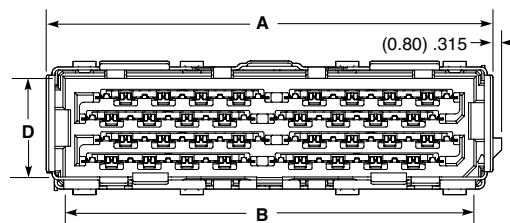
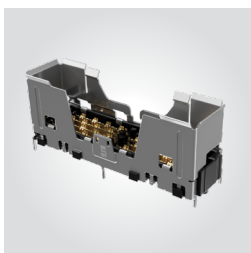
-S
= 30 μ"
(0.76 μm)
Gold on
contact area,
Matte Tin on
solder tail

-2
= Lead-Free
Solder Charge

-TR
= Tape & Reel

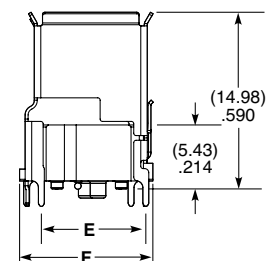
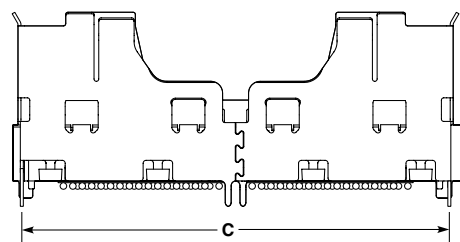
-FR
= Full Reel
Tape & Reel
(must order max.
quantity per reel;
contact Samtec for
quantity breaks)

NVAM-CT
Board Mates:
NVAC



NO. OF BANKS	A	B	C
-1	(21.89) .862	(18.65) .734	(20.25) .797
-2	(37.89) 1.492	(34.65) 1.364	(36.25) 1.427

NO. OF ROWS	D	E	F
-02	(4.80) .189	(5.26) .207	(7.70) .303
-03	(6.60) .260	(7.06) .278	(9.50) .374
-04	(8.40) .331	(8.86) .348	(11.30) .445



Note:
Some sizes, styles and
options are non-standard,
non-returnable.

View complete specifications at: samtec.com?NVAM-CT