



ACCELERATE[®] HP CABLE SYSTEMS

AcceleRate[®]
High-Performance

AcceleRate[®]
Boost Cable

AcceleRate[®]
Slim Cable

AcceleRate[®]
Mini Cable

AcceleRate[®]
Cable Technology

AcceleRate[®]
Product Availability



AcceleRate[®] HP High-Performance Cable

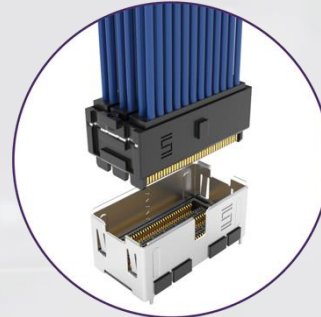
ARP6/APF6 SERIES

High-Density 112G Performance

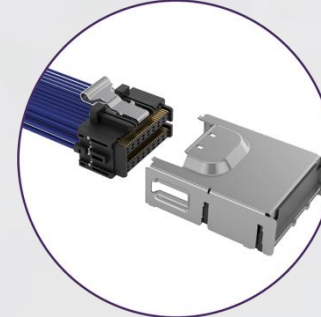
- Extremely high-density
- 112 Gbps PAM4 capable
- Solder column technology (no solder balls)
- 4, 6 & 8 row configurations
- Differential pair, single-ended and mixed signal options
- 34 AWG Eye Speed Thinax[™]
 - 8 or 12 twinax ultra low skew cable per row
 - 32 to 96 differential pairs
- 34 AWG Eye Speed ThinSE[™]
 - 12 or 18 micro coax cable per row
 - 48 to 144 single-ended signals
- Vertical height <15 mm
- Squeeze latch or extraction tool configurations



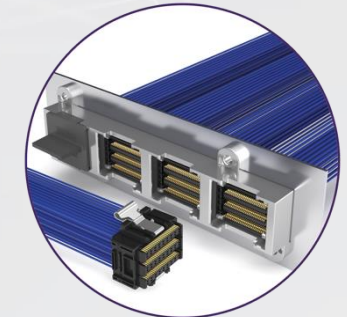
Squeeze latch for quick mate & un-mate



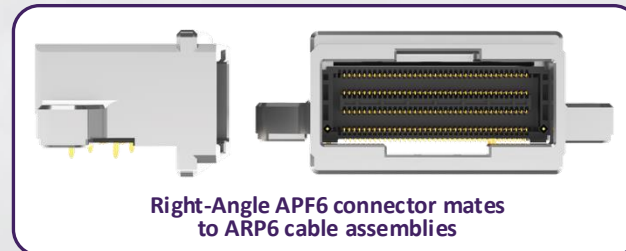
Locking for maximum density (removal tool required)



