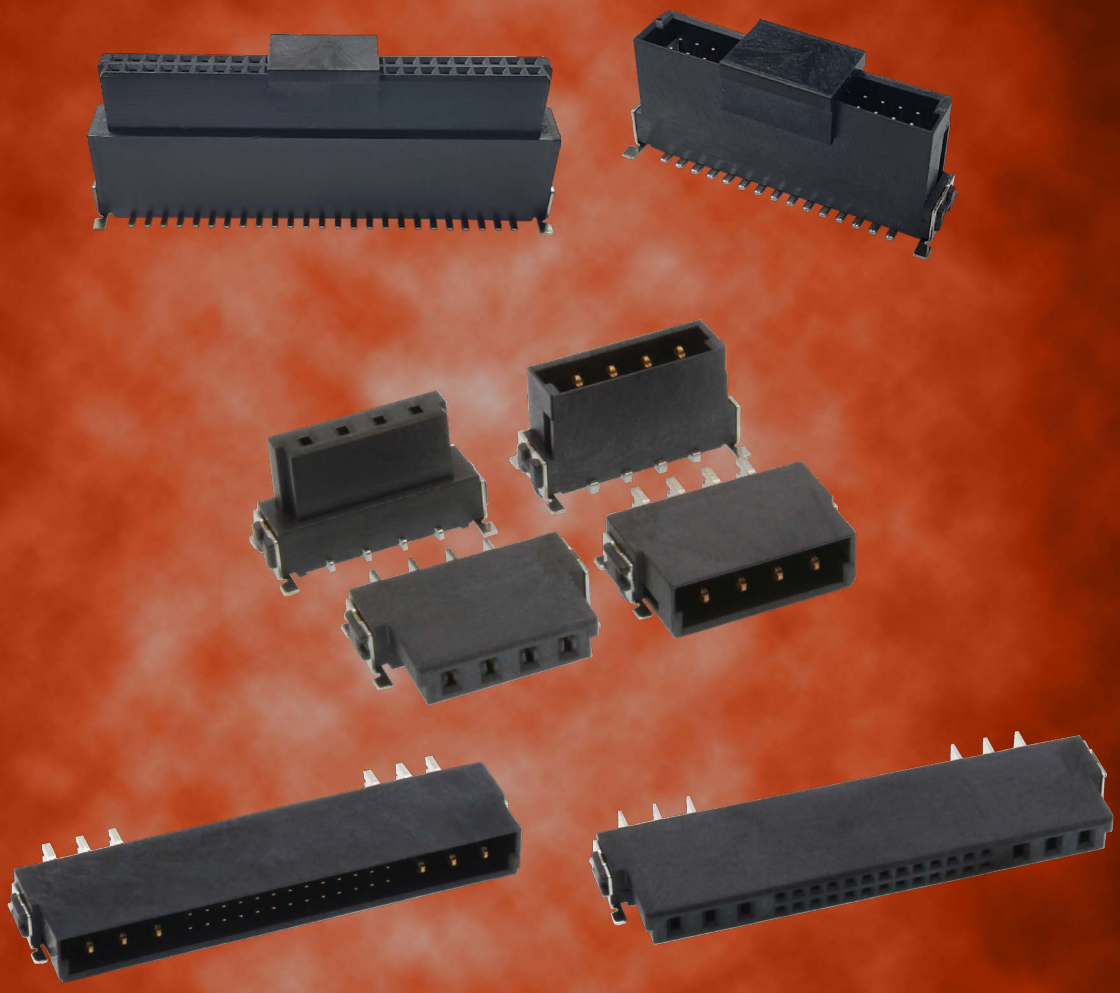
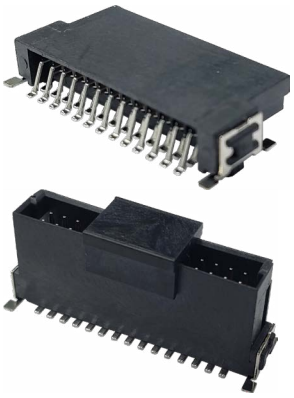
ADAM TECH



ESMC BOARD-TO-BOARD SIGNAL, POWER, AND HYBRID CONNECTORS

ESMC Board-to-Board Signal Connectors











Adam Tech's ESMC Signal Series provides dependable, high-performance PCB connectivity in a compact 1.27mm pitch design, engineered for space-constrained applications. This stacking and coplanar connector family supports parallel, perpendicular, and side-by-side board configurations and is available in both vertical and right angle mounting orientations. Vertical options are offered in low, mid, and high profiles to accommodate a wide range of design requirements, with secure mating and connection distances ranging from 0.315" (8.0mm) to 0.728" (18.5mm). In addition to standard board-to-board solutions, this product line includes press-fit connectors, cable assemblies, and custom solutions to support specialized applications. Designed for reliability and flexibility, the ESMC Signal Series delivers consistent performance across consumer electronics, industrial equipment, and medical devices.

