NOVARAY®

EXTREME PERFORMANCE HIGH-DENSITY ARRAYS

(0.80 mm) .0315" x (1.80 mm) .071" PITCH



PAM4 128 Gbps

FEATURES & BENEFITS

- 128 Gbps PAM4/PCIe® 7.0 capable
- 48 fully shielded differential pairs per square inch
- 4.0 Tbps aggregate data rate - 9 IEEE, 400G channels
- Extremely low crosstalk beyond 40 GHz
- Incredibly tight impedance control
- Minimal variance in data rate as stack height increases
- Utilizes 40% less space with the same data throughput as compared to traditional arrays
- Analog over Array™ capable



High-speed mezzanine connector and cable in one product family



BGA attach to board for greater density and optimized trace breakout region



Two reliable points of contact with a 1.14 mm wipe

KEY SPECIFICATIONS (NVAM/NVAF)

TOTAL PAIRS	INSULATOR MATERIAL	CONTACT MATERIAL	PLATING	OPERATING TEMP RANGE	CURRENT RATING	VOLTAGE RATING	LEAD-FREE SOLDERABLE
Up to 32 pairs	Black LCP	Copper Alloy	Au or Sn over 50 µ" (1.27 µm) Ni	-55 °C to +125 °C	2.1 A per pin (signal) 9.6 A per pin (ground)	200 VAC/283 VDC	Yes

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

Unless otherwise approved in writing by Samtec, all parts and components are designed and built according to Samtec's specifications which are subject to change without notice.

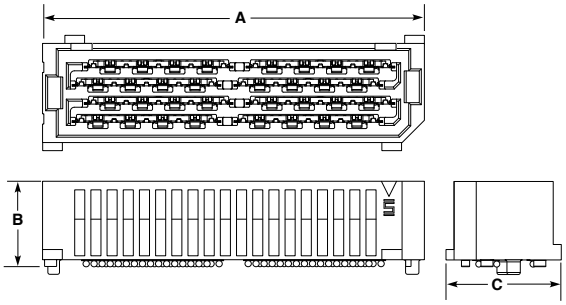
SERIES	STYLE	NO. OF ROWS	NO. OF BANKS	LEAD STYLE	PLATING OPTION	SOLDER TYPE	K	"X"R
NVAM Terminal **NVAF** Socket	**–DP** = 4 pairs per wafer	**–02** **–03** **–04**	**–1** = 1 Bank **–2** = 2 Banks	**–02.0** = (2 mm) .0787" (NVAM only) **–05.0** = (5 mm) .1969" **–07.0** = (7 mm) .2756" (NVAF only)	**–S** = 30 µ" (0.76 µm) Gold on contact area, Matte Tin on solder tail	**–2** = Lead-Free Solder Charge	**–K** = (3.50 mm) .138" DIA Polyimide film Pick & Place Pad	**–TR** = Tape & Reel **–FR** = Full Reel Tape & Reel (must order maximum quantity per reel; contact Samtec for quantity breaks)

NVAM

Board Mates: NVAF

Standoffs: GPSO





NO. OF BANKS	A
–1	(21.75) .856
–2	(37.75) 1.486

LEAD STYLE	B
–02.0	(5.46) .215
–05.0	(8.46) .333

NO. OF ROWS	C
–02	(7.80) .307
–03	(9.60) .378
–04	(11.40) .449

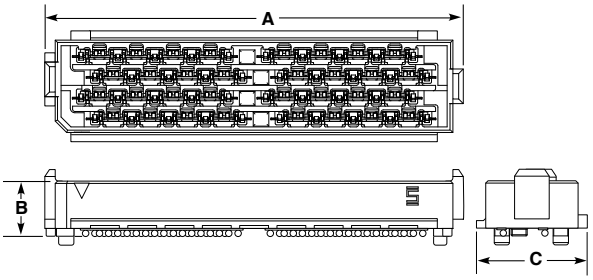
View complete specifications at: samtec.com?NVAM

NVAF

Board Mates: NVAM

Standoffs: GPSO





NO. OF BANKS	A
–1	(20.25) .797
–2	(36.25) 1.427

LEAD STYLE	B
–05.0	(4.80) .189
–07.0	(6.80) .268

NO. OF ROWS	C
–02	(6.00) .236
–03	(7.80) .307
–04	(9.60) .378

MATED HEIGHTS*

NVAF LEAD STYLE	NVAM LEAD STYLE –02.0	NVAM LEAD STYLE –05.0
–05.0	(7.00) .276	(10.00) .394
–07.0	(9.00) .354	(12.00) .472

*Processing conditions will affect mated height.

AGGREGATE DATA RATE (NRZ)

1024 Gbps	1536 Gbps	2048 Gbps	3072 Gbps	4096 Gbps
1 Bank		2 Bank		
2 Row	3 Row	4 Row 2 Row	3 Row	4 Row
8 Pairs	12 Pairs	16 Pairs	24 Pairs	32 Pairs

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

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