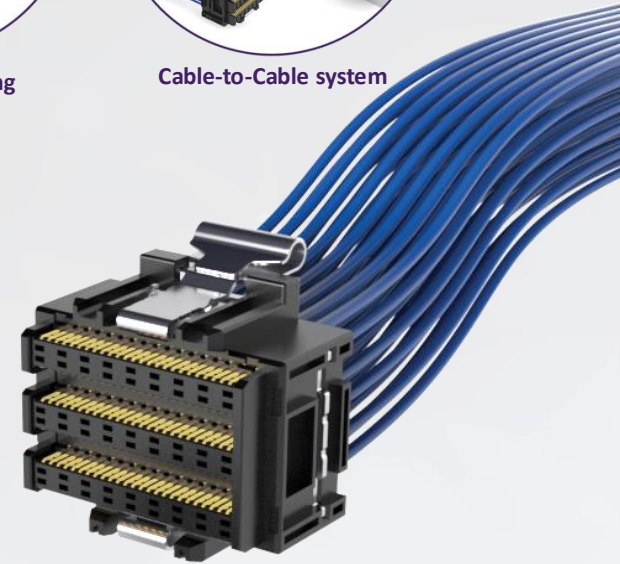
Right-angle mating connector



Cable-to-Cable system



Right-Angle APF6 connector mates to ARP6 cable assemblies



ACCELERATE[®] HP





AcceleRate[®] HP High-Performance Cable





AcceleRate[®] HP High-Performance Cable

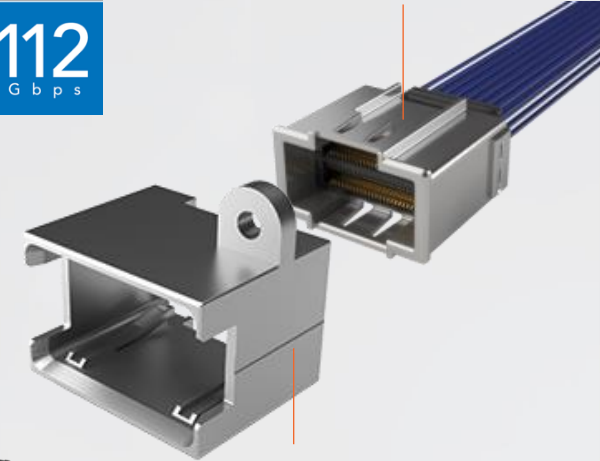
ARJ6/ARP6 Series Cable-to-Cable Solution

- Panel mountable AcceleRate[®] HP cable-to-cable!
- ARJ6 internal cable assembly mates with existing ARP6 for a cable-to-cable connection
- Backwards compatible with existing ARP6-L squeeze latches
- Available in DP and SE configurations
- All direct attach wire termination, no paddle boards

ACCELERATE[®] HP

PAM4
112
Gbps

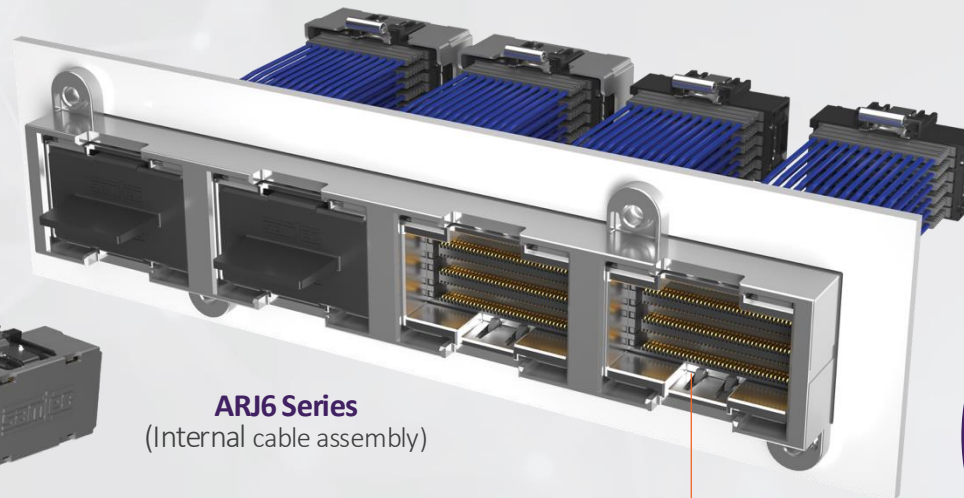
ARJ6 Series
(Internal cable assembly)



ARP6-PB
(Panel bracket)

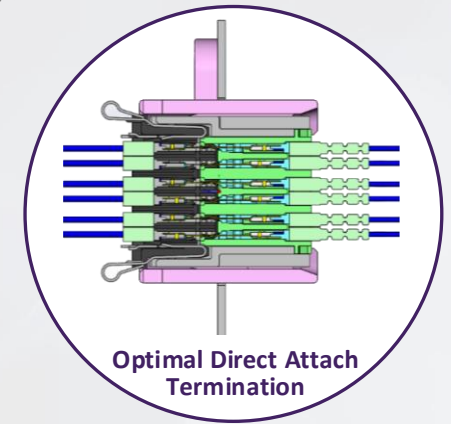


Mates to APF6
near-chip connector



ARJ6 Series
(Internal cable assembly)