APPLICATIONS:

- Computers
- Telecommunications
- Industrial control systems
- Medical devices
- Automotive



FEATURES AND BENEFITS:

- .050" [1.27mm] pitch
- 2-80 positions
- Surface mount, IDC, and press-fit mounting
- Parallel, perpendicular, and side-by-side PCB connection arrangements
- PCB connection distances: .315" [8.0mm] to .728" [18.5mm]
- Cable assemblies with various pin count, cable length, configuration, and material options
- High reliability precision formed contact design
- Angular inclination tolerance (longitudinal: 3.9°, transverse: 2.6°)
- High temperature thermoplastic insulator
- Operating temperature: -55°C to +125°C
- RoHS compliant



SPECIFICATIONS:

Material:
Insulator: High temp thermoplastic, rated UL 94V-0
Insulator color: Black
Contacts: Phosphor bronze or high conductivity copper
Board lock: Brass, tin plated
Plating:
Gold flash over nickel underplate on contact area
Tin over nickel underplate on solder tails

Electrical:
Current rating: 1.2 to 8 A max
Contact resistance: 25 mΩ max
Insulation resistance: 1000 MΩ min
Withstanding voltage: 500 VAC for 1 minute

Temperature Rating:
Operating temperature: -55°C to +125°C

Environmental:
Lead free, RoHS compliant

ESMC-M2-XX-SGS-PF

Vertical Plug
Press-Fit Type



View Datasheet

ESMC-M-XX-SGR-SMT

Right Angle Plug
Surface Mount



View Datasheet

ESMC-F-XX-SGR-SMT

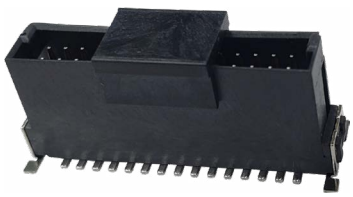
Right Angle Socket
Surface Mount



View Datasheet

ESMC-M-XX-SGS-SMT-X-PP

Vertical Plug
Low, Mid, and High Profile Options
Pick & Place Cap
Surface Mount



View Datasheet

ESMC-F-XX-SGS-SMT-X-PP

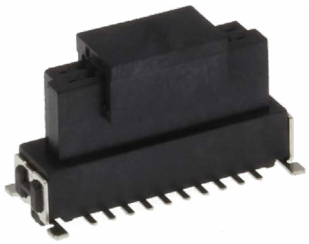
Vertical Socket
Low, Mid, and High Profile Options
Pick & Place Cap
Surface Mount



View Datasheet

ESMC-F-XX-SGS-SMT-X-5-PP-TR

Vertical Socket
Low, Mid, and High Profile Options
Pick & Place Cap
Surface Mount



View Datasheet

ESMC-1-M-XX-SGR-SMT-TR

Right Angle Plug
Surface Mount
Lock Window



View Datasheet

ESMC-1-M-XX-SGS-5.25-SMT-PP-T/R

Vertical Plug
Surface Mount
Lock Window
Pick & Place Cap



View Datasheet

ESMC-1-F2-XX-SGR-10.00-SMT-L-TR

Right Angle Socket
Surface Mount
Latch



View Datasheet

ESMC-F-XX-SGS-14.10-IDC-L

Vertical Socket
IDC Type
Latch



View Datasheet

CA-ESMC-F-F-XX-X-XXXX-X-C1

Cable Assembly (Various Lengths)
Vertical IDC Sockets
PVC or TPE Material
Latch



View Datasheet

CA-ESMC1-F-F-20-XXXX-C1A

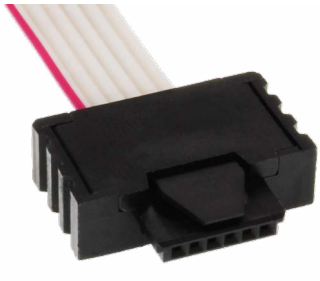
Cable Assembly (Various Lengths)
Vertical IDC Sockets
20 Position
Latch



