

# SCA-2 CONNECTOR SYSTEM

## OVERVIEW

The SCA-2 (Single Connect Attachment-2) connector system consists of headers and receptacles that enable the HDD (Hard Disk Drive) to backplane interface in enterprise storage systems. The header resides on the HDD while the receptacle is attached to the backplane. 40pos SCA-2 receptacles are designed to accept Fibre Channel drives, while 80pos receptacle accept SCSI drives. This interface is governed by Small Form Factor standard, SFF8451 and SFF8454.

12G SCA-2 receptacle connectors also conform to the requirement of SFF8680. The internal design enhancements and modified PCB terminations improve impedance, insertion loss and reduce crosstalk. The connectors operate at a higher bandwidth which supports 4G, 8G and 12G applications. The 12G SCA-2 receptacle offers footprint compatibility with 4G and 8G connectors, easing design migration.

The SCA-2 connector interface utilizes high reliability, dual row, bladed-on-beam contacts spaced on 1.27mm pitch. The feature of first-mate/last break contacts provides sequential mating in accordance to SFF requirements. Robust alignment and polarization features in the drive interface allow blind mating. And, the dual ESD contacts provide paths for static discharge protection.

Vertical backplane receptacles are available in 11.5mm and 17.5mm extended body height with options for through-hole solder, press-fit or surface mount board termination.

SCA-2 headers designed for straddle mount board termination are also available.



## FEATURES

- Connector retainers
- Robust alignment and polarisation
- Vertical and right angle connector configurations
- Dual ESD contacts
- First Mate/Last Break contacts
- Internal design enhancements and modified PCB terminations
- 12G SCA-2 receptacle is footprint compatible with existing applications

## BENEFITS

- Provide additional mechanical strength after soldering
- Allows blind mating during application
- Allows application in Servers, Storage Backplanes, HDD carriers or HDDs
- Provide paths for static discharge protection to prevent damage
- Provide sequential mating of contacts in accordance with SFF requirement
- Improve impedance, insertion loss and reduce crosstalk which allows connectors to operate at speeds required by 4G, 8G and 12G Fibre Channel applications
- Shortens time to market with ease in design migration

## TECHNICAL INFORMATION

### MATERIALS

- Contact Base Metal: Copper Alloy
- Contact Area Finish: Gold or GXT™ (Gold Flash over Palladium –Nickel Alloy) over Nickel
- Solder Area Finish: Tin or Tin-Lead over Nickel
- ESD Contact Base Metal: Copper Alloy
- ESD Contact Finish: Tin or Tin-Lead over Nickel
- Housing: High-Temperature Thermoplastic (UL94V-0) Colour: Black

### ELECTRICAL PERFORMANCES

- Contact Resistance: 35MΩ max. for Signal Contacts
- Current Rating: 1A/contact min. for 2 or 3 Powered Signal Contact Pairs with temperature rise not exceeding 30°C

### ENVIRONMENTAL

- Operating Temperature Range: -55°C to + 105°C
- Humidity-Temperature Cycling: 10 cycles between 25°C and 65°C with 90-95% relative humidity during dwells. Per EIA 364-41, Method III, Test Condition B
- Temperature Life: 105°C for 1000 hours. Per EIA 364-17, Test Condition 4
- Thermal Shock: 5 cycles between -55°C and + 105°C. Per EIA 364-32
- Mixed Flowing Gas: Samples are exposed mated for 20 days. Per EIA 364-65, Class II

### MECHANICAL PERFORMANCE

- Durability: 500 mating cycles
- Mating Force: 90g max. per contact
- Unmating Force: 15g min. per contact

### SPECIFICATIONS

- FCI product specification: BUS-12-121
- SFF-8451 specification for SCA-2 Unshielded Connectors
- SFF-8484 specification for SCA-2 Enhanced HSS Signals

### APPROVALS AND CERTIFICATIONS

- UL & CSA

### PACKAGING

- Tape and Reel
- Tray

### TARGET MARKETS/APPLICATIONS

- Data
  - Storage backplanes
  - External storage systems
  - Servers
  - HDDs

## PART NUMBERS

HDD Interface	Number Of Contacts	Connector Type	Orientation	Body Height	Termination Type	Part Number
Fibre channel	40	Receptacle	Vertical	11.5mm	Through-hole	71781
Fibre channel	40	Receptacle	Vertical	11.5mm	Press-fit	87567
Fibre channel	40	Receptacle	Vertical	11.5mm	Surface-mount	10038339
Fibre channel	40	Receptacle	Vertical	17.5mm	Surface-mount	10073037*
Fibre channel	40	Receptacle	Vertical	17.5mm	Surface-mount	10121749**
Fibre channel	40	Receptacle	Vertical	17.5mm	Press-fit	72443
Fibre channel	20	Header	Right angle	N/A	Surface-mount	72547
Fibre channel/SCSI	40/80	Header	Right angle	N/A	Surface-mount	71292
SCSI	80	Receptacle	Vertical	11.5mm	Through-hole	72346

\* symbol designates enhanced SCA-2 receptacle for 4G or 8G Fibre Channel applications

\*\* symbol designates enhanced SCA-2 receptacle for 12G SI application

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