Port accepts ARP6
cable assembly mate



Optimal Direct Attach
Termination



AcceleRate[®] HP High-Performance Cable

Cable-to-Cable Applications

ACCELERATE[®]HP

Inside the Box

Inside the Rack

Connecting box-to-box or line card-to-line card contained within the chassis

Mid-Plane Cable-to-Cable





AcceleRate[®] HP High-Performance Cable

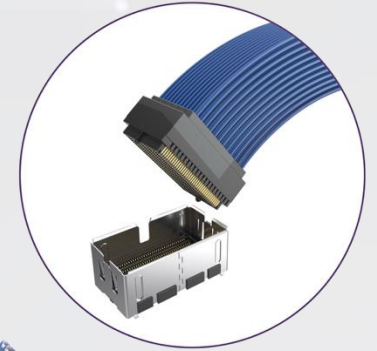
ART6/ATF6 SERIES Double Density Solution

- Highest-Density 112 Gbps On-Package Solution
- Direct-to-package “on substrate” interconnect
- Double the density of original AcceleRate[®] HP design
- 6 or 12 pairs per row; up to 12 rows

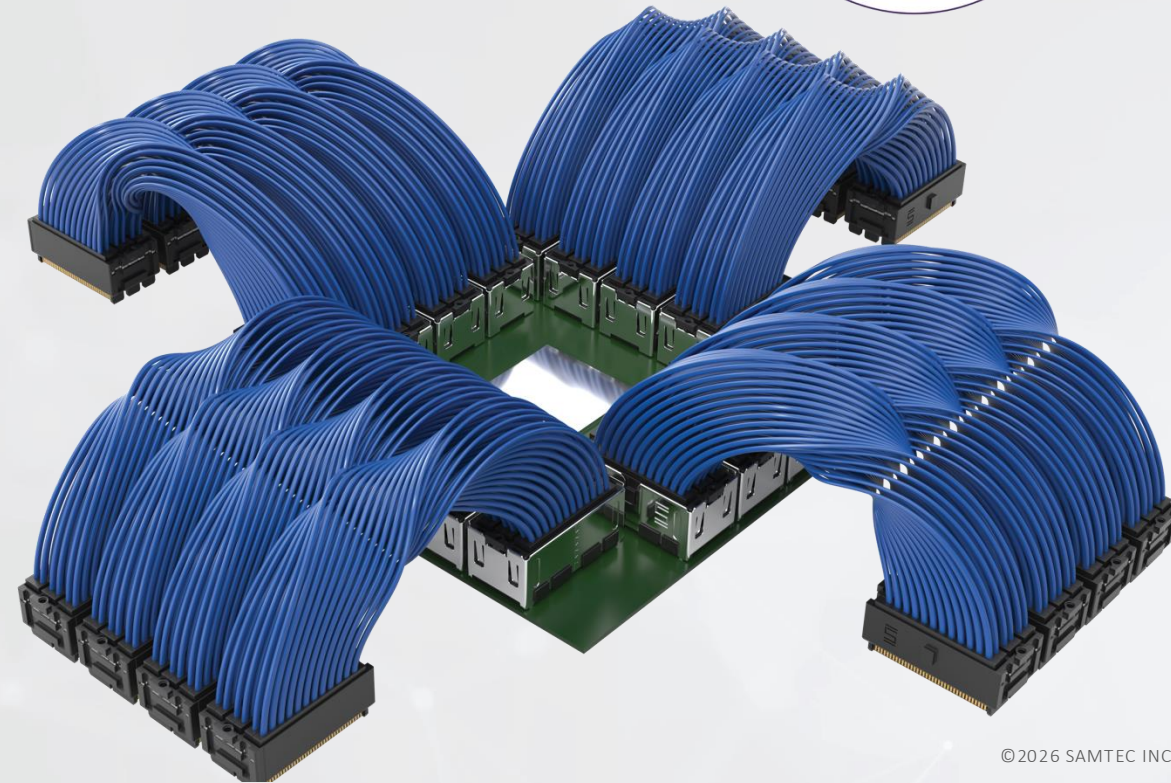
ACCELERATE[®] HP

PAM 4
112
Gbps

0.635 mm Contact Pitch
0.91 x 1.58 mm Row-to-Row Pitch



| FEATURES | ACCELERATE [®] HP (ARP6/APF6) | ACCELERATE [®] HP Double Density (ART6/ATF6) |
|-----------------------------------|---|--|
| Contact Pitch | 0.635 mm | 0.635 mm |
| Row-to-Row Pitch | 2.20 mm x 2.40 mm | 0.91 mm x 1.58 mm |
| OAL x OAW | 30.01 mm x 16.20 mm | 30.00 mm x 16.80 mm |
| Mated Height | 13.66 mm | 14.3 mm |
| Retention Feature | Locking Tabs / Removal Tool | Locking Tabs / Removal Tool |
| Board Surface Area | 486 mm ² (72 DP) | 504 mm ² (144 DP) |
| Signal Density (mm ²) | 6.75 mm ² per DP | 3.50 mm ² per DP |
| Signal Density (in ²) | 95 DP per in² | 184 DP per in² |
| PCB/Substrate Limitations | Traditional PCB | HDI/Package Substrate Only |





AcceleRate[®] Boost Cable System