View Datasheet

CA-ESMC1-F-F-XX-XXXX-C1

Cable Assembly (Various Lengths)
Vertical Solder Sockets
Latch



View Datasheet

CA-ESMC1-M-M-XX-XXXX-C1

Cable Assembly (Various Lengths)
Vertical Solder Plugs
Lock Window



View Datasheet

ESMC Board-to-Board Power Connectors

Adam Tech's ESMC Power Series delivers dependable, high-power board-to-board connectivity in a compact 2.54mm pitch design, engineered for demanding power applications. This stacking and coplanar connector family is available in 2 to 12 positions, with each precision-formed contact supporting up to 24A for stable, high-current transmission. Featuring selective gold plating and a robust terminal structure, the ESMC Power Series ensures excellent conductivity, mechanical strength, and long-term reliability. Flexible parallel, perpendicular, and side-by-side PCB configurations, along with vertical or right angle orientations and SMT or DIP/SMT mounting options, simplify layout and integration while supporting efficient automated assembly through plug and socket options, pick-and-place caps, and tape-and-reel packaging.

FEATURES:

- Supports high current transmission up to 24A per pin
- Robust terminal structure ensures mechanical strength and stable conductivity
- Board-to-board connections
- .100" [2.54mm] pitch
- 2-12 positions
- Parallel, perpendicular, and side-by-side PCB connection arrangements
- High-reliability, precision-formed contact design
- High temperature thermoplastic insulator
- Operating temperature: -55°C to +125°C
- UL certified
- RoHS compliant

APPLICATIONS:

- Computers
- Telecommunications
- Industrial control systems
- Medical devices
- Automotive
- Power distribution equipment
- Embedded systems

SPECIFICATIONS:

Material:
Insulator: High temp thermoplastic, rated UL 94V-0
Insulator color: Black
Contacts: Copper alloy
Plating:
Gold flash over nickel underplate on contact area
Tin over nickel underplate on solder tails

Electrical:
Current rating: 24 A max (single contact)
Contact resistance: 10 mΩ max
Insulation resistance: 10,000 MΩ min
Withstanding voltage: 1390 VAC for 1 minute

Temperature Rating:
Operating temperature: -55°C to +125°C

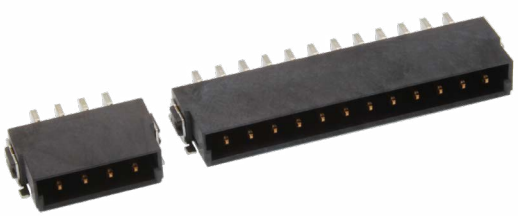
Environmental:
Lead free, RoHS compliant