ABC6/ABF6 Series

Boosting AcceleRate[®] to PCIe[®] 7.0, 128 Gbps Performance

- Significant reduction in NEXT and return loss compared to original AcceleRate[®] slim cable (ARC6/ARF6 Series)
- Multiple array sizes available:
 - Positions per row: 16, 28 & 37
 - Row options: 2, 4, 6 & 8
- Accommodates from 10 to 96 differential pairs
- Developed with 32 AWG, 92 Ω Thinax[™] hyper low skew twinax
- Vertical cable launch
- Extended flexible strain relief for added durability
- ABF6 connector developed with surface mount solder column technology
- Contact HDR@samtec.com for more information

ACCELERATE[®] Boost



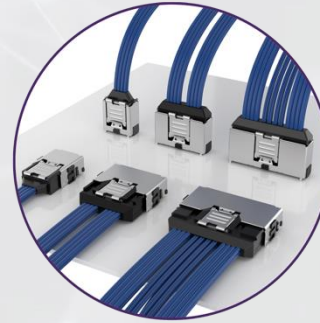


AcceleRate[®] Slim Cable System

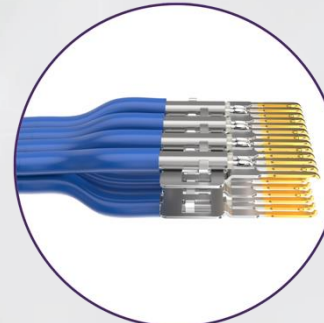
ARC6/ARF6 Series

Industry Leading Combo of High Density and Data Rate

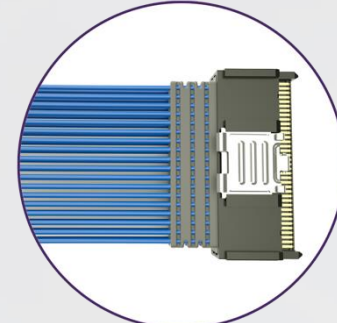
- 0.635 mm (.025") pitch
- 64 Gbps PAM4 and PCIe[®] 6.0 data rates
 - PCIe[®] 6.0: x4 and x8 capability
- Vertical and right-angle orientations
- 34 AWG, ultra low skew twinax and Thinax[™]
 - 8, 16 and 24 differential pairs
- 34 AWG, 50 Ω ThinSE[™] micro coax cable in-development
 - 12, 24 & 36 total coax lines
- High mating cycles



Slimmest Cable Assembly in the Industry (7.6 mm width)



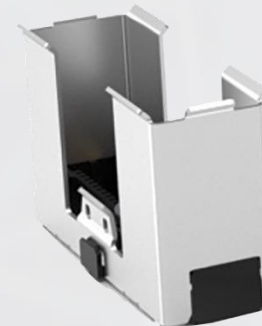
Optimal Direct Attach Termination



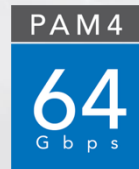
ThinSE[™] Coax Configuration - Improved Flexible Strain Relief



Rugged Blind Mate (In-Development)



ACCELERATE[®]





AcceleRate[®] Mini Cable System

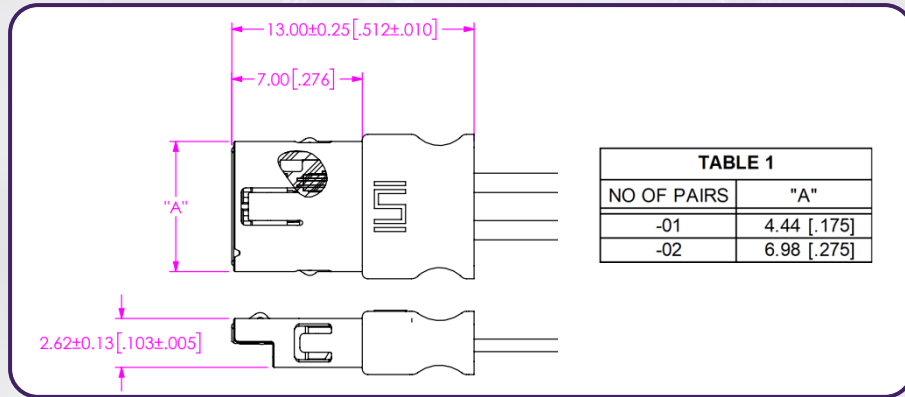
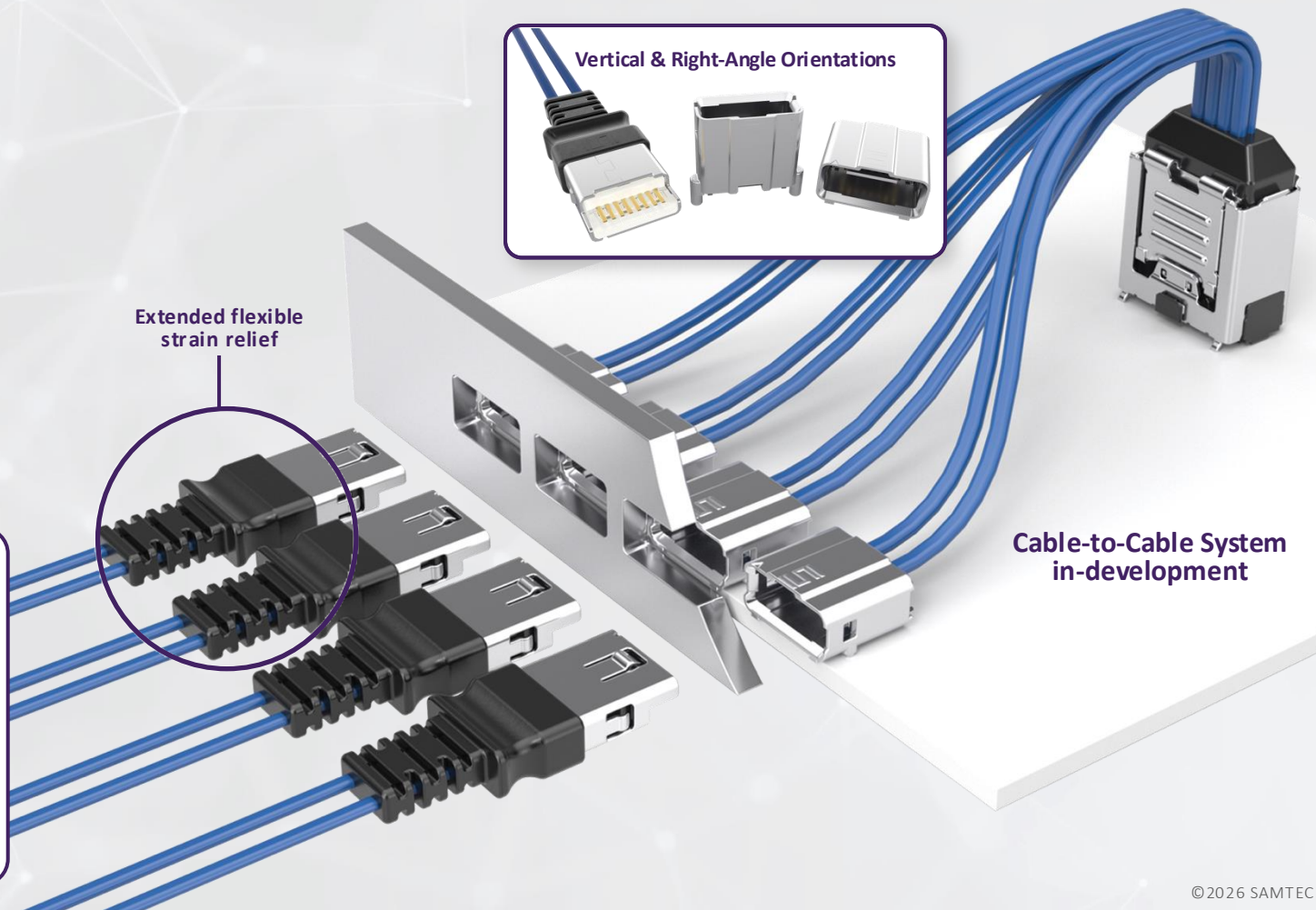
ARM6/AMF6 Series

Extreme Performance in a Mini Form Factor

- 1 & 2 differential pair cable systems
- 0.635 mm (.025") pitch, single-row
- Supports 112 Gbps PAM4 data rates
- Vertical & right-angle orientations
- Friction latch retention
- 34 AWG Thinax[™] ultra low skew twinax
- Provides more flexibility in system design as End 2 options for FSFP and other Flyover[®] series
- Extended flexible strain relief
- Positive latching feature in-development

ACCELERATE[®] mini

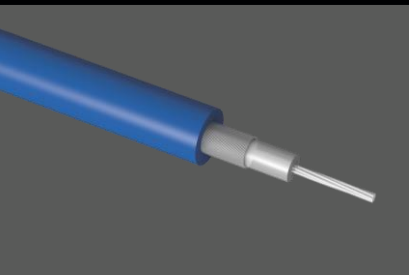

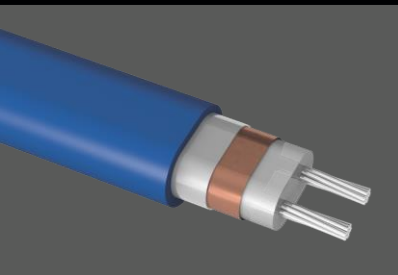
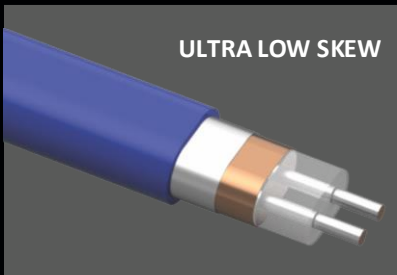




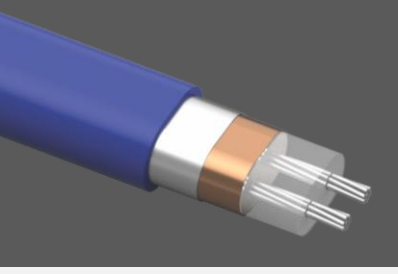
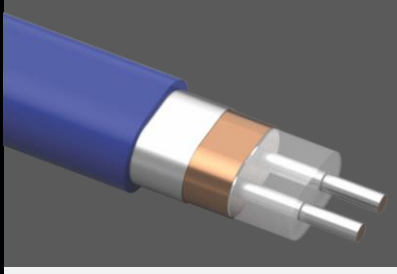
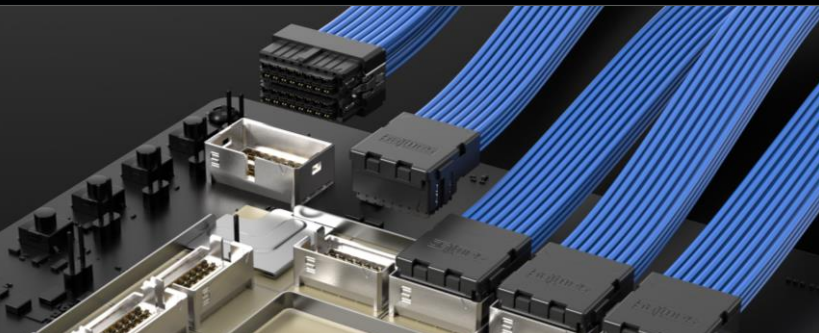
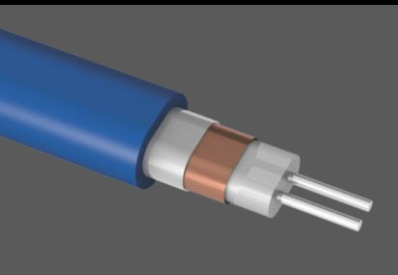
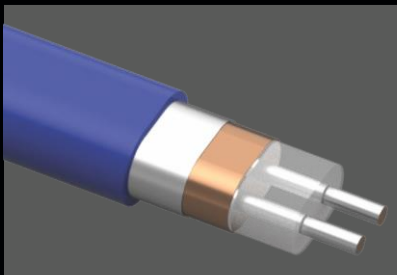
PAM4
112
Gbps



Cable-to-Cable System in-development

samtec CABLE TECHNOLOGY

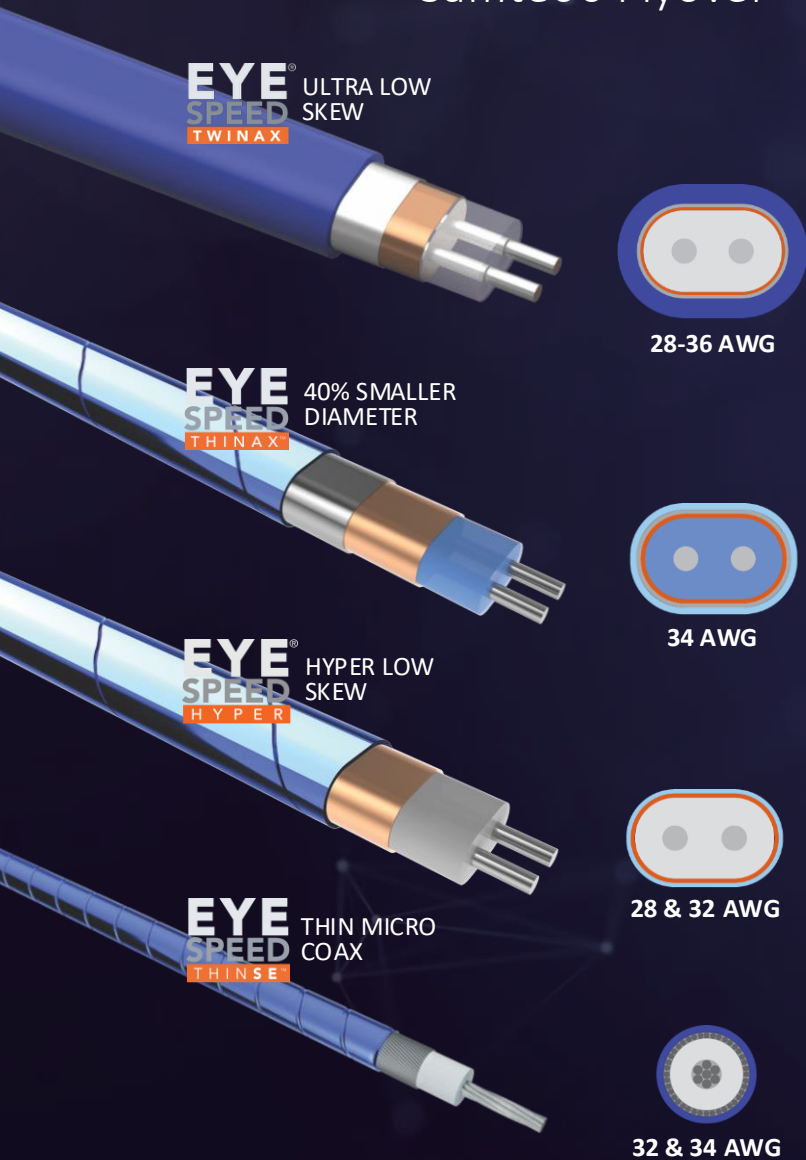
Samtec's proprietary Cable Technology is advancing industry performance to support next gen applications and beyond.

| 4 Gbps | 10 Gbps | 28 Gbps | 56 Gbps PAM4, 112 Gbps PAM4 | 56 Gbps PAM4, 112 Gbps PAM4 | 112 Gbps PAM4, 224 Gbps PAM4 |
|--|--|--|---|--|---|
|  | 25% SIZE REDUCTION TAPED JACKET  |  | ULTRA LOW SKEW  | 40% SIZE REDUCTION ULTRA LOW SKEW  | HYPER LOW SKEW TAPED JACKET  |
| 50 Ω, 38 AWG | 50 Ω, 34 AWG | 100 Ω, 32 AWG | 100 Ω, 34 AWG | 92 Ω, 34 AWG | 92 Ω, 28 & 32 AWG |
|  | 25% SIZE REDUCTION TAPED JACKET  |  |  | THE FUTURE: 224 Gbps PAM4 & BEYOND Along with scalability, bandwidth and density considerations, the extreme data rate requirements of tomorrow introduce a number of additional and even more complex system design challenges. Samtec's priority is the development of differentiated products and technologies that address these existing and future challenges to enable full system optimization from Silicon-to-Silicon™. Samtec's high-speed cable systems provide innovation for next generation architectures with industry leading support, in-house manufacturing and customization capabilities to create a solution for any application. | |
| 50 Ω, 36 AWG | 50 Ω, 32 AWG | 100 Ω, 32 AWG | 100 Ω, 30 AWG | | |
|  | |  |  | | |
| | | 100 Ω, 36 AWG | 100 Ω, 28 AWG | | |



CABLE AVAILABILITY BY PRODUCT SERIES

Samtec's Flyover® Cable Assemblies by Series | Using Eye Speed® Cable Technology



| FAMILY | SERIES | DIFFERENTIAL PAIR (-DP) | | | SINGLE ENDED (-SE) | MIXED SIGNALING (-DP & -SE) |
|----------------------------------|----------|-------------------------|----------|-----------------------|--------------------|-----------------------------|
| | | Ultra Low Skew Twinax | Thinax™ | Hyper Low Skew Twinax | ThinSE™ | |
| AcceleRate® | ARC6 | ARC6 | ARC6 | | ARC6 | ARC6 |
| AcceleRate® Boost | ABC6 | | ABC6 | | | |
| AcceleRate® Mini | ARM6 | ARM6 | ARM6 | | | |
| AcceleRate® HP | ARP6 | | ARP6 | | ARP6 | ARP6 |
| AcceleRate® HP Double Density | ART6 | | ART6 | | | |
| Si-Fly® LP | CPC | CPC | CPC | | | |
| Si-Fly® HD Backplane | SBCF | | | SBCF | | |
| Si-Fly® HD Backplane | SBCM | | | SBCM | | |
| Si-Fly® HD Co-Packaged | SFCC | | | SFCC | | |
| Si-Fly® HD Near-Chip | SFNC | | | SFNC | | |
| ExaMAX® | EBCF | EBCF | EBCF | | EBCF | |
| ExaMAX® | EBCM | EBCM | EBCM | | EBCM | |
| ExaMAX® I/O | EBCE | EBCE | | | | |
| Flyover® OSFP 112 | FOSFP -1 | | FOSFP -1 | | | |
| Flyover® OSFP 224 | FOSFP -2 | | FOSFP -2 | FOSFP -2 | | |
| Flyover® QSFP | FQSFP | FQSFP | FQSFP | | | |
| Flyover® QSFP Double Density 400 | FQSFP-DD | FQSFP-DD | FQSFP-DD | | | |
| Flyover® QSFP Double Density 800 | FQSFP-D8 | FQSFP-D8 | FQSFP-D8 | | | |
| Flyover® SFP112 | FSFP | | FSFP | | | |
| NovaRay® I/O 38999 | NVA3E | NVA3E | | | | |
| NovaRay® I/O 38999 | NVA3P | NVA3P | | | | |
| NovaRay® I/O | NVACE | NVACE | | | NVACE | NVACE |
| NovaRay® I/O | NVACP | NVACP | NVACP | | NVACP | NVACP |
| NovaRay® Backplane* | NVCM -RA | | NVCM -RA | | NVCM -RA | |
| NovaRay® Backplane* | NVCF | | NVCF | | NVCF | |

Released In-Development

The image features the Samtec logo in orange, with the word 'samtec' in a bold, lowercase, sans-serif font. The logo is flanked by two horizontal white bars, one above and one below. Below the logo, the words 'SUDDEN SERVICE' are written in a white, uppercase, sans-serif font, followed by a registered trademark symbol (®). The background is dark blue with a network of white lines and dots, suggesting a digital or technical environment.

samtec
SUDDEN SERVICE®