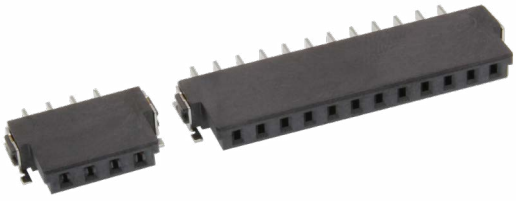


Robotic

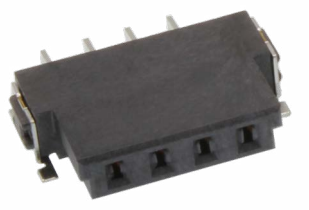


Automotives/
Charger



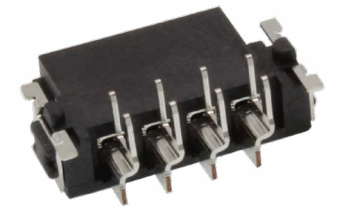


ESMC11-XX-20D1
Right Angle Socket
Surface Mount



View Datasheet

ESMC11D-XX-20F1
Right Angle Socket
DIP/SMT



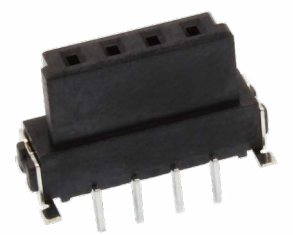
View Datasheet

ESMC12-XX-20A2
Vertical Socket
Surface Mount



View Datasheet

ESMC12D-XX-20C2
Vertical Socket
DIP/SMT



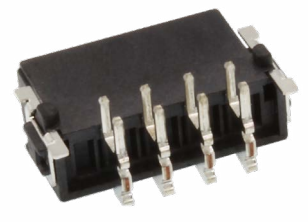
View Datasheet

ESMC13-XX-20D1
Right Angle Plug
Surface Mount



View Datasheet

ESMC13D-XX-20F1
Right Angle Plug
DIP/SMT



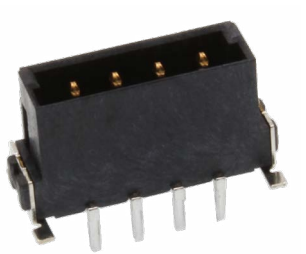
View Datasheet

ESMC14-XX-20A2
Vertical Plug
Surface Mount



View Datasheet

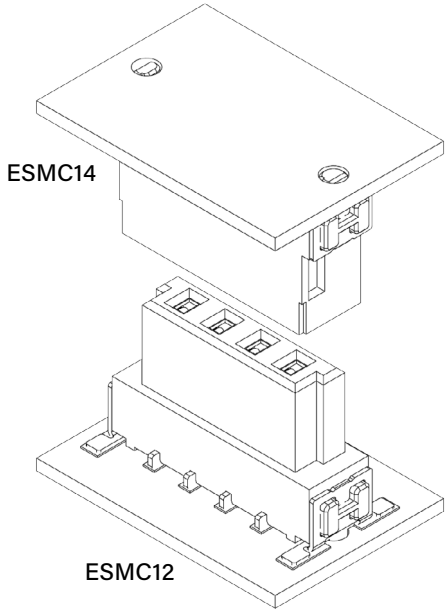
ESMC14D-XX-20C2
Vertical Plug
DIP/SMT



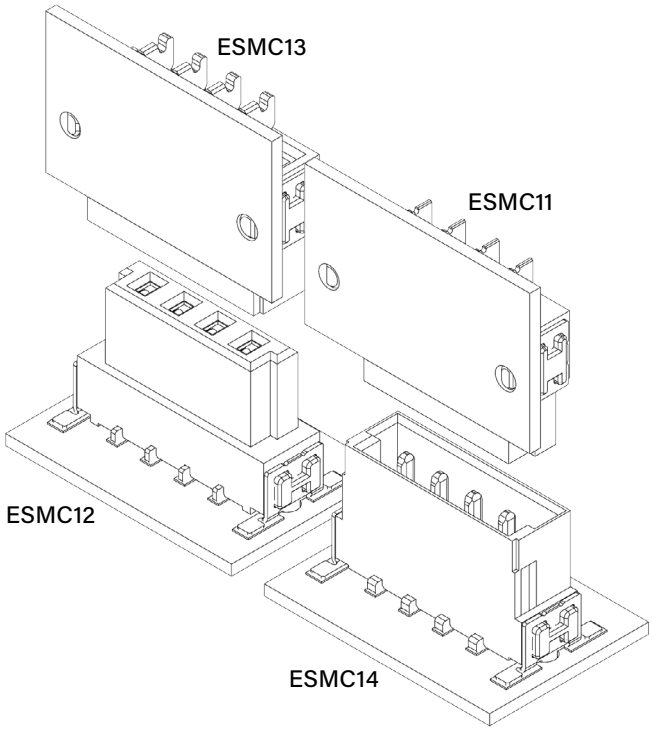
View Datasheet

ESMC Power Board-to-Board Connections

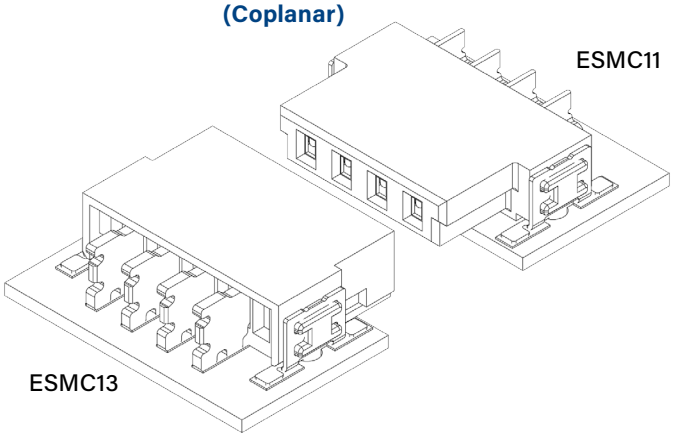
Stacked Boards (Mezzanine)



Orthogonal Boards



Extender Card (Coplanar)



ESMC Board-to-Board Signal and Power Hybrid Connectors

Adam Tech's ESMC Hybrid Series combines high-density signal contacts and high-current power contacts into a single board-to-board connector solution, providing efficient signal transmission and power distribution through one compact interface. This stacking and coplanar connector family is available in 10, 20, 32, and 44 position configurations, incorporating dedicated signal and power contacts to support a wide range of system requirements. Designed for space savings and simplified PCB layouts, the series supports parallel, perpendicular, and side-by-side board configurations, with vertical and right angle orientations as well as SMT and DIP/SMT mounting options. Featuring precision-formed contacts, selective gold plating, and a high-temperature thermoplastic insulator, the ESMC Hybrid Series delivers reliable electrical performance, mechanical durability, and long-term mating integrity for industrial, telecommunications, medical, automotive, and embedded system applications.

FEATURES:

- Combined power and signal contacts in a single connector system
- Hybrid configurations from 10 to 44 positions:
  - 10 Position (2 Power + 8 Signal)
  - 20 Position (4 Power + 16 Signal)
  - 32 Position (6 Power + 26 Signal)
  - 44 Position (8 Power + 36 Signal)
- Board-to-board connections
- Parallel, perpendicular, and side-by-side PCB connection arrangements
- Vertical and right angle orientations available
- SMT and DIP/SMT mounting options
- Plug and socket versions available
- High reliability precision formed contact design
- High temperature thermoplastic insulator
- Operating temperature: -55°C to +125°C
- UL certified
- RoHS compliant

APPLICATIONS:

- Semiconductor equipment
- Automotive
- Computers
- Telecommunications
- Industrial control systems
- Medical devices
- Embedded systems
- Power distribution equipment
- Network and communication equipment
- Data acquisition systems

SPECIFICATIONS:

Material:

Insulator: High temp thermoplastic, rated UL 94V-0
Insulator color: Black
Contacts: Copper alloy
Plating:
Gold flash over nickel underplate on contact area
Tin over nickel underplate on solder tails

Electrical:

Current rating: 24 A max (single power contact), 2 A max (single signal contact)
Contact resistance: 10 mΩ max (power contact), 25 mΩ max (signal contact)
Insulation resistance: 10,000 MΩ min
Withstanding voltage: 1390 VAC for 1 minute (power contact), 500 VAC for 1 minute (signal contact)

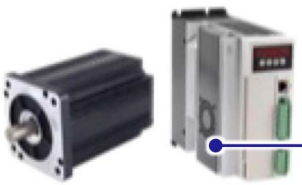
Temperature Rating:

Operating temperature: -55°C to +125°C

Environmental:

Lead free, RoHS compliant





Industrial Driver

Actuator/Sensor Control Unit



ESMC21-XX-20D1
Right Angle Socket
Surface Mount



View Datasheet

ESMC21D-XX-20F1
Right Angle Socket
DIP/SMT



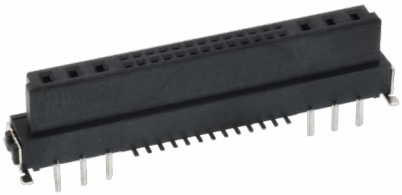
View Datasheet

ESMC22-XX-20A2
Vertical Socket
Surface Mount



View Datasheet

ESMC22D-XX-20C2
Vertical Socket
DIP/SMT



View Datasheet

ESMC23-XX-20D1
Right Angle Plug
Surface Mount



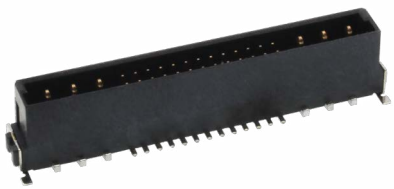
View Datasheet

ESMC23D-XX-20F1
Right Angle Plug
DIP/SMT



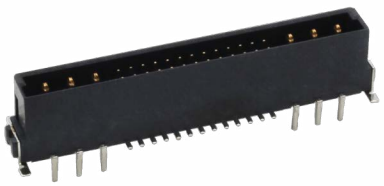
View Datasheet

ESMC24-XX-20A2
Vertical Plug
Surface Mount



View Datasheet

ESMC24D-XX-20C2
Vertical Plug
DIP/SMT



View Datasheet



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adam-tech.com

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Last Revised: Oct-2